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Original Research Article

Modern contraceptives discontinuation, method switching and associated factors among clients at the family planning clinic of a tertiary hospital in Port-Harcourt, Nigeria

Peter A. Awoyesuku*, Basil O. Altraide, Simeon C. Amadi

Department of Obstetrics and Gynaecology, Rivers State University Teaching Hospital, Port-Harcourt, Nigeria

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***Correspondence:**

Dr. Peter A. Awoyesuku,

E-mail: pawoyesuku@yahoo.co.uk

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ABSTRACT

Background: Contraceptive discontinuation and switching to less effective methods, often leads to unintended pregnancies and reduces the impact of family planning programs. To understand what drives contraceptive use behavior, it is important to identify factors that influence discontinuation and switching. This study sought to determine the discontinuation rates, reasons for discontinuation or switching, and assess associated factors among women in Port Harcourt.

Methods: A retrospective descriptive study, of women 15-48 years who accepted a modern method, over a five-year period from 1st January 2014 to 31st December 2018 was carried out. Information on age, parity, education, contraceptive use intention, method and duration of use, reason for discontinuation, and method switching, were extracted from their hospital records. Coded data were entered into Excel spreadsheet and exported to SPSS version 20 for statistical analysis at significance level of $P < 0.05$.

Results: There were 349 women with complete data. Their mean age was 32 ± 56 years and median parity was 3. The all-method discontinuation rate was 29.0% at 12 months and 31.5% by 24 months. Method specific discontinuation at 12 months were injectables 53.3%, IUCD 38.2% and implants 23.8%, the difference was significant $P = 0.018$. Reasons for discontinuation were reduced need-64.5%, method problems-26.8% and expiration-7.2%. Majority 79.7% abandoned further use, 6.5% renewed their method and 13.8% switched to other methods.

Conclusions: The discontinuation rate was high, with associated poor switching behaviour. Proper counseling on contraceptive options and reinforcing switching are critical to reduce unwanted pregnancies that might result from poor method use and discontinuation.

Keywords: Associated factors, Contraceptive discontinuation, Family planning, Method switching, Port-Harcourt

INTRODUCTION

The World Health Organization (WHO) defines contraceptive prevalence rate as the percentage of women who are currently using at least one method of contraception, regardless of the method used.¹ It is usually reported for married women aged 15 to 49 years. Globally this has increased from 55% in 1990 to 64% in 2015. Contraceptive use in West Africa lags other regions

of the world with an average of 15.3% of married women aged 15-49 years using any form of contraception.²

However, about 12% of women worldwide who want to delay or avoid pregnancy are not using any method of contraception (unmet needs) and this is much higher in low- and medium-income countries, especially in sub-Saharan African countries, put at 24%.³ The importance of supporting continued contraceptive use was shown in

an analysis of data from 34 countries, which estimated that 38% of women with unmet needs were prior method users who discontinued for one reason or another.⁴ Another analysis of data from 36 countries found that about one-third of unintended recent births were attributable to contraceptive discontinuation.⁵

Contraceptive methods are generally categorized as either modern or traditional. The most acceptable modern methods are the pill, injectables, intrauterine devices (IUDs) and implants. Others are male/female sterilization, male/female condoms, lactational amenorrhea and emergency contraception, while the traditional methods are rhythm or calendar and withdrawal method.⁶ A recent study on contraceptive choices and acceptability in Port Harcourt revealed the most common method as implants (70.2%), followed by IUDs (25.8%), injectables (3.2%) and oral pills (0.8%).⁷ The study also revealed the use intention of 56% for completed family size (limiting) as against 44% for pregnancy prevention/spacing.

Contraceptive discontinuation is the phenomenon of starting a contraceptive method and then stopping it within one year of its use. Actual discontinuation rates vary by country and by method. An analysis of demographic and health survey data from 25 countries conducted between 1990 and 2009 found the all-method discontinuation rate to be 38% within the first year of use and 55% by the second year.⁸ The discontinuation of contraceptive methods occurs more with the methods that can be passively discontinued, such as condoms, injectable, pills and traditional methods as compared to the methods needing active discontinuation, such as the implants and intrauterine devices (IUD).⁸⁻¹¹ In low- and medium-income countries discontinuation often leads to unintended pregnancies and reduces the impact of family planning programs.^{12,13}

The main reasons for contraceptive discontinuation are method failure, switching, abandoning use with no further need of contraception and abandoning use while still in need of contraception. Access to care and adverse reactions/unpleasant effects are important reasons for discontinuation.^{14,15} Studies have revealed socio-economic and demographic factors such as age, parity, marital status, income, partner involvement in decision making and service quality were associated with the likelihood of contraceptive discontinuation.^{11,14,16} Older women and women at higher parities are more likely than younger and lower parity women to discontinue use while still in need.

Switching behavior following a discontinuation focuses on whether the switch resulted in the adoption of an equally, more, or less effective method than the one discontinued. Switching to less effective methods may expose women to a greater risk of unwanted pregnancies. While a high level of method switching could be a concern from the perspective of the discontinued method, it may also be a positive marker for the program's

capacity to provide alternative methods to users. Switching increases with parity since women who are using contraception for spacing purposes tend to switch from short-term to long-term or terminal methods. Switching from one method to another increases the likelihood that the user will make another switch in the future.¹⁷

To fully understand what drives contraceptive use behavior, it is important to identify the factors that influence contraceptive use, discontinuation and/or switching to other methods. The study therefore sought to calculate the overall and method-specific discontinuation rates, examine reasons given for discontinuation or switching, and assess the characteristics associated with contraceptive switching and abandonment among women in Port Harcourt. This will facilitate successful family planning programs that promote not only acceptance of methods but also guide interventions that encourage sustained and continued use.

METHODS

This study was conducted at the family planning clinic of the Rivers State University Teaching Hospital (RSUTH), a tertiary hospital owned and funded by the Government of Rivers State. The hospital provides family planning counselling and services to clients from all over Port Harcourt city, as well as women who were delivered in the hospital. The hospital provides free services except in a few instances where the clients may pay a little token for certain consumables. The clinic provides all forms of modern contraceptives and has qualified providers trained in insertion and removal of implants and IUDs. The clinic runs daily, Mondays through Fridays.

A retrospective descriptive study over a five-year period from 1st January 2014 to 31st December 2018 was carried out. The study population were all women, 15-49 years, who started a modern contraceptive method and discontinued the methods on request or on provider recommendation at the family planning clinic. All women with regular follow-up and complete records were included, while those with incomplete data or that were lost to follow up were excluded.

Data were retrieved from the hospital records and case notes of all the women using a proforma data sheet. Information on maternal age, parity, educational status, contraceptive use intention (spacing or limiting), method chosen and duration of use, reason for discontinuation, method switching or abandonment, were extracted.

Coded data were entered into Excel spreadsheet and exported to SPSS version 20 for statistical analysis. Categorical measurements were given as numbers and percentages, and numerical measurements as mean and standard deviation. The Chi-square and ANOVA test were used for statistical analysis and statistical significance was set at $p < 0.05$.

RESULTS

A total of 517 women accepted a modern method of contraception within the five-year study period, of which 168 women were lost to follow up with incomplete data and were excluded, the 349 women with complete data formed the study population in the analysis. Table 1 shows the socio-demographic characteristics of the women. The mean age±SD was 32±56 (range 19-48) and the median parity was 3 (range 0-9). Majority of the women 59.6% were aged 31-40 years, 63.0% had Secondary education and 72.8% had parity of 2-4.

Table 1: Socio-demographic characteristics of women attending the FPC at a tertiary hospital (n=349).

| Variables | Frequency | Percentage |
|--|-----------|------------|
| Age in years | | |
| ≤20 | 5 | 1.4 |
| 21–30 | 120 | 34.4 |
| 31–40 | 201 | 59.6 |
| >40 | 23 | 6.6 |
| Mean±SD=32.56±5.10 years; Median=32 years; Range=19-48 years | | |
| Educational level | | |
| None | 3 | 0.9 |
| Primary | 25 | 7.2 |
| Secondary | 220 | 63.0 |
| Tertiary | 101 | 28.9 |
| Parity | | |
| Para 0 | 2 | 0.6 |
| Para 1 | 27 | 7.7 |
| Para 2 – 4 | 254 | 72.8 |
| Para ≥5 | 65 | 18.9 |
| Median =Para 3; Range = Para 0 – 9 | | |

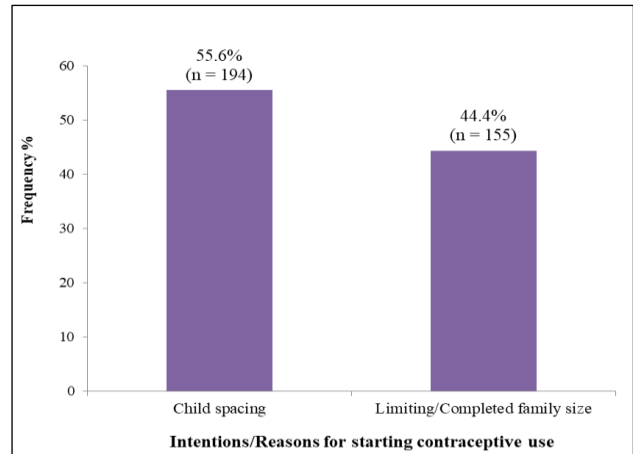


Figure 1: Intentions for starting contraceptive use among women attending FPC of a tertiary hospital.

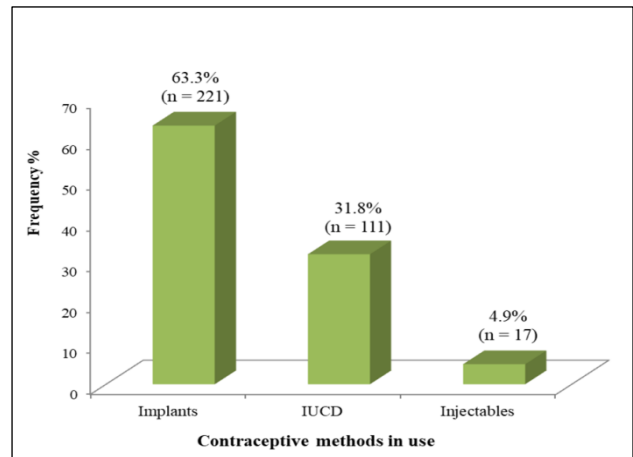


Figure 2: Methods of contraceptive use among women attending the FPC of a tertiary hospital.

Table 2: Method-specific contraceptive discontinuation rates among women attending the FPC of a tertiary hospital.

| Contraceptive methods | Duration of use | | | | Total N (%) |
|-----------------------|------------------|----------------------|-----------------------|------------------|-------------|
| | <12 months N (%) | 12 – 24 months N (%) | >24 – 36 months N (%) | >36 months N (%) | |
| Implants | 46 (23.8) | 65 (33.7) | 57 (29.5) | 25 (13.0) | 193 (100.0) |
| IUCD | 26 (38.2) | 16 (23.5) | 17 (25.0) | 9 (13.2) | 68 (100.0) |
| Injectables | 8 (53.3) | 6 (40.0) | 0 (0.0) | 1 (6.7) | 15 (100.0) |
| All methods | 80 (29.0) | 87 (31.5) | 74 (26.8) | 35 (12.7) | 276 (100.0) |

Fisher’s exact test = 14.620; p-value = 0.018*, *statistically significant (p<0.05)

A slight majority 194(55.6%) of the women had child spacing as their contraceptive use intention, while the other 155 women (44.4%) was for limiting or completed family size (Figure 1). Majority of the users 221 (63.3%) accepted implants (Implanon and Jadelle), followed by IUCD (copper T) 111 (31.8%) and injectables (Depo-Provera and Noristerat) 17 (4.9%) see Figure 2. The all-method discontinuation rate was 29.0% at 12 months and

increased to 31.5% by 24 months, then fell to 26.8% by 36 months and thereafter only 12.7% discontinued use (Table 3). The method-specific discontinuation rate at 12 months was highest for injectables 53.3% of acceptors, followed by IUCD 38.2% and implants 23.8%. At 24 months injectables was also highest at 40.0%, followed by Implants at 33.7% and IUCD at 23.5% of acceptors (Table 2). The differences in the discontinuation rates was found to be statistically significant (P=0.018).

Table 3: Reasons for contraceptive discontinuation among women attending the FPC of a tertiary hospital.

| Reasons for discontinuation | Contraceptive methods in use | | | |
|--|------------------------------|---------------|----------------------|----------------------|
| | Implants N (%) | IUCD N (%) | Injectables N (%) | All methods N (%) |
| Reduced need | 124 (67.0) | 47 (25.4) | 14 (7.6) | 185 (100.0) |
| Method problems/complications | 49 (73.1) | 17 (25.4) | 1 (1.5) | 67 (100.0) |
| Expired | 19 (95.0) | 1 (5.0) | 0 (0.0) | 20 (100.0) |
| Method failure/became pregnant while using | 1 (100.0) | 0 (0.0) | 0 (0.0) | 1 (100.0) |
| Lack of sexual satisfaction for partner | 0 (0.0) | 3 (100.0) | 0 (0.0) | 3 (100.0) |
| Total Number of discontinuations | 193 (69.9) | 68 (24.6) | 15 (5.4) | 276 (0.0) |

Fisher's exact test = 18.054; p-value = 0.012*, *statistically significant (p<0.05)

Table 4: Factors associated with contraceptive discontinuation among women attending the FPC at a tertiary hospital.

| Variables (N = 349) | Contraceptive discontinuation | | | Total N (%) |
|--|-------------------------------|-------------|--|----------------|
| | Yes N (%) | No N (%) | | |
| Age in years | | | | |
| ≤20 | 5 (100.0) | 0 (0.0) | | 5 (100.0) |
| 21–30 | 109 (90.8) | 11 (9.2) | | 120 (100.0) |
| 31–40 | 147 (73.1) | 54 (26.9) | | 201 (100.0) |
| >40 | 15 (65.2) | 8 (34.8) | | 23 (100.0) |
| Fisher's exact test = 18.984; p-value = 0.0001* | | | | |
| Educational level | | | | |
| None | 2 (66.7) | 1 (33.3) | | 3 (100.0) |
| Primary | 18 (72.0) | 7 (28.0) | | 25 (100.0) |
| Secondary | 179 (81.4) | 41 (18.6) | | 220 (100.0) |
| Tertiary | 77 (76.2) | 24 (23.8) | | 101 (100.0) |
| Fisher's exact test = 2.866; p-value = 0.387 | | | | |
| Parity | | | | |
| Para 0 | 1 (50.0) | 1 (50.0) | | 2 (100.0) |
| Para 1 | 27 (100.0) | 0 (0.0) | | 27 (100.0) |
| Para 2 – 4 | 208 (81.9) | 46 (18.1) | | 254 (100.0) |
| Para ≥5 | 40 (60.6) | 26 (39.4) | | 66 (100.0) |
| Fisher's exact test = 23.9694; p-value = 0.0001* | | | | |
| Contraceptive use Intention | | | | |
| Spacing | 183 (94.3) | 11 (5.7) | | 194 (100.0) |
| Limiting | 93 (60.0) | 62 (40.0) | | 194 (100.0) |
| Chi Square = 61.386; p-value = 0.0001* | | | | |

*Statistically significant (p<0.05)

The major reason for discontinuation of all methods was reduced need 178 (64.5%) – of which desired pregnancy was 118 (42.8%), menopause/pre-menopause was 2 (0.7%), misconception was 1(0.4%), removal on request was 57 (20.7%). This was followed by method problems/complications 43 (26.8%) – amenorrhea 7 (2.5%), body itching 2 (0.7%), dyspareunia 1 (0.4%), infection/re-infection 5 (1.8%), irregular/prolonged/severe bleeding 32 (11.6%), medical complication 18 (6.5%), missing IUCD 2 (0.7%), waist pain 2 (0.7%), weight gain 5 (1.8%). Third most common reason for discontinuation was expiration of the chosen method 20

(7.2%), Then lack of sexual satisfaction for partner 3 (1.1%), and method failure (became pregnant while using the method) 1 (0.4%).

Table 3 shows the reasons for discontinuation of the individual methods and the difference for the various methods was statistically significant (P=0.012). Table 4 shows the factors associated with discontinuation of contraceptives among the study population and revealed a statistically significant relationship with age of the women (P=0.0001), parity (P=0.0001) and contraceptive use intention (P=0.0001), but not educational status (P=0.387).

Table 5: Behaviour following discontinuation among women attending the FPC of a tertiary hospital.

| Methods discontinued | Next event after discontinuation | | | Total N (%) |
|----------------------|--|---------------|----------------------------------|-------------|
| | No method/completely abandoned usage N (%) | Renewed N (%) | Switched to another method N (%) | |
| Implants | 155 (80.3) | 16 (8.3) | 22 (11.4) | 193 (100.0) |
| IUCD | 57 (83.8) | 2 (2.9) | 9 (13.2) | 68 (100.0) |
| Injectables | 8 (53.3) | 0 (0.0) | 7 (46.7) | 15 (100.0) |
| All methods | 220 (79.7) | 18 (6.5) | 38 (13.8) | 276 (100.0) |

Fisher's exact test = 12.613; p-value = 0.009*, *Statistically significant (p<0.05)

Table 6: Contraceptive methods switched to following discontinuation among women attending the FPC of a tertiary hospital.

| Contraceptive methods switched to | Frequency | Percentage |
|-----------------------------------|-----------|------------|
| Implants | 20 | 52.6 |
| Implanon | 9 | 23.7 |
| Jadelle | 11 | 28.9 |
| IUCD | 4 | 10.5 |
| Injectables | 8 | 21.1 |
| Male condom | 5 | 13.2 |
| Oral pills | 1 | 2.6 |
| Total | 38 | 100.0 |

Table 5 shows the behaviour of the women following discontinuation of their chosen methods. Majority of the women 220 (79.7%) completely abandoned further use, of these 155 were implant acceptors (constituting 80.3% of all acceptors), followed by 57 IUCD acceptors (constituting 83.3% of all acceptors) and 8 injectables acceptors (constituting 53.3% of all acceptors). Eighteen women (6.5%) renewed their method while 38 women

(13.8%) switched to another contraceptive method. Methods switched to were implants 20 (52.6%), injectables 8 (21.1%), male condom 5 (13.2%), IUCD 4 (10.5%) and oral contraceptive pill (OCP) 1 (2.6%), see Table 6. Based on contraceptive use intention, switching occurred in only 8.7% of women that are using it for child spacing, as against 23.7% of those that are limiting, and the difference was statistically significant at P=0.001, Table 7. A comparison of the various methods and the switching behaviour for each method is as shown in Table 8, and the differences were statistically significant (P=0.0001).

Table 7: Contraceptive use intention versus method switching among the women.

| Variables | Contraceptive method switch | | |
|-----------|-----------------------------|------------|--------------|
| | Yes, N (%) | No, N (%) | Total, N (%) |
| Spacing | 16 (8.7) | 167 (91.3) | 183 (100.0) |
| Limiting | 22 (23.7) | 71 (76.3) | 93 (100.0) |
| Total | 38 (13.8) | 238 (86.2) | 276 (100.0) |

Chi Square = 11.550; p-value = 0.001*, *Statistically significant (p<0.05)

Table 8: Switching behaviour following discontinuation among women attending the FPC of a tertiary hospital.

| Methods discontinued | Contraceptive methods switched to | | | | | |
|----------------------|-----------------------------------|---------------|------------|-------------------|-------------------|------------------|
| | Implanon N (%) | Jadelle N (%) | IUCD N (%) | Injectables N (%) | Male condom N (%) | Oral pills N (%) |
| Implanon | 0 (0.0) | 6 (40.0) | 4 (26.7) | 4 (26.7) | 0 (0.0) | 1 (6.7) |
| Jadelle | 1 (14.3) | 0 (0.0) | 0 (0.0) | 2 (22.2) | 4 (57.1) | 0 (0.0) |
| IUCD | 5 (55.6) | 1 (11.1) | 0 (0.0) | 2 (22.2) | 1 (11.1) | 0 (0.0) |
| Injectables | 3 (42.9) | 4 (57.1) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) |
| All methods | 9 (23.7) | 11 (28.9) | 4 (10.5) | 8 (21.1) | 5 (13.2) | 1 (2.6) |

Fisher's exact test = 30.299; p-value = 0.0001*, *Statistically significant (p<0.05)

DISCUSSION

Early discontinuation and not switching to another contraceptive method increases the risk of unplanned pregnancy. The all-method discontinuation rates of 29% in the first year and 31.5% by end of the second year found by this study, while being unacceptably high, was lower than the 38% and 55% respectively found in a ten-year survey conducted in 25 countries.⁸ Actual discontinuation rates vary by country and by method. While the all-method discontinuation by 12 months has

been reported to be 34.7% in urban Senegal, a study from Ghana reported 56%, and one from rural Southwest Ethiopia reported 11.5%.¹⁸⁻²⁰ The differences can only be explained by the study area, contraceptive acceptance and use intentions of the population studied.

The use intention in this study of 55.6% for child spacing was only slightly above half and might explain the lower discontinuation rate than the studies from Senegal and Ghana above. The lower likelihood of discontinuation among women who intend to limit births supports previous findings that the motivation to avoid pregnancy

is a contributor to whether women abandon use of a contraceptive or not.²¹ This study found a significant association of discontinuation with use intention, with majority of the women who were using it for child spacing forming the group that discontinued use.

In studies of contraceptive discontinuation, the most important determinant highlighted has been the contraceptive method used.¹¹ The Injectables was the most method discontinued in this study and is like the findings by Barden-O'Fallon et al.¹⁸ The discontinuation of contraceptive methods occurs more with the methods that can be passively discontinued, such as condoms, injectable, pills and traditional methods as compared to the methods needing active discontinuation, such as the implants and intrauterine devices (IUD).^{8,11} Other studies have also identified high discontinuation mostly among Pill and condom users, followed by injectables, and lower rates for methods such as IUDs and Implants.^{20,21}

The most common reasons for discontinuation were reduced needs (64.5%), method problems and side-effects constituting only 26.8%. This is like the findings of Barden-O'Fallon et al, who reported 45.6% and 30.1% respectively.¹⁸ This study found a significant difference of discontinuations due to method problems/side-effects and the different methods, with Implants and IUD users constituting a majority. One study on IUD discontinuation rates has reported a rate of 19.4% in 10 months with 69.4% of them due to method problem/side-effects.²²

This study also revealed that only few women (13.8%) who discontinued use of a method switched to another method. This is not much different from the findings in similar studies of 17% by Barden-O'Fallon et al and 9.6% by Yideta et al.^{18,20} Some studies have however reported higher rates of switching following discontinuation, Azmat et al reported 36.3% and Modey et al reported 55%, but both studies were mainly on IUDs with reported reason for discontinuation majorly due to method problem/side-effects.^{22,19} The lower occurrence of method switching in this study may be suggestive of some challenges in counselling the patients on available choices and the option of switching. Studies have reinforced this view by suggesting that although women may be aware of their options, they may not have received enough information to decide to adopt alternative methods.^{23,24}

Switching behavior following a discontinuation should focus on whether the switch resulted in the adoption of an equally, more, or less effective method than the one discontinued. Switching to less effective methods may expose women to a greater risk of unwanted pregnancies. In this study, majority of the switching occurred from injectables and IUDs (59.9%) to implants (52.6%), an equally or more effective long acting method. While a high level of method switching could be a concern from the perspective of the discontinued method, it may also

be a positive marker for the program's capacity to provide alternative methods to users.

CONCLUSION

This study found a discontinuation rate that was high, with associated poor switching behaviour. Proper counseling on contraceptive options and reinforcing switching are critical to reduce unwanted pregnancies that might result from poor method use and discontinuation.

The general counselling given to women on presentation for contraceptive services should place more emphasis on experience of side-effects and how to manage them to improve adherence among women who accept methods and encourage women with such difficulties, who may still be in need of contraception, to present to the facility with such problems. This will encourage switching when such problems arise.

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