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Use and Discontinuation of Contraceptives Among Women of Reproductive Age in Port Harcourt

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Abstract

Background

Contraceptive use and discontinuation as well as unexpected pregnancy and other demographic consequences, is a significant predictor of contraceptive prevalence, as it elevates the unmet need for family planning (FP) which in turn has an implication for FP services. This study sought to determine the prevalence of contraceptive use and discontinuation, the reasons for discontinuation and the association between contraceptive discontinuation and selected socio-demographic variables.

Materials and Methods

A community-based cross-sectional study of household survey was conducted using a mixed method design. A multi-stage sampling technique was utilised to select 321 women of reproductive age who has ever used a method of contraception for the quantitative aspect and purposive sampling method was utilised to select 32 participants for the qualitative aspect. Primary data was extracted from respondents using semi-structured questionnaire and a Focus Group Discussion guide. Quantitative data analysis was performed using SPSS version 25 and Chi-square test of association; qualitative data was analysed using NVivo 12.

Results

The prevalence of contraceptive use during this study was 9.97%. The prevalence of contraceptive discontinuation was 34.95% at 12 months, 40.83% at 24 months and 24.22% beyond 24 months. Method-specific prevalence of contraceptive discontinuation at 12 months was ovulation and withdrawal methods (44.44% each), Rhythm (33.33%), injectable (37.50%), pill (35.62%), condom (33.33%), Implant (30.56%) and IUCD (23.08%). The reasons given by the respondents for discontinuation was side effect.

Conclusion

The prevalence of contraceptive use was low and the prevalence of contraceptive discontinuation was high which indicates that contraceptive uptake and continuance is still an issue of concern. Age and marital status were found to be associated with contraceptive discontinuation and side effects was found to be the primary reason for contraceptive discontinuation.

INTRODUCTION

Contraception which is embedded in family planning, is prominent in the demographic and health literatures because of its vast benefits in decelerating unmanageable growing rate of the populace and, lowering the disease rate and the death rate of mothers through prevention of untimely conception and childbirths.[1,2] Hence, it is not only limited to the positive effects on health-related outcomes[3] but has the benefit of improving schooling and economic outcomes for girls, women and the society at large.[4] The term “Family Planning (FP) is often used interchangeably with contraception but they don’t share the

same meaning as planning a family differs from preventing an unwanted pregnancy. However, the later is incorporated in the former.

Contraception also known as fertility control refers to the voluntary or intentional prevention of pregnancy which entails the interruption of sequential activities that bring forth pregnancy either by artificial or natural means. The methods of FP are commonly classified into modern or non-modern methods.[5] Modern methods comprise of the reversible methods (barrier methods, hormonal methods and the emergency methods of contraception) and the irreversible methods such as the female sterilization (tubal ligation) and the male sterilization (Vasectomy). The term “non-modern” methods of contraception is a collective term adapted by Hubacher & Trussell,[5] due to its ease and simplicity in use and understanding, as labels incorporating terms such as “traditional methods”, “natural methods” or “physiological methods” and others were subject to disagreement and setbacks by different school of thoughts. This category includes all Fertility Awareness Based Methods (FABMs), withdrawal method, abstinence and utilising other strategies that aids to forecast the days a woman can easily get pregnant. Not all discontinuation is problematic as some women discontinue a particular method because it is difficult to use or its use is unacceptable to either the woman or her partner, and subsequently switch to a more suitable method,[6] others discontinue because they no longer have a need for contraception. In contrast, women who discontinue their method of contraception despite their desire to limit or delay childbearing represent an extremely important reproductive health problem.[7] This is regarded as a major public health concern as it can lead to unwanted pregnancies, and some of these pregnancies may be terminated by unsafe means.[8] Therefore, it is not only limited to unwanted pregnancy but also its adverse reproductive health outcomes and its negative implication on family planning programs.[9]

The rate at which women discontinue the use of a method due to reported side effects may signal the need for improved counselling, and that information about the method needs to be communicated more effectively. High levels of discontinuation due to access or availability problems suggest that supply and or distribution mechanisms need examination as it would help identify the inadequacies of particular types of service delivery and the potential effects of contemplated changes in modes.

Also, this study would help reveal the disparities and inequalities within local settings in Port Harcourt metropolis which may influence the use and the discontinuation of a method and in turn would help programme planners at the local government level to improve on targeted interventions which would be effective in such settings.

Finally, this study will contribute to the general body of knowledge on the contraceptive method use and the discontinuation trend in Port Harcourt metropolis which has an implication on the total fertility rate and the contraceptive prevalence rate of Rivers state and Nigeria.

MATERIALS AND METHOD

Study Design and Setting

This study utilised a descriptive, cross-sectional survey design with a mixed method of data collection over a 5 months period from women of reproductive age living within the study communities in Port Harcourt metropolis of Rivers state, Nigeria.

Study Population

The respondents in this study were sexually active, non-pregnant women between 15 and 49 years of age who were currently residing in the Metropolis of Port Harcourt at the time of study as well as women of different socio-economic classes who have used any method of contraception. Women who were planning to get pregnant within the study period and within the next one year were not considered.

Sampling Method

The quantitative aspect employed a multistage sampling method to recruit 321 study participants. Seemingly, the qualitative aspect employed purposive sampling to select 32 study participants based on the preselected criteria that was relevant to the study. Four (4) FGD sessions was held with each of the sessions involving eight participants hence, the allocation of sessions was evenly distributed between the selected LGAs.

Data Collection/Instrumentation

Primary quantitative data was collected using pretested, semi-structured interviewer-administered questionnaire which was developed to measure the study objectives. This questionnaire contained a total of 30 questions which was designed from literatures of similar studies such as that of Belete et al., and Mahande et al.[10,11]

Considering the qualitative aspect, a properly designed Focused Group Discussion (FGD) guide which contained open ended questions and probes was developed from existing literatures of related studies[12] and used to collect primary qualitative data aimed at measuring the objectives relevant to this study.

Pretesting of instruments (Questionnaires & FGD guide) as well as other tools necessary for this study was carried out on a different population to check for errors and faults. Adjustments were made where necessary before commencement of the actual data collection in the study population.

Data was collected for a period of about three months duration, the quality of the data was maintained through translation of questionnaires and FGD guides to the local pidgin English for subjects who could not understand the Queen's English, revision of completed data each day of collection was done to avoid mistakes, incomplete or missing data.

The data collection team for the quantitative aspect consisted of three personnel i.e. the researcher who served as the facilitator of the discussion, a recorder (who ensured that data from participants were

recorded both manually and electronically) and a third person (a health personnel versed at qualitative data collection).

Consent for participation was obtained verbally from each participant before commencement of the discussion. The four FGDs were conducted as follows; two FGD sessions composed of adolescent girls (15-19 years) single, cohabiting and married while, the other two FGD session were composed of women ages 20-49 years.

Statistical Analysis

Quantitative data was analysed using SPSS version 25. Qualitative data analysis was done using NVivo 12, a software program used for qualitative and mixed-method research. A content analysis approach was used for this analysis. In order to find out emerging themes, recorded responses from participants were coded into themes and sub-themes. Coding frequency was done to show the most frequently occurring themes.

ETHICAL APPROVAL

Consent:

A written form consent was obtained from each of the study participants for the quantitative study while a verbal consent was obtained for the qualitative study after explaining the aims and objectives of the study, the anticipated risk and potential benefit of the study to them before proceeding on the research work.

Ethical Clearance:

Ethical approval and clearance was obtained from the institution research ethics committee of the University of Port Harcourt, Rivers State which is in line with National Health research ethics committee and Helsinki Declaration.

RESULTS

Response Rate/Completeness of Data

A total of 321 women of reproductive age were incorporated for the quantitative aspect of this study and 32 participants took part in the qualitative aspect and the response rate was 100%.

Quantitative Study findings

Socio-Demographic Characteristics of Respondents

Table 1: Socio-demographic characteristics of respondents who ever used a method of contraception.

Variables	Number	Percentage
Age		
15-19	37	11.53
20- 29	135	42.06
30-39	117	36.44
40-49	32	9.97
Mean	*29.27 ± 7.97 years*	
Range (min, max)	*(15, 49) years*	
Marital Status		
Married	139	43.30
Cohabiting	24	7.48
Never-married	126	39.25
Widow	22	6.85
Divorced	10	3.12
Religion		
Christian	279	86.91
Islam	42	13.08
Ethnicity		
Rivers	233	72.59
Non-Rivers	88	27.41
Educational Status		
Junior Secondary	0	0.00
Senior secondary	37	11.52
Diploma	77	23.99
Undergraduate	69	21.49

Graduate	138	42.99
Occupation		
Employed	148	46.12
Unemployed	62	19.31
Student	111	34.58

Table 1 shows that the mean age of respondents in this study was 29.27 years (SD ±7.97). 11.52% (37) have attained the secondary level of education with the remaining making up undergraduates (21.49%), diploma (23.99%), and graduates (42.99%). With regards to ethnicity, 72.59% (233) of participants were from Rivers state and 27.41% (88) were non-Rivers who resided in the metropolis of Port Harcourt as at the time of study.

Prevalence of Contraceptive Use:

The prevalence of contraceptive use was found to be 9.97% and this represented the number of participants who reported to be using a method of contraception at the time of study. The mean age of respondents who were using a method of contraception during the study period was 26.06 years (SD ±5.56).

Prevalence of Contraceptive Discontinuation:

Table 2: All-method and method-specific prevalence of contraceptive discontinuation among respondents**.**

Method of Contraception Discontinued	Duration of Use			
	< 12 months N (%)	12 - 24 months N (%)	> 24 months N (%)	Total N (%)
Condom	7 (33.33)	9 (42.86)	5 (23.81)	21 (100.00)
Implant	11 (30.56)	15 (41.67)	10 (27.78)	36 (100.00)
Injectable	42 (37.50)	45 (40.18)	25 (22.32)	112 (100.00)
IUCD	6 (23.08)	13 (50.00)	7 (26.92)	26 (100.00)
Ovulation	4 (44.44)	3 (33.33)	2 (22.22)	9 (100.00)
Pill	26 (35.62)	28 (38.36)	19 (26.03)	73 (100.00)
Rhythm	1 (33.33)	1 (33.33)	1 (33.33)	3 (100.00)
Withdrawal	4 (44.44)	4 (44.44)	1 (11.11)	9 (100.00)
All Method	101 (34.95)	118 (40.83)	70 (24.22)	289 (100.00)

Table 2 shows that the prevalence of contraceptive discontinuation for all methods as well as the method-specific discontinuation at 12 months, 12-24 months and > 24 months. From the table above, the all-method discontinuation rate was 34.95% at 12 months, 40.83% at 24 months and 24.22% beyond 24 months.

Figure 2 shows that, ovulation method was highly discontinued among other contemporary methods and non-contemporary methods of birth control at a discontinuation rate of 44.44%. Among the contemporary methods, Injectable had the highest rate of discontinuation (37.50%).

Association Between the Method of Contraception Discontinued and Socio-Demographics of Respondents (Age & Marital Status):

Table 3: Association between the method of contraception discontinued and the age of respondents

Method of contraception discontinued	Age (in years)				Total
	15-19	20-29	30-39	40-49	
Condom	9	8	4	0	21
Implant	0	13	15	8	36
Injectable	0	46	46	20	112
IUCD	0	6	16	4	26
Ovulation	0	7	2	0	9
Pill	16	35	22	0	73
Rhythm	0	1	2	0	3
Withdrawal	2	2	5	0	9
Total	27	118	128	32	289

Chi-Square = 106.036; p-value < 0.001, statistically significant

Table 3 reveals a statistically significant association of cross tabulation between the contraceptive methods discontinued and the age of the respondents (Chi-Square = 106.036, p< 0.001). Among the modern method of contraception discontinued, it is observed that injectables were highly discontinued among respondents of age groups 20-29 and 30-39.

Table 4: Association between the method of contraception discontinued and the marital status of respondents

Method of contraception discontinued	Marital Status					Total
	Cohabiting	Divorced	Married	Never-married	Widow	
Condom	3	1	2	15	0	21
Implant	3	2	10	15	6	36
Injectable	12	6	63	25	6	112
IUCD	3	2	10	9	2	26
Ovulation	2	0	5	2	0	9
Pill	2	1	37	33	0	73
Rhythm	1	0	1	1	0	3
Withdrawal	2	0	0	4	3	9
Total	28	12	128	104	17	289

Chi-Square = 104.890; p-value< 0.001, statistically significant

Table 4 shows a statistically significant association between the respondent's marital status and the method of contraception discontinued (Chi-Square = 104.890, p< 0.001). Among the modern methods of contraception, injectable had the highest prevalence of discontinuation by respondents of all marital status.

Qualitative Findings

Social Demographics of Respondents:

A total of four (4) FGDs were conducted with 8 participants in each group. The mean age of respondents was 25.36 years (SD± 9.8). Other information are well represented on the table below.

Table 5: Socio-demographic characteristics of respondents during the FGD sessions

Variable	Category	Frequency	Percentage
Age	15-19	15	46.88%
	20-29	7	21.88%
	30-39	6	18.75%
	40-49	4	12.50%
Educational level	Junior secondary	5	15.63%
	Senior secondary	16	50.00%
	Tertiary	11	34.38%
Occupation	Skilled labour	7	21.88%
	Unskilled labour	9	28.13%
	Unemployed	5	15.63%
	Student	11	34.38%
Marital Status	Married	14	43.32%
	Never married	11	34.38%
	Cohabiting	5	15.63%
	Widow	2	6.25%
Parity	0	9	28.13%
	1 -2	6	18.75%
	3-4	13	40.63%
	5+	4	12.50%

Reasons for discontinuation of contraceptive use

Adverse side effects/Method related problems:

Bad experiences such as spotting, prolonged and heavy menstrual bleeding during period, headaches, acne, tiredness and weight gain were some of the reasons mentioned by the respondents that lead them to discontinue their method of FP.

"*When I began taking the pill, all was going well for about a year and two months before I began experiencing that I was gaining more weight with more pimples on my face and when my period comes, I bleed heavily than I used to, so I stopped and opted for the injection but it didn't help and had to stop."*

- *35 years, 2 living children, pill discontinuer.*

Another participant who was a previous Implant user shared her experience about pain on the upper arm where her implant was inserted;

"I stopped the implant because of the pain of having it inserted as the muscle in my arm got sore and ached badly being that I have a sensitive skin. Somehow, I feel the health provider who got the implant inserted for me wasn't good at it as I hardly hear others complained the way I did."

- *43 years married, 3 living children and Implant discontinuer.*

Inconvenience:

"I stopped because I don't get to recall taking it sometimes and end up with missed pills. I tried using the injection but it wasn't sustained as I don't like injections and stopped it after two times of having the injections."

- *30, single and Pill discontinuer.*

Partner's disapproval/dissatisfaction:

"My partner doesn't feel comfortable with me using any method of contraception as he complained of not enjoying sex with me while I was using the IUCD, I had to stop to save my marriage as it was becoming a serious problem. He prefers to do the pull-out method and said if I get pregnant, we can always have the baby".

- *26, married, one living child and a skilled worker.*

Covid-19 Lockdown:

One of the respondents stated COVID-19 pandemic as a reason for discontinuing her method of FP as there was restricted movement and the distance to the health facility was far.

Religious oppositions:

A respondent narrated how some churches do not support use of birth control methods.

Other reasons described include; Reduced need and end of relationship with partner, Rumour about contraceptives, fear of side effects and Inadequate information from the health provider.

DISCUSSION

Prevalence of contraceptive use

The findings from this study reveals a very low prevalence of contraceptive use, lower than the contraceptive prevalence rate among married women in Nigeria as estimated by the National Population Commission.[13] It was also lower than the prevalence reported for that of a survey conducted in 20 African countries and lower than that of a study conducted in Ghana.[14,15] The prevalence of contraceptive use differs by state, country and by method being utilised. While some studies may report a high prevalence of contraceptive use in other studies,[16,17] the difference can only be explained by the study area, the sample size, their intent of contraceptive use and the contraceptive acceptance of that population being studied.

From this study, condom was utilised by majority of the participants followed by the oral contraceptive pills and injectable of which this order of preference has been consistent with studies Nigeria.[16,18] The use of condom is associated with two major functions - birth control and prevention of HIV/AIDS and the transmission of other sexually transmissible diseases hence, this may have accounted for the high prevalence of its use.

Prevalence of contraceptive discontinuation

This study discovered a high prevalence of contraceptive discontinuation, this is consistent with studies conducted in Kenya and Ethiopia.[19,20] While being high, it was higher than that of studies conducted in in Humera town of Ethiopia and Port Harcourt.[10,21] The differences may be due to differences in contraceptive behaviour, belief system, norms and other societal factors/variation in culture as these characteristics differs in different countries. The variation may also be attributed to the differences in health service provision in terms of informed choice, counselling, availability and accessibility of different FP methods amongst others.

Considering the method-specific prevalence of discontinuation, at 12 months the most frequent method being discontinued were the non-modern methods of contraception which is consistent with a study conducted in the Kumasi metropolis of Ghana.[22] This may infer that; non-modern methods are rapidly being replaced with modern FP methods. Among the modern methods discontinued, injectable had the highest prevalence of discontinuation which is consistent with a study in Nigeria.[21] This however, differed with the study findings from Kenya[19] and Ethiopia[20] and Humera town in Ethiopia[10], which reported the oral contraceptive pill as the most common modern method discontinued. The differences in the discontinuation rates of each methods could be attributed to method inconvenience as cited by literatures.

Association between the methods of contraception discontinued and Age

The method of contraception discontinued was significantly associated with age. This study showed that higher rates of discontinuation were evident among age groups who used injectable (age groups 20-

29 and 30- 39) and the pill (age groups 15-19, 20-29 and 30-39). This is consistent with findings from a study by Sseninde which stated that younger women are most likely to discontinue a method of contraception as well as women who are young and recently married.[23]

Association between the methods of contraception discontinued and marital status

The method of contraception discontinued was significantly associated with marital status. This explains that women who are in-union are more likely to discontinue injectables followed by the pill users who are in-union. This is in agreement with a study conducted in Bangladesh indicating that married women are more likely to discontinue a method when they desire conception and as they clock menopause due to reduced need to control fertility.[24]

Reasons for discontinuation of contraceptives

Among the numerous challenges mentioned as barriers to contraceptive continuation by respondents, heavy bleeding/menstrual irregularities was the predominant and frequent cause leading to discontinuation of FP methods. This finding is consistent with many literatures conducted in different countries such as studies carried out in Ethiopia,[12] rural counties of Migori and Kitui, Kenya[25], in Nepal[26] in Myanmar[8] and studies conducted in Kano.[27] In as much as many literatures agrees with the findings of this work, a study conducted by Azuike et al., found a different outcome which showed that, the intention to get pregnant, followed by husband's disapproval amongst other reasons were the primary barriers to contraceptive continuation.[7]

Side effect is an issue of concern as menstruation is a sign of fertility and normality as a woman hence, any alteration in the normal cycle and bleeding pattern of a woman is an issue of concern as it impacts well-being. On the other hand, increased bleeding affects women's socio-economic activities and sexual relationship with their partners,[25] therefore this does not just imply that clients should be provided with adequate information about potential side effects from the health providers, rather efforts to improve and develop new contraceptives adapted to local reproductive ecology may have to be considered.

Conclusion

This study found a low contraceptive utilization prevalence and a high prevalence of contraceptive discontinuation which indicates that contraceptive utilisation even among women living in an urban areas such as that of the study population is still poor and an issue of concern. Age, marital status and educational level were found to be associated with contraceptive discontinuation and a lot of women who utilised and discontinued their methods of contraception were self-decision makers and of which some opted for their method covertly. The major barrier amongst others that led to discontinuation was the women's experience of contraceptive side effects which ranged from menstrual irregularities, heavy bleeding, and weight gain to headache. This is evident that there is need to develop effective strategies

that would help promote the contraceptive prevalence rate as well as strategies that would encourage continuation and method switching.

Limitations of the study

1. Most women of reproductive age were unwilling to participate in the study as it involved giving out information about their sexual and reproductive life which is mostly kept as private to them.
2. The few breastfeeding mothers who were eligible were unresponsive and some gave incomplete data therefore their data were not accounted for.
3. It was difficult organizing women of reproductive age who met the inclusion criteria into groups for the qualitative aspect of this research as they gave their different timing that would be suitable for them.

Recommendation

To women of reproductive age:

1. Women should ensure they get their FP methods from a FP clinic, hospitals and health centers where proper information are being given concerning contraception and FP and not from chemist shops.
2. Women should ensure they involve their male partners in issues of sexual and reproductive health by discussing contraceptive use with them, encouraging and taking them along to obtain a method.
3. Women should ensure that they ask necessary questions concerning a particular method of preference where they don't understand and should also ensure that they adhere strictly to information on the use of a method (especially for methods that are being handled by the individual such as pills, condoms, patches etc.)
4. Women should ensure that they report any side effect experienced to their FP health provider for further instructions.

To government/ health management bodies:

1. Efforts on male/female education and enlightenment through educational campaigns and advocacy should be improved and encouraged. This can be achieved using all Medias of communication.
2. Strategies that engages the men should be adopted by program implementers since men are the major decision makers in Nigeria. In this regards, joint-decision making should be enhanced between couples/partners through campaign enlightenment on all forms of information route targeted at the men.
3. The government should put in more funds through the ministry of health to encourage health research specific to strategies that can help improve contraceptive use and continuance in local settings and at the state level.

4. The significance of side effect should be considered by evaluating the suitability of available methods through directives from the ministry of health to program planners and evaluators in order that efforts to better improve or develop new contraceptives adapted to local reproductive ecology may be considered, as there may exist incompatibility between physiologic hormonal level of individuals in a particular country and that of the contraceptives currently used which may have been obtained from a donor country.

Declarations

Declaration of funding:
for this research received no external funding

Clinical trial number: Not applicable

Data availability: The dataset used during the study are available from the corresponding author on reasonable request.

Consent to publish: All participants were provided with comprehensive details about the study, after ensuring that the participants fully understand these details, they were asked to sign an informed consent form to confirm their voluntary participation in the study. I consent to the publishing of this article.

Ethical Accordance: Ethical approval and clearance was obtained from the Institutional Research Ethics Committee of the university of port Harcourt, Rivers State in line with the National Health Research Ethics committee and the Helsinki declaration

Consent to participate

A written informed consent was obtained from each of the study participant for the quantitative study while a verbal informed consent was obtained for the qualitative study after explaining the aims and objectives of the study; the anticipated risk and potential benefits of the study to them before proceeding on the research

Author Contribution

A author A is the main author and did the bulk of the research, prepared manuscripts and discussed the results from the data, collected qualitative and quantitative data for the researchB author B designed questionaires and analyzed data

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Figures

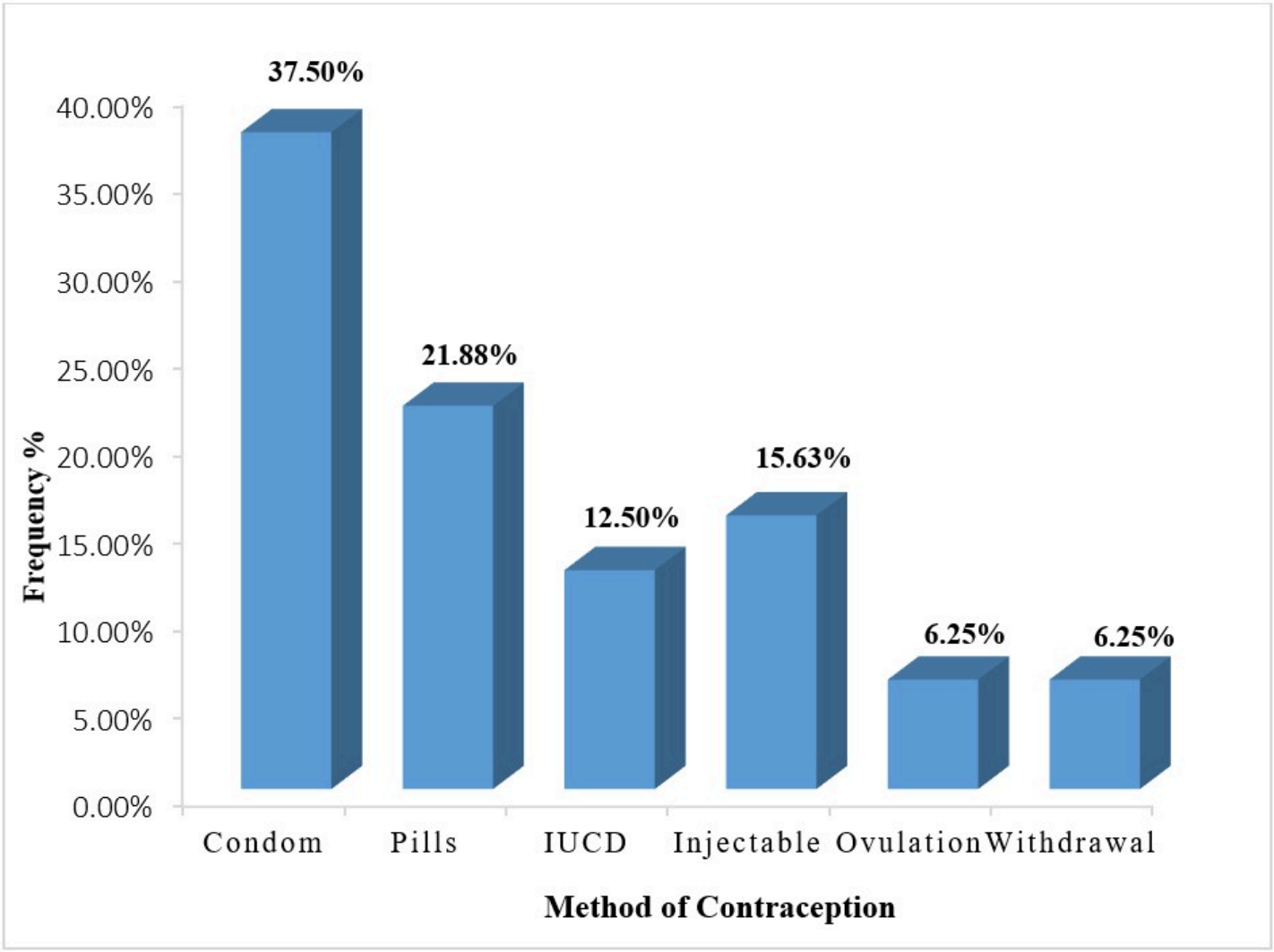


Figure 1

A bar graph showing the methods of contraceptive utilised by respondents during the study period.

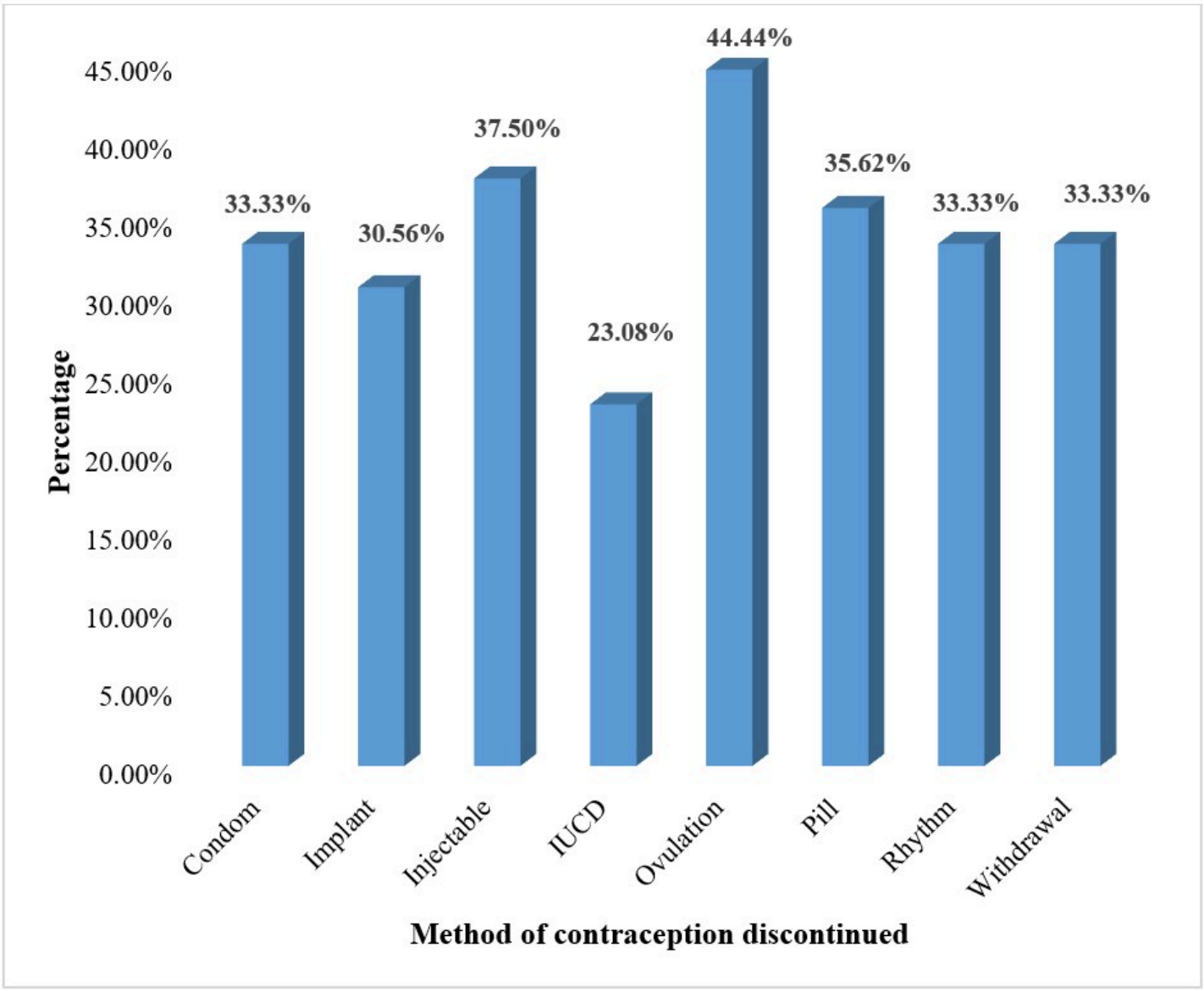


Figure 2

Method-specific prevalence of contraceptive discontinuation at 12 months among Respondents