



## Profile of intrauterine contraceptive device acceptors and discontinuation rate at Ekiti State University Teaching Hospital, South-western Nigeria.

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### Abstract

Intrauterine contraceptive device (IUCD) is one of the available long acting reversible contraceptive with enormous advantages in our environment. It however has complications which may limit its acceptance and continuation. To evaluate

the acceptance rate, complications and the impact of the complications on discontinuation rates of IUCD as a family planning method. We conducted a 5-years retrospective, descriptive study in Family Planning unit of Obstetrics and

Gynaecology Department of Ekiti State University Teaching Hospital, Ado Ekiti, Ekiti State, Nigeria from January 2011 to December 2015. Data was extracted from the records of 1483 clients seen in our Family Planning Clinic during the study period. Out of the 1483 clients, 642(43.3%) clients accepted IUCD. Two hundred and twelve (33.0%) acceptors discontinued before 60 months of use. Out of the 226 (35.2%) acceptors who had complications, 90(14.0%) acceptors discontinued the use of IUCD before 60 months of use. However, majority of the discontinuation occurred between 24 and 35 months of use on account of being ready to conceive. IUCD acceptance in our environment is appreciably; significant number of acceptors discontinued with IUCD before 60 months of use because of use-related complications.

**Keywords:** Intrauterine contraceptive devices (IUCDs), complications, Contraceptives acceptors, discontinuation rates.

## **Introduction**

In most developing countries of the world today, high fertility rate is an issue of concern. According to United Nations Population Fund (UNFPA), the average fertility rate per woman in developing countries and most developed regions of

the world is 4.0 and 1.7 respectively (United Nations Population Fund, 2016). In Nigeria, the fertility rate is 5.3 per woman (Demographic, 2019). This has negative impacts on the socioeconomic power of these countries with higher index of perinatal mortality and morbidity rates (Kollodge & Etienne, 2011). Therefore, there is a need for fertility control and population control. Modern Family planning remains one of the most important tools for achieving this. The contraceptive prevalence in Nigeria is still very low (17%) despite widespread knowledge of contraception among women (92.1%) and men (93.8%)(National Population Commission, 2019). Long acting reversible contraception (LARC) methods provide very effective long term prevention of pregnancy after one-time placement (Curtis & Peipert, 2017). These methods do not depend on user's adherence and thereby termed "forgettable" (Curtis & Peipert, 2017). They include intrauterine contraceptive devices (IUCD)-hormonal and non-hormonal copper containing IUD; and subdermal hormonal implants (Curtis & Peipert, 2017). IUCD is the leading reversible method of contraception (Ali et al, 2011). IUCD is a safe, highly effective and cost-effective method of contraceptive (Shimoni, 2010). Modern IUCDs are impregnated with copper or levonorgestrel

(progestogen) to improve its contraceptive efficacy and reduce the side effects (Cleland, 2017). The commonly available IUCD in Nigeria is the copper impregnated IUCD-T380A model (Adegbola & Ogedengbe, 2018). The levonorgestrel releasing intrauterine system (LNG-IUS) reduces menstrual loss and is more popular in developed countries (Shimoni, 2010; Cleland, 2017). T380A is highly effective with an annual pregnancy rate of 0.4 per 100 women year and it offers a long-term reversible contraception as a reliable alternative to sterilization (Grimes, 2007). Although mechanism of action of IUCD is not fully understood, studies of copper containing IUCD's suggest that it stimulates marked inflammatory reaction in the uterus (Igwegbe, Ugboaja & Monago, 2009; Okpere, 2007). The concentration of the macrophages and leucocytes, prostaglandins and various enzymes in both uterus and tubal fluids interfere with the transportation of spermatozoa and ova. They also prevent implantation should a healthy fertilized ovum reach the endometrial cavity (Igwegbe, Ugboaja & Monago, 2009; Okpere, 2007). Despite the popularity of IUCDs, some women are still reluctant to utilize this method because of some perceived side effects. The known complications associated with the use of IUCD include menorrhagia, displacement,

expulsion from the uterus, perforation of the uterus, accidental and ectopic pregnancies (Igwegbe, Ugboaja & Monago, 2009; Mutihir et al, 2006). The fear of these complications contributes to its discontinuation and hinders the acceptance. (Igwegbe, Ugboaja & Monago, 2009; Mutihir et al, 2006). Considering the advantages and complications of IUCD use, it is thereby considered pertinent to review the acceptance rate, complications and impact of complications on discontinuation rates in our centre as this information will be useful while counselling of new clients for contraception.

### **Materials and method**

We carried out a 5-years retrospective, descriptive study of IUCD acceptors in Family Planning unit of Obstetrics and Gynaecology Department of Ekiti State University Teaching Hospital, Ado Ekiti, Ekiti State, Nigeria from January 2011 to December 2015. The records of the family planning clients were reviewed and information was extracted from 1483 clients seen in our Family Planning Clinic during the study period, through the Health Information Management (HIM) unit of Obstetrics and Gynaecology Department. The records of all the clients seen at the family planning clinic within this study period were retrieved by personnel of the HIM. Ethical approval for the retrieval and

use of the case files was obtained from the Research and Ethics Committee of Ekiti State University Teaching Hospital. The copper T 380A was used for all our clients during this study. Data obtained include information on the age, marital status, parity, educational level, religion, reason for contraceptive use, previous contraceptive use, complications among IUCD users, reason for discontinuation of IUCD, and the duration of IUCD use. The data were analysed using Prism 8 software and presented in tables. Data was presented in frequency and percentages.

## Results

During the study period, 642 (43.3%) out of 1438 clients in our family planning clinic accepted IUCD. Socio-demographic characteristics of the IUCD acceptors are available in Table 1. The mean age of the acceptors was  $33.90 \pm 5.44$ ; with range between 20 and 50 years. Acceptance was highest among clients within age group of 30-34 years (244; 38%), married women (584; 91.0%), clients with 3-4 living children (346; 53.9%), and those that had acquired tertiary education. (308, 48%) Majority of the acceptors got contraceptive information from health care providers at the family planning clinic (76.2%), 12.9% from friends/relatives, 6.7% from outreach personnel and 4.2% from mass media. Reasons for using IUCD were child spacing (334, 52%), limiting family size

(263, 41%) and not being ready to start a family. (45, 7%) Previous use of contraceptive methods is available in Table 2. One hundred and ninety three (30.1%) clients accepted IUCD for the first time while 189 (29.4%) had history of prior IUCD use. Complications among the IUCD acceptors are available in Table 3. Majority had no complication (64.8%) while the commonest complication was abnormal vaginal discharge. Other complications were menorrhagia, husband's dyspareunia, pelvic pain, missing strings and missing strings. Out of the 226 acceptors who had use-related complications, 90 (14.0%) clients discontinued the use of IUCD. Table 4 shows the contribution of each of the observed complication to discontinuation of IUCD. Menorrhagia was the commonest complication leading to discontinuation. Reasons for discontinuation of IUCD with duration of use are available in Table 5. Two hundred and twelve (33.0%) acceptors discontinued before 60 months of use. Majority of the discontinuation occurred between 24 and 35 months of use on account of being ready to conceive. (Table 5)

## Discussion

In Nigeria, as in other developing countries, IUCD is the most commonly chosen contraceptive method (Adegbola &

Ogedengbe, 2008; Igwegbe, Ugboaja & Monago, 2009). This is in keeping with the high IUCD acceptance rate of 43.3% found in this study, and is comparable with acceptance rates from previous Nigerian studies (Adegbola & Ogedengbe, 2008; Olatinwo et al, 2001; Okunlola et al, 2006; Aisien, 2007). The mean age of acceptors is also comparable with findings from other studies (Adegbola & Ogedengbe, 2008; Aisien, 2007). In this study, IUCD was mostly embraced by clients aged 30-39 years. This could be because this age bracket represents the peak period of reproductive life when women are either spacing or limiting their family size. However, it was observed that there was no teenager among the acceptors of IUCD during the review period. Reason being that teenagers were either not accessing family planning services in our centre or they did not accept IUCD despite the fact that it has been found to be safe and effective for teenagers (Curtis & Peipert, 2017). Majority of the acceptors were married. This is not unexpected because of existing cultural and religious restrictions on premarital sex and the general misconceptions associated with adolescent contraception with sexual permissiveness (Aisien, 2007; Umoiyoho, 2004), leading to social stigmatisation of this age group in this environment. Also, IUCD acceptance was highest among clients having 3 or 4 living children and most acceptors were using the method for birth spacing in keeping with

previous reports from Nigeria and other countries (Shimoni, 2010; Adegbola & Ogedengbe, 2008; Aisien, 2007; Teal et al, 2015). This is not surprising as most acceptors were in the peak period of their reproductive life, well-educated and had less than five children. This shows that education plays a key role in the acceptance rate of IUCDs in our community.

Majority of the clients did not have any use-related complication and none of the acceptors got pregnant on IUCD. This corroborates the fact that IUCD is a safe and effective method of family planning (Teal, 2015; Curtis, 2017). Complications reported by few acceptors were abnormal vaginal discharge, menorrhagia, partner's dyspareunia, expulsion, missing string and pelvic pain. Similar reports have been documented in various previous studies<sup>18, 19</sup>. Discontinuation was mostly due to readiness to conceive in consonance with previous studies from Nigeria (Adegbola & Ogedengbe, 2008; Okunlola et al, 2006; Aisien, 2007). Discontinuation of IUCD on account of complications was also significant and more than half of acceptors that discontinued IUCD on account of use-related complications (58%) did so within the first 23 months of use; which is similar to the findings by Mutihir et al. (Mutihir et al, 2006). The most common use-related complication responsible for

discontinuation was menorrhagia. In order to reduce the discontinuation rates of IUCD due to use-related complications, introduction of Levonorgestrel releasing intrauterine system (LNG IUCD) device in this community should be considered as the latter had shown significant reduction in menorrhagia and dysmenorrhoea. It also has very low expulsion rates and several non-contraceptive benefits including protective effects on pelvic inflammatory disease, fibroid and ectopic pregnancy (Hubacher, 2002; Grimes, 2007). The strength of this study is being able to review the IUCD uptake in our centre and contributions of use-related complications to discontinuation rates. We have also been able to propose probable solution in order to reduce the discontinuation rates. The limitation is that IUCD use-related complications were not compared to other available methods of contraception.

### **Conclusion**

IUCD acceptance in our environment is appreciably high; significant number of them discontinued with IUCD before 60 months of use because of use-related complications. The most common use-related complication responsible for discontinuation was menorrhagia. This can be mitigated by introducing LNG IUCD device. Also, there is a need for enhanced advocacy for adolescents to access family planning services.

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**Table I: Socio-demographic characteristics of IUCD acceptors**

<b>Variable</b>	<b>No</b>	<b>%</b>
<b>Age (years)</b>		
20-24	18	2.8
25-29	97	15.1
30-34	244	38.0
35-39	209	32.6
40-44	48	7.5
≥45	26	4.0
<b>Marital status</b>		
Single	20	3.1
Married	584	91.0
Divorced	29	4.5
Widowed	9	1.4
<b>No. of living children</b>		
0	6	0.9
1-2	208	32.4
3-4	346	53.9
≥5	82	12.8
<b>Educational level</b>		
No formal education	48	7.5
Primary education	61	9.5
Secondary	225	35.0
Tertiary	308	48.0
<b>Religion</b>		
Christianity	571	88.9
Islam	58	9
Others	13	2

**Table 2: Previous use of contraceptive methods**

Previous contraceptive Use	Frequency	%
Yes	449	69.9
No	193	30.1
<b>Contraceptive used (n=449)</b>		
IUCD	189	42.1
Injectable	175	38.9
OCP	103	22.9
Condom	42	9.4

Note: some had previously used more than one contraceptive method.

**Table 3: Complications among IUCD users**

Complications	Frequency	%
None	416	64.8
Abnormal Vaginal Discharge	63	9.8
Menorrhagia	44	6.9
Pelvic pain	37	5.8
Missing strings	5	0.8
Intermenstrual Bleeding	29	4.5
Husband's Dyspareunia	12	1.8
Expulsion	9	1.4
Dysuria	27	4.2

**Table 4: Complications leading to discontinuation of IUCD among acceptors**

Complications	No of Discontinuer	Percentage
Abnormal Vaginal Discharge	14	15.6
Menorrhagia	27	30.0
Pelvic Pain	22	24.4
Missing IUCD	5	5.6
Intermenstrual Bleeding	12	13.3
Husband's Dyspareunia	2	2.2
Expulsion	6	6.7
Dysuria	2	2.2



**Table 5: Reasons for Discontinuation of IUCD Use**

Reasons for Discontinuation	Duration of use (in months)					
	1-11	12-23	24-35	36-47	48-60	Total
Planned pregnancy	1	4	63	26	15	109
Use related complications	21	31	15	18	5	90
Menopause	0	1	4	3	5	13
<b>Total</b>	22	36	82	47	25	212

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