



ORIGINAL RESEARCH PAPER

Health Science

PROFILE OF FAMILY PLANNING DISCONTINUED USERS IN THREE SECONDARY HEALTH FACILITIES OF KADUNA METROPOLIS, KADUNA NIGERIA

KEY WORDS: Contraceptive discontinuation, Family planning, Method switching, Client-centered counseling, Pregnancy

| | |
|---------------------------|---|
| Audu Alayande* | Maternal health cluster; United Nations Population Fund, Nigeria *Corresponding Author. |
| Islamiyat A Nuhu | College of Health Sciences, Igbinedon University Okada, Nigeria. |
| Oluwatosin Somefun | Adolescent and youth cluster, United Nations Population Fund, Nigeria. |

ABSTRACT

Background: Contraceptive discontinuation (CD), is defined as starting contraceptive use and then stopping for any reason while still at risk of an unintended pregnancy. Several reasons adduced for the discontinuation of a method by clients include the need for another child, contraceptive failure, dissatisfaction with the method, and health concerns. An effective client-centered counseling at baseline appointment will reduce discontinuation and enhance switching.

Objective: This study aims to analyze the profile of family planning (FP) discontinued users and the prevalence of FP commodity discontinuation among clients in the three high volume secondary health facilities of Kaduna metropolis. It is necessary to tease out this information so that family planning providers will be able to better advise potential users of the advantages and disadvantages of each contraceptive method, thus allowing women to make a more informed decision about the method that best suits their needs.

Method: This is a descriptive retrospective desk review of individual FP client records at three General Hospitals in Kaduna metropolis from year 2014-2016. All 9134 FP client cards for the three years were reviewed for evidence of FP switching or discontinuation out of which 809 client cards were found with such evidence. All basic information on the 809 cards were extracted into the data template on SPSS 20. These were analyzed using SPSS20 to generate summary statistics for continuous variables, while frequencies, percentage and proportions were generated for categorical variables.

Results: The overall CD prevalence in the three centers over the 3 year-period was 8.9%. More than half of the CD users were between the age range of 25 - 39 years with a mean age of 30±SD years. The majority (80.0%) of the CD users had at least primary school education while between 10 - 39 percent attained tertiary education. Ninety nine percent of CD users had experienced child birth and more than 93 percent had at least one child alive.

The commonest contraceptive used before discontinuation were injectables (45.1% and 54.7%) and pills (39.7% and 27.1%) in KGH and YDGH respectively. Presently between 50.0 - 87.5 percent of CD users are using new methods which were commenced within the last six months. Nevertheless, 77-87 percent of the later still expressed a desire for future pregnancy.

The commonest reason for CD was health concerns/ side effects (6.4%). About 95 percent of those that exhibit this were educated.

Conclusions: CD is commoner among clients older than 20 years and those with a parity of 1 or more. Thus, the responsibility of programmers is to ensure availability of skilled service providers that will address client's health concern by client centered counseling, providing the required method mix to guarantee free choice and enable women to switch to other methods and fulfill their reproductive rights.

INTRODUCTION

As of 2015, Kaduna State has an estimated projected population of 8,360,752 with women of child bearing age (WCBA) 15-49 years of 235,265. [1] There are 23 Local Government Areas (LGAs) [1] of which Kaduna North, Kaduna South and Chikum LGAs were located within Kaduna metropolis each with at least a secondary health facility. The State has a Total Fertility Rate (TFR) of 4.1%, modern Contraceptive Prevalence Rate (mCPR) of 18.5, unmet need of 5.8% and a teenage pregnancy rate of 33.2%. [2]

Although Kaduna State has a Family Planning (FP) target population of 9,666 couples for the public health facilities, the 2016 FP situation analysis showed that only 9% of WCBA accessed modern contraceptives. Of these, 2.6% had implants, 2.1% had pills, 1.2 had Intra Uterine contraceptive Device (IUD) and 0.8% had condoms. [3] Nevertheless there has been an improvement in the family planning service indices as reported in the Nigeria Health Information Management System (NHMIS) data of 2015 and 2016 as follows; WCBA using modern contraceptives increased by 25.3% (135,966 to 182,014) while new contraceptive acceptors increased by 28.8% (90,524 to 127,136) in one year. [4] Increasing number of couples need to continuously access family planning services and information to sustain this encouraging trend. These number of couples that consistently and correctly use reliable contraceptive methods will enable the State to attain its mCPR target of 45.6% by 2018. [5]

Ensuring sustainability means both old and new FP acceptors do not discontinue their methods of choice except when pregnancy is desired. This is a major concern for FP programmers considering the rate at which some contraceptive users discontinue using their methods and the reasons for such discontinuation. [2] Contraceptive discontinuation (CD), is defined as starting

contraceptive use and then stopping for any reason while still at risk of an unintended pregnancy. [6] The Kaduna State FP situation analysis that was conducted in 2016 showed that 94 percent of discontinued users were under the age of 35. [3] Majority (94 percent) were mostly women with at least some education. Specifically, almost 30 percent of them had attained secondary or higher level of education. [8] Some 3 percent of the women did not have any child at baseline, while 83 percent had between one and three children. [7]

The prevalence of Contraceptive Discontinuation (CD) tend to vary with the duration of the use. The Nigerian 2013 DHS reported a 28 percent contraceptive discontinuations within 12 months of uptake. [2] while another study reported a 41 percent CD rate within the same time period. [7] The latter also reported a 45 percent CD rate among new acceptors, 39 percent by those using a method for less than 12 months and 36 percent by those using a method for more than 12 months. [7] A report by FP2020 indicated that an average of over 30 percent of women who start using a modern contraceptive method stop using within the first year, and over 50 percent stop before two years. [6] It also noted that 38 percent of women with an unmet need for modern contraception were actually discontinued users having used a modern method of contraception in the past. [6]

Also, CD rates varies by the contraceptive methods. Discontinuation was significantly higher among users of the pill (49 percent) and injectable (44 percent), as compared to users of the IUD (28 percent). [7] The 2013 NDHS reported a discontinuation rate of 26% for pills, 23% for injectables and 20% for male condoms. [2] Another study from Egypt reported a 40% discontinuation rates for the pills and prolonged breastfeeding,

37% for injectable and 12% for the IUD. [8]The IUDs and implants had lower rates of discontinuation due to their greater contraceptive efficacy and the need for removal by a health care professional. [6]

Couples have various reasons for the discontinuation of their contraceptives. Across all contraceptive methods, the most common reason for discontinuation was the desire to become pregnant (42 percent), followed by becoming pregnant while using the method (14 percent) and concern over side effects/health concerns (7 percent). [2] Report from Egypt indicated that 8% of discontinuations occurred because the woman wanted to become pregnant and 4% because of method failure (i.e. the user became pregnant while using the method). [8] Other method-related reasons including lack of access, cost, inconvenience and user's desire for a more effective method were almost not cited as reasons for discontinuation. [8] Another study reported that discontinuation was most often due to problems with the method (65.6 percent), especially from side effects (55.3 percent) followed by becoming pregnant while using the method (4.8 percent). [7] Other reasons include a reduced need (28.6 percent) for contraception i.e. infrequent sex (9.5 percent), desire to become pregnant (8.8 percent), or marital dissolution (8.8 percent). [7]Also the lack of access by 4.8 percent of women which included missing appointments (1.5 percent) or a lack of time (1.1 percent) to attend services were also adduced. [7] The review of FP2020 in 2015 reported that more than half of discontinuations were among women experiencing contraceptive failure or have method-related problems. [6] Other reasons include poor service environment (27 percent [9] ,desire for a child, [9] and myths and rumors. [6]

Aside from those that discontinued because of desire for pregnancy, others tend to switch to another contraceptive methods. Users switching to another method of contraception is common (43 percent) in Honduras. [7] Some of these occurred immediately following the discontinuation and atimes after a period of non-use. [7] Switching to another method accounted for 72% of switches, with the pill being the most common method switched to (37%), followed by injectables (21%) and the IUD (14%). [7]

The reasons for discontinuation varies widely across specific contraceptive methods. [2] In Egypt, 21 percent of injectable users, 12 percent of pill users and 6 percent of IUD users stated side effects or health concerns as the commonest reasons for discontinuation. [8] Also method failure was commoner as the cause of discontinuation among condom users (8%) and least among users of IUD and injectables (about 1%). [7]Other report indicated that 49 percent of discontinuations among pill users occurred because they wanted to become pregnant, 16 percent because users became pregnant while using the method, and 11 percent were due to side effects or health concerns.[2] Specifically pill and injectable users are more likely than users of other methods to discontinue use because they wanted to become pregnant or for other fertility-related reasons including infrequent sex. [8]

The 2013 NDHS reported that 42 percent of discontinuation among injectable users occurred because the user wanted to become pregnant, 29 percent were due to side effects or health concerns, and 10 percent occurred because the user became pregnant during the episode of use. [2]The search for an effective method was a more frequent motivation for method discontinuation by 7% of condom users and 5% of those that practiced prolonged breastfeeding. [8]

An effective client-centered counseling at baseline appointment will reduce discontinuation and enhance switching. Reports had showed that only a third of women were told about the advantages and disadvantages of the current method at uptake, 43 percent were told how to use their current method effectively, while 58 percent reported that the provider answered all of their questions. [7] Furthermore, only one-third of women reported that their provider discussed at least two methods with them at the baseline appointment. [7] Other ways to reduce discontinuation include enabling women to discuss potential side effects,

engaging male partners, ensuring client confidentiality, dispelling misconceptions, counseling women who experience side effects, increasing the method mix / choices, enabling women to switch immediately, ensuring effective partnerships between alternative sources of supply and/or providers, improve follow-up mechanisms and bringing the methods to women through outreach services. [6]

In summary, contraceptive discontinuation leave the women exposed to the risk of an unintended pregnancy. [8,]It is therefore necessary to tease out these information so that family planning providers will be able to better advise potential users of the advantages and disadvantages of each contraceptive method, thus allowing women to make a more informed decision about the method that best suits their needs. [2]

This study aims to analyze the profile of family planning discontinued users and the prevalence of FP commodity discontinuation among clients in the three high volume secondary health facilities of Kaduna metropolis.

Methodology

This is a descriptive retrospective desk review of individual FP client records at Kawo General Hospital (KGH), Yusuf Dantsoho General Hospital (YDGH) and Sabon Tasha General Hospital (STGH) in Kaduna from year 2014-2016. The data template was designed on SPSS 20 to capture indices in the child spacing client card like the sociodemographic characteristics, obstetrics history, the types and duration of use of contraceptive method.

The record review and data entry took place within the hospital family planning units while ensuring minimal disruption to its daily proceedings. All 9134 FP client cards from the year 2014 to 2016 were collected from the three units and reviewed for evidence of FP switching or discontinuation. This is determined by the difference between the contraceptive method selected at the initial visit and the method changed-to at client follow-up as recorded in the card. A total of 809 client cards were found with such differences. The cards client reference number, clinic name, client age, educational status, religion, date of attendance, parity, number of children alive, intention to have more children, types of contraceptives used before, duration of use of the previous contraceptive methods, reasons for discontinuation and types of contraceptives use presently were extracted from these 809-client card by the data clerk. These were inserted into the data template in SPSS 20 at the end including the deletion of incomplete data and alignment with the main data source.

The data collected were analyzed using SPSS20 to generate summary statistics for continuous variables, while frequencies, percentage and proportions were generated for categorical variables. The CD rate were estimated from the percentage total number of cards with evidence of contraceptive switching divided by the total number of FP cards examined during the same period. The results were then presented in tables and figures.

RESULTS

Table1: Prevalence of Contraceptive Discontinued Users 2014 - 2016, Kaduna Metropolis, Kaduna Nigeria

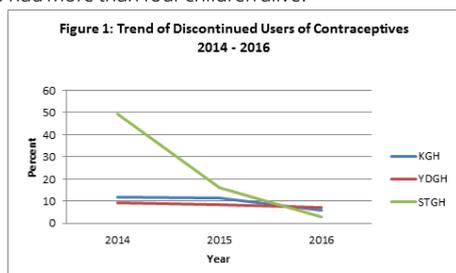
| Health Facility | Total FP Client Cards | Total FP Commodity Discontinued Users | Percentage FP Discontinued Users |
|---------------------------------|-----------------------|---------------------------------------|----------------------------------|
| Kawo General Hospital | 3662 | 330 | 9.0 |
| Yusuf Dantsoho General Hospital | 2558 | 214 | 8.4 |
| Sabon Tasha General Hospital | 2914 | 265 | 9.1 |
| | 9134 | 809 | 8.9 |

The prevalence of contraceptive discontinued users ranged from 8.4 percent in YDGH to 9.1 percent in STGH. The overall prevalence in the three center was 8.9 percent.

Table 2: Socio-demographic Data of Contraceptive Discontinued Users 2014 – 2016

| Kawo General Hospital n= 330 | | | Yusuf Dantsoho General Hospital n= 214 | | Sabon Tasha General Hospital n= 265 | |
|------------------------------|-----------|------|--|----|-------------------------------------|------|
| Age | Frequency | % | Frequency | % | Frequency | % |
| 15-19 | 8 | 2.4 | 3 | 1 | 11 | 4 |
| 20-24 | 53 | 16.1 | 25 | 12 | 30 | 11 |
| 25-29 | 109 | 33.0 | 64 | 30 | 73 | 28 |
| 30-34 | 69 | 20.9 | 52 | 24 | 83 | 31 |
| 35-39 | 63 | 19.1 | 52 | 24 | 50 | 19 |
| 40-44 | 22 | 6.7 | 12 | 6 | 13 | 5 |
| >45 | 6 | 1.8 | 6 | 2 | 5 | 2 |
| Education | Frequency | % | Frequency | % | Frequency | % |
| Nil | 53 | 16.1 | 27 | 13 | 22 | 8.3 |
| Primary | 58 | 17.6 | 55 | 26 | 33 | 12.5 |
| Secondary | 90 | 27.3 | 110 | 51 | 178 | 67.2 |
| Tertiary | 129 | 39.1 | 22 | 10 | 32 | 12.1 |
| Religion | Frequency | % | Frequency | % | Frequency | % |
| Muslim | 258 | 78.2 | 192 | 90 | 3 | 1.1 |
| Christian | 63 | 19.1 | 21 | 10 | 248 | 93.6 |
| Others | 9 | 2.7 | 1 | 0 | 14 | 5.3 |
| Parity | Frequency | % | Frequency | % | Frequency | % |
| 0 | 3 | 0.9 | 0 | 0 | 2 | 0.8 |
| 1-4 | 197 | 59.7 | 111 | 52 | 220 | 83.0 |
| 5-10 | 128 | 38.8 | 100 | 47 | 43 | 16.2 |
| 11-14 | 2 | 0.6 | 3 | 1 | 0 | 0.0 |
| Number of Children Alive | Frequency | % | Frequency | % | Frequency | % |
| 0 | 12 | 3.6 | 1 | 0 | 17 | 6.4 |
| 1-4 | 182 | 55.2 | 120 | 56 | 226 | 85.3 |
| 5-10 | 131 | 39.7 | 93 | 43 | 22 | 8.3 |
| 11-13 | 4 | 1.2 | 0 | 0 | 0 | 0.0 |
| 14-17 | 1 | 0.3 | 0 | 0 | 0 | 0.0 |

The average age of discontinued users was 30 years and more than 50% of them were between the age group of 25 - 39 years. Above 80% of them had at least primary school education while between 10 - 39% attained some form of tertiary education. About 78% - 90% of discontinued users in KGH and YDGH were Muslims while more than 90% at STGH were Christians. Ninety nine percent of discontinued users in all the centers had experienced child birth and more than 93% had at least one child alive. Between 8.35% - 43.0% had more than four children alive.



There has been an annual downward trend of percentage discontinued users of contraceptives in all the centers. This is much pronounced in STGH with 46.4% reduction in discontinued users

Table 3: History of Contraceptive Utilization by Discontinued Users in the Centers. 2014 – 2016

| Contraceptive Methods | Contraceptive used before Discontinuation n=809 | | Contraceptive used now n=809 | |
|-----------------------|---|------------|------------------------------|------------|
| | Frequency | % | Frequency | % |
| Condom | 7 | 1 | 14 | 2 |
| Pills | 195 | 24 | 40 | 5 |
| Injectables | 271 | 33 | 392 | 48 |
| Implants | 280 | 35 | 325 | 40 |
| IUCD | 53 | 7 | 38 | 5 |
| Natural method | 3 | 0 | 0 | 0 |
| TOTAL | 809 | 100 | 809 | 100 |

The commonest contraceptive used in KGH and YDGH before

discontinuation were injectables (45.1% and 54.7%) and pills (39.7% and 27.1%) respectively. Presently more than 58% of discontinued users in these two centers now uses implants. On the contrary the majority of discontinued users in STGH used implants (90.9%) before but now switched to injectables (96.6%).

Table 4: Duration of use of present contraceptive by Discontinued Users 2014 - 2016

| (Months) | Frequency | % |
|--------------|------------|--------------|
| 0-12 | 626 | 77.4 |
| 13 - 24 | 54 | 6.7 |
| 25 - 36 | 111 | 13.7 |
| 37- 48 | 5 | 0.6 |
| 49 - 60 | 13 | 1.6 |
| TOTAL | 809 | 100.0 |

The majority (50% - 87.5%) of discontinued users accessed their present contraceptive methods with the past six months. The average duration of use of the present method were between 4 - 15 months.

Table 5: Desire for more children by Current Users of Contraceptives 2014 – 2016

| Contraceptive methods | Yes | No | Total | % Yes |
|-----------------------|------------|------------|------------|-------------|
| Condom | 9 | 5 | 14 | 64.3 |
| Pills | 31 | 9 | 40 | 77.5 |
| Injectables | 326 | 66 | 392 | 83.2 |
| Implants | 265 | 60 | 325 | 81.5 |
| IUCD | 29 | 9 | 38 | 76.3 |
| Natural method | 0 | 0 | 0 | 0 |
| TOTAL | 660 | 149 | 809 | 81.6 |

The majority (77% - 87%) of discontinued users that are presently on another contraceptive methods desired to have more children. The desire is higher among the present users of implants and injectables (64% - 78.5%)

The commonest (6.4%) reason for discontinuation of contraceptives were health concerns or side effects which occurs in more than 10% of those in the age groups 25 - 44 years. Other reasons (except cost, inconvenience, desire for a more effective

method, infrequent sex) were reported in more than 10% of those in age groups 20 - 39 years.

Table 6: Reasons for Discontinuation of Contraceptives in all Three Facilities. n=809

| | Want another child | | Contraceptive failure | | Dissatisfaction with method | | Health concerns or side effects | | Lack of access | | Others | |
|------------------|--------------------|-----|-----------------------|-----|-----------------------------|-----|---------------------------------|------|----------------|------|-----------|------|
| Age | Frequency | % | Frequency | % | Frequency | % | Frequency | % | Frequency | % | Frequency | % |
| 15- 24 | 1 | 20 | 2 | 100 | 0 | 0 | 4 | 8 | 0 | 0 | 123 | 17 |
| 25- 34 | 2 | 40 | 0 | 0 | 2 | 100 | 32 | 62 | 2 | 67 | 412 | 55 |
| 35- 44 | 2 | 40 | 0 | 0 | 0 | 0 | 15 | 29 | 1 | 33 | 194 | 26 |
| 45- 59 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 16 | 2 |
| Total | 5 | 100 | 2 | 100 | 2 | 100 | 52 | 100 | 3 | 100 | 745 | 100 |
| Education | Frequency | % | Frequency | % | Frequency | % | Frequency | % | Frequency | % | Frequency | % |
| Nil | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 9.6 | 0 | 0 | 97 | 13 |
| At Least Primary | 3 | 60 | 2 | 100 | 1 | 50 | 35 | 67.3 | 3 | 100 | 480 | 64.4 |
| Tertiary | 2 | 40 | 0 | 0 | 1 | 50 | 12 | 23.1 | 0 | 0 | 168 | 22.6 |
| Total | 5 | 100 | 2 | 100 | 2 | 100 | 52 | 100 | 3 | 100 | 745 | 100 |
| Religion | Frequency | % | Frequency | % | Frequency | % | Frequency | % | Frequency | % | Frequency | % |
| Muslim | 3 | 60 | 1 | 50 | 2 | 100 | 29 | 55.8 | 1 | 33.3 | 417 | 56 |
| Christian | 2 | 40 | 1 | 50 | 0 | 0 | 23 | 44.2 | 2 | 66.7 | 304 | 41 |
| Others | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 3 |
| Total | 5 | 100 | 2 | 100 | 2 | 100 | 52 | 100 | 3 | 100 | 745 | 100 |

Methods discontinuation due to health concerns or side effects were commonest (90.4%) among the educated groups. The frequencies of the reasons for contraceptive discontinuation among the practitioners of the two major religions varies with the exception of contraceptive failure (50 percent).

DISCUSSION

The prevalence of CD ranged from 8.4 percent in YDGH to 9.1 percent in STGH. The overall prevalence in the three centers over the 3 years period was 8.9 percent (Table 1). This was lower than the value of 28 percent and 41 percent as previously reported from Nigeria^[2] and Honduras [7] respectively within 12 months of uptake. The latter also reported a 45 percent CD rate among new acceptors, 39 percent by those using a method for less than 12months and 36 percent by those using a method for more than 12 months. [7] This declining CD rate with increasing duration of use may give credence to the lower value observed in the present study. Also, the improving quality of client counseling and service provision including access to various FP commodities in the State could also account for the lower CD rate reported. In the contrary a report by FP2020 indicated that an average of over 30 percent of women who start using a modern contraceptive method stopped the usage within the first year, and over 50 percent stop before two years.^[6]

More than half of the CD users were between the age range of 25 - 39 years with a mean age of 30 years (Table 2). This aligned approximately with the 2016 finding from Kaduna in which 94 percent of discontinued users were under the age of 35. [7] This is the peak of reproductive years when most couples may discontinue contraceptives to have more children. Greater than 80 percent of the respondents had at least primary school education while between 10 - 39 percent attained some form of tertiary education. Previous studies had confirmed that about 30 percent of CD users had attained secondary or higher level of education. [7] Education avails users the knowledge and information to use and switch contraceptive methods. Results in Table 2 also showed that 78 - 90 percent of discontinued users in KGH and YDGH were Muslims while more than 90 percent of those at STGH were Christians. This clearly showed that settlement patterns are influenced by religious inclination within the catchment area of the health facilities.

Ninety nine percent of CD users in all the centers had experienced child birth and more than 93 percent had at least one child alive (Table2). Also, between 8.3 - 43.0 percent had more than four children alive. This is higher than the findings in Honduras in which 3 percent of the women did not have any child at baseline and 83 percent had between one and three children. [7] This give credence to the fact that couples commonly start a contraceptive method after having an index child especially with much expectation of pregnancy and child birth after marriage in

developing countries.

Figure 1 revealed an annual downward trend of percentage CD users in all the centers which is more pronounced in STGH with a 46.4% reduction. The increase in activities of partners especially in demand creation, information dissemination and provision of more contraceptive choices has improved the quality of counseling and subsequently reduced method discontinuation.

The commonest contraceptive used in KGH and YDGH before discontinuation were injectables (45.1% and 54.7%) and pills (39.7% and 27.1%) respectively (Table 3). The reverse is the case in Honduras which reported a 49 percent CD rate for pill, 44 percent for injectable and 28 percent for IUD. [7] Presently more than 58% of discontinued users in these two centers now uses implants. The current promotion of implants and its convenience for users in terms of duration and fewer clinic visits made it a better alternative for clients. On the contrary the majority of discontinued users in STGH used implants (90.9%) before now but switched to injectables (96.6%) afterwards.

Also the 2013 NDHS reported a discontinuation rate of 26% for pills, 23% for injectables and 20% for male condoms.^[2] Another study from Egypt reported a 40% discontinuation rates for the pills and prolonged breastfeeding, 37% for injectable and 12% for the IUD. [8] The IUDs and implants had lower rates of discontinuation due to their greater contraceptive efficacy and the need for removal by a health care professional.^[6] Although previous studies had confirmed the fact that CD rates varies by the contraceptive methods, locations and period. These variations are influenced by commodity supply and demand factors like cost, promotion effort, providers bias, misconception, myths and the drive to ensure users privacy.

Between 50 - 87.5 percent of CD users are presently using new methods which on the average were commenced within the last six months (Table 4). These new methods had been in use for a period of 4 - 15 months. Users switching to another method of contraception is common (43 percent) in Honduras. [7] Some of these occurred immediately following the discontinuation and sometimes after a period of non-use. [7] Switching to another method accounted for 72% of switches, with the pill being the most common method switched to (37%), followed by injectables (21%) and the IUD (14%). [7] Although contraceptive users tend to switch to another method for reasons ranging from personal experience, misconception, availability, accessibility and new information. The desire for pregnancy and resumption of contraception during the postnatal period are common reasons in this environment.

The desire for future pregnancy was expressively stated by the majority (77% - 87%) of CD users that are presently on another

contraceptive methods (Table 5). This further emphasizes users' interest in birth spacing than birth limiting. This desire for future pregnancy is commoner (64% - 78.5%) among those presently using the implants and injectables. The choice of these hormonal contraceptives indicates that users decisions are guided by method effectiveness and convenience rather than the possible side effects like delay in next conception. Although there has been a downward trend in the average family size in Kaduna, the reported total fertility rate as at 2017 was 5.6.^[9]

The commonest (6.4%) reasons found for CD were health concerns or side effects (Table 6). Although the 2013 NDHS reported the desire to become pregnant (42 percent) and becoming pregnant while using the method (14 percent) as commoner reasons than concern over side effects / health concerns (7 percent) for CD. The frequency of the later is approximately the same as reported in this study. Nevertheless, the slightly lower frequency may be due to the improvement in contraceptive information, education and communication in the Nigeria over the years. These health concerns or side effects occurred in more than 10 percent of those in the age groups 25 - 44 years (Table 6). Conversely study from Honduras reported a higher CD rate due to side effects of 55.3 percent, followed by becoming pregnant while using the method (4.8 percent) and other reasons (28.6 percent).

Also, more than 10 percent of those in the age groups 20 - 39 years gave other reasons for discontinuation of contraceptives (Table 6). Other reasons exclude cost, inconvenience, desire for a more effective method and infrequent sex. The age groups 25 - 44 years and 20 - 39 years represent the peak of active sexual activities. Most couples in these group would have had one or two children and then access contraceptives for spacing or limiting of pregnancies. Although, the other reasons were not explicitly stated by the respondents. The study from Honduras reported other reasons like infrequent sex (9.5 percent), marital dissolution (8.8 percent), the lack of access by 4.8 percent of women which included missing appointments (1.5 percent) or a lack of time (1.1 percent) to attend services. [8] Also the 2015 review of FP2020 reported other reasons like poor service environment (27 percent)^[9], while abundance of myths and rumors were reported in the 2017 MICS.^[6]

CD as a result of health concerns or side effects were commonest (90.4%) among the educated groups (Table 6). The capacity of the educated client to read related literatures and be informed about possible side effects may contribute to hasty decision making and CD. They are also susceptible to misinformation especially on the social media about unsubstantiated health effect of modern contraceptives. There were variations in the frequencies of the reasons for contraceptive discontinuation between the practitioners of the two major religions except for contraceptive failure which occurred equally (50 percent) in both adherents (Table 6). All the reasons with the exception of poor access to services were higher among the Muslims adherents. The influence of culture, tradition and religion on reasons for CD may not be unrelated to deep rooted believe and perception about fertility and negative influence of westernization.

Limitations

The reasons for method discontinuation were better disaggregated in some facility record than others. In YDGH all reasons including social ones were merely classified into health related and others.

CONCLUSIONS

CD is commoner among clients older than 20 years and having a parity of 1 or more. Thus, the responsibility of programmers is to ensure skilled service providers that will address client's health concern by client centered counseling, providing the required method mix to guarantee free choice and enable women to switch to other methods and fulfill their reproductive rights.

Recommendation for future research

A potential line of research is to evaluate the impact of commodity supply and access on the likelihood of method discontinuation and

switching.

Disclosure Statement

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

ACKNOWLEDGMENT

We appreciate the Kaduna State Honourable Commissioner of Ministry of Health and Human Services for granting us access to its hospital records and the cooperation of the service providers at the family planning units of the three centers.

Contributors

A-A conceived and prepared the paper. I-A-N searched for the references and typed the manuscript. O-S was the internal reviewer of the final paper. All authors read and approved the final manuscript.

REFERENCES

1. Kaduna State Population Projections And Estimates 2015-2030. Ministry of Budget and Planning Kaduna State. January 2016
2. National Population Commission, Federal Republic of Nigeria, Abuja, Nigeria. Nigeria Demographic and Health Survey 2013. Rockville (MD): ICF International 2014.
3. Kaduna State Ministry of Health and Human Resources. Family Planning situation analysis in Kaduna State. 2016
4. Federal Ministry of Health. National Health Management Information System [Internet; cited 2017 Jul 4]. Available from: DHIS2nigeria.org.ng.
5. Federal Government of Nigeria. Nigerian Family Planning Blue Print (Scale-up Plan). Federal Ministry of Health. October 2014.
6. Family Planning 2020 and Population Council. Contraceptive Discontinuation: Reasons, Challenges, and Solutions. 2015. Accessed on 21 Jan 2018 from <http://www.familyplanning2020.org/resources/12019>
7. Janine Barden-O'Fallon¹, Ilene S. Speizer², Javier Calix³, and Francisco Rodriguez³. An Analysis of Contraceptive Discontinuation among Female, Reversible Method Users in Urban Honduras. *Stud Fam Plann.* 2011 March; 42(1): 11–20. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3883041/pdf/nihms538066.pdf>. [12 May 2017]
8. Tarek TA. Trend and Pattern of Use and Barriers to Family Planning in Egypt. *International Public Health Forum Vol.1 No.4 December 2014* <http://www.researchpub.org/journal/iphf/number/vol1-no4/vol1-no4-5.pdf> accessed on 12 May 2017
9. National Bureau of Statistics. Nigeria Multiple Indicator Cluster Survey. 2017