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Uptake of long-acting reversible contraception in federal medical centre, Asaba: A three year review

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Abstract
Background: Effective contraception is one of the evidenced based requirements for prevention of maternal death. Long-Acting Reversible Contraception (LARC) is a sure cost effective contraception that is urgently needed in low resources settings where there are low contraceptive prevalence and high fertility and maternal mortality rate.
Objective: To assess the uptake of long-acting reversible contraceptive (LARC) among women attending the family planning clinic in Federal Medical Centre, Asaba as well as to review of the socio-demographic characteristics of the women who accepts LARC methods.
Methods: This was a retrospective descriptive study of women who attended family planning clinic at FMC, Asaba between 1st January, 2017 and 31st December 2019. Data was collected from the family planning register. The register was used to identify women, who accepted LARC between 1st January, 2017 and 31st December, 2019. Thereafter, their case notes were retrieved, analyzed using SPSS (IBM version 20) and results presented in frequencies, percentages and tables.
Results: A total of 1304 women attended family planning clinic at Federal Medical Centre, Asaba during the period of study. One thousand one hundred and sixty- five (1165) women accepted a modern method of contraception, had complete record and were used for this study. A total of eight hundred and forty- six (846; 72.6%) women accepted LARC method. Out of this, intra-uterine contraceptive device (IUCD) uptake was 437(51.7%) while implants uptake was 409(48.3%). The majority of the women who accepted LARC were between the ages 30-34years 298(35.2%). A greater proportion of the women were married 810(95.7%) while 29(3.4%) were single women. Over half of the women who accepted LARC had tertiary level of education. Uptake of LARC increased with increasing parity.
Conclusion: There was high uptake of LARC in this study with rate of 72.6% as well as a rising trend in its usage. The most commonly used LARC was copper IUCD (51.7%). However, adolesents, less educated and low parity women had poor uptake.

Keywords: Contraception, LARC, IUCD, Implant, maternal mortality

Introduction
On the basis of the recent estimates, Nigeria has a population of approximately 200 million with a national growth rate of 3.2% [1]. The total fertility rate is 5.5 births per woman and maternal mortality rate of 545 per 100,000 livebirths [1]. In addition, 6.8 million pregnancies occur annually, with 16% ending in spontaneous miscarriage and 11% in induced abortion, whereas 4% of all births are unwanted and 7% are mistimed [1-3].
Effective contraceptive like modern LARC methods could prevent as many as one in every three maternal deaths by allowing women to space births, avoid unintended pregnancies, abortions and to stop childbearing when they have achieved their desired family size [4].
Long-acting reversible contraceptives are methods of birth control that provide effective contraception for an extended period of time without requiring user action [4, 5]. They include the progestogen-only subdermal implants (Implanon NT containing etonorgestrel and Jadelle two rod implant containing levonorgestrel) and intrauterine contraceptive (IUC) methods (intrauterine system (Mirena) and copper intrauterine devices (TCu 380A) [4].
Long acting reversible contraceptive offers a lot of advantages. Women using LARC methods have less chance of unintended pregnancy compared to women using user dependent methods, with the exception of depo provera [4]. LARCs do not require daily adherence and are the most effective reversible methods available. They are also equally effective as female sterilization [4]. They have higher continuation rates than the oral contraceptive pill and very high satisfaction

rates [4]. All LARC methods are very cost-effective and bring cost savings to governments in terms of the public health impact on reducing unintended pregnancies [4]. More importantly, they are suitable for women of all ages and parity; they are easily reversible with prompt return of fertility [4].

Despite its numerous advantages, only 18.9% of LARC was utilized globally and unmet need for contraception was over 12.3%. Nigeria's total fertility rate of 5.5 births per woman is one of the highest in sub- Saharan Africa and globally. This is due largely to her high unmet need for family planning of (21.8%). Use of contraception is relatively low (17.1%) and this also reflected in the number of women that subscribed to LARC. In Nigeria, knowledge about LARC is poor, only 36.8% and 49.5% amongst women, for intrauterine device and implant respectively [1, 8]. Despite the level of awareness about its safety and efficacy, the use is not widespread among women of reproductive age in Nigeria. To enhance the uptake, there is need for education of clients and healthcare providers. Also dispelling misconceptions by providing correct information and providing LARC same day especially postpartum, and post-abortion periods may reduce missed opportunities, increase satisfaction and uptake, and prevent unintended pregnancies, and the associated complications [9]. This study aimed to determine the socio-demographic characteristics, rate and yearly trend in the uptake of LARC among women attending family planning clinic in FMC, Asaba.

Research methods

Study design

This was a retrospective descriptive study of women who attended family planning clinic at FMC, Asaba between 1st January, 2017 and 31st December, 2019.

Setting

Federal Medical Centre, Asaba is a tertiary health care center established by the federal ministry of health. It provides specialist health care to an estimated population of 400, 000 people and serves as a referral center to Primary Health Centers (PHC), Government general hospitals and private hospitals in Asaba and environs.

The family planning clinic of FMC Asaba, provides family planning services during working hours of weekdays. A consultant obstetrician and gynecologist, and trained public health nurses direct activities in the family planning clinic.

The family planning clinic of the facility offers free contraception services thereby removing cost barrier to contraceptive use. The contraceptives are provided mainly by the Ministry of Health, Delta State and Non-Governmental Organizations that promote contraception.

Study population

Women who attended family planning clinic at FMC Asaba, between January 2017 and December 2019 were studied.

Data collection methods

A register of all women who receive contraception services at the family planning clinic, FMC Asaba, is maintained and their data regularly recorded in case notes stored locally within the family planning clinic. The register was used to identify women, who accepted LARC between 1st January, 2017 and 31st December, 2019. Thereafter, their case notes were retrieved. Acceptors were determined for the two methods of LARC (sub-dermal implant and IUCD) available at the clinic. The index date was defined as the date of the first receipt of a LARC method at the clinic. New acceptors (Incident users) were those who had no record of use of a particular contraceptive method before the index date. Prevalent users were those who have record of use of a particular contraceptive method before the index date.

Relevant data retrieved included socio-demographic characteristic, parity, number of living children, desire for future pregnancy, method of contraception accepted and source of information. Proforma was designed and then used to extract data from the case notes.

Data analysis

Data collected was entered into and analyzed using Statistical package for social sciences (SPSS) version 20.0 (IBM SPSS). The results were aggregated and presented in statements, frequency distribution tables and charts.

Ethical approval

Approval for the study was granted by the Ethics and Research Committee of FMC, Asaba.

Results

A total of 1304 women attended family planning clinic at Federal Medical Centre, Asaba. One thousand one hundred and sixty five (1165) women accepted a modern method of contraception, had complete record and were used for the study. A total of eight hundred and forty six (846) women accepted a long acting reversible contraception (LARC) method while 319 accepted non-LARC methods. This gives a LARC uptake of 72.6%. Out of this, IUCD contributed 437(51.7%) while implant accounted for an uptake of 409(48.3%). Majority of the women 500(59.1%) used LARC as a means of limiting the number of children (Limiters) while 346(40.9%) used LARC as a means of spacing their children (Spacers).

There was a rising trend in the uptake of LARC through the 3 year period, with 233(27.5%), 287(33.9%) and 326(38.5%) in 2017, 2018 and 2019 respectively. Among the women who accepted LARC, 471(55.7%) were incident users of modern method of contraception while 375(44.3%) were prevalent users of modern method of contraception.

The majority of the women who accepted LARC were between the age 30-34years 298(35.2%) followed by age group 35-39years 220(26.0%).

A greater proportion of the women were married 810(95.7%) with 29(3.4%) accounting for single women. The majority of the women were Igbo 702(83.0%). Most of the women who accepted LARC had secondary level education and above with tertiary level education accounting for a greater proportion, 425(50.2%) for tertiary and 354(41.8%) for secondary. 813(96.1%) of the women were Christians.

There was increased uptake of LARC among women with up to 4 living children; 258(30.5%) and 226(26.7%) for 3 and 4 living children respectively. The least users were among Nulliparous women 15(1.8%).

The major source of information for the women who accepted LARC was the clinic 502(59.3%) with school, radio/TV, Church, outreach contributing little to the source of information, 1.7%, 1.5%, 0.5% and 1.3% respectively.

Table 1: Socio demographic characteristics

Variable	Frequency (N)	Percentage %
Age		
<25	47	5.6
25-29	155	18.3
30-34	298	35.2
35-39	220	26.0
40-44	95	11.2
>45	31	3.7
Total	846	100
Marital status		
Single	29	3.4
Married	810	95.7
Co-habiting	7	0.8
Total	846	100
Tribe		
Igbo	702	83.0
Hausa	16	1.9
Yoruba	45	5.3
Urhobo	47	5.6
Ijaw	2	0.2
Itsekiri	1	0.1
Others	33	3.9
Total	846	100
Level of education		
No formal education	8	0.9
Primary	59	7.0
Secondary	354	41.8
Tertiary	425	50.2
Total	846	100
Religion		
Christianity	813	96.1
Muslim	20	2.4
Others	13	1.5
Total	846	100
Source of information		
Friend	231	27.3
Clinic	502	59.3
Relative	33	3.9
TV/Radio	13	1.5
Print media	9	1.1
School	14	1.7
Church	4	0.5
Outreach	11	1.3
Others	29	3.4
Total	846	100
Number of living children		
0	15	1.8
1	43	5.1
2	142	16.8
3	258	30.5
4	226	26.7
5	105	12.4
6	33	3.9
7	22	2.6
8	1	0.1
9	1	0.1
Total	846	100

Table 2: Methods of contraception.

Method	Frequency (N)	Percentage (%)
Condom	146	12.5
Oral pills	42	3.6
Injectable	131	11.2
Implant	409	35.1
IUCD	437	37.5
Total	1165	100

Class of contraception		
LARC	846	72.6
NON-LARC	319	27.4
Method of LARC		
IUCD	437	51.7
Implant	409	48.3

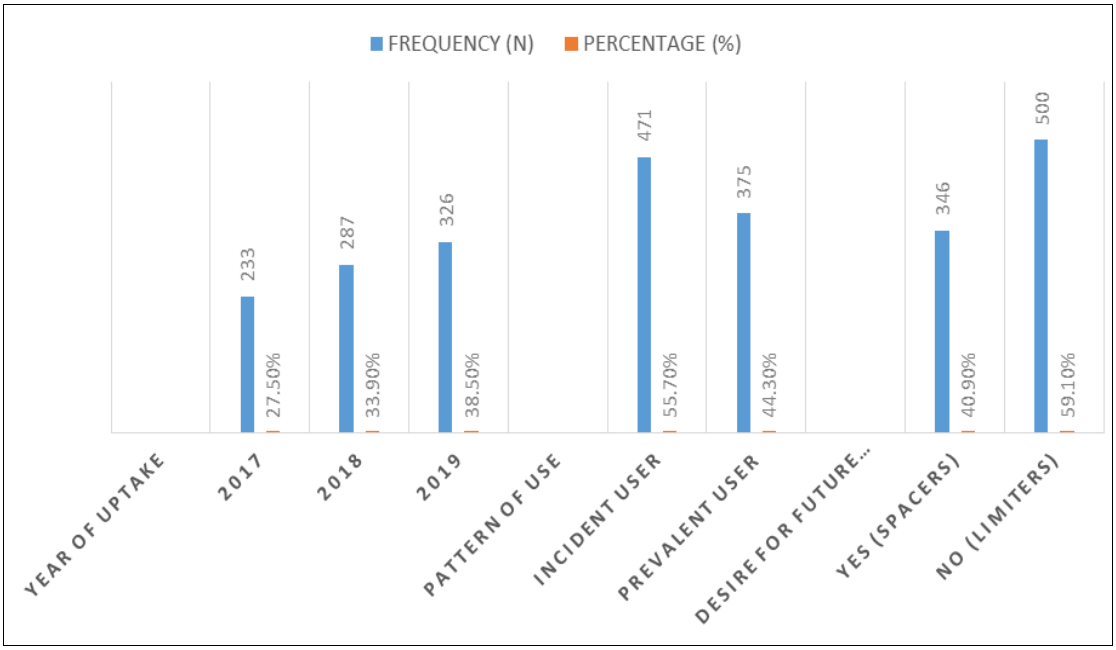

Fig 1: Pattern of uptake of larc

Discussions

The uptake of LARC in this study was 72.6%. This was similar to the rate reported by Dassah *et al*. in Kumasi Ghana (70%) and ACOG among American women of 75% [4, 9] but lower than the rate obtained in Enugu (90.2%) [10] and Gambia (88.7%) [11]. It was however higher than the reported rates of 26% in Malawi [12], 38.7% in Kaduna [13], 10.6% in Nnewi [14], and that of the 2013 Nigerian health and demographic survey [1]. The high uptake found in this study may be due to the availability of methods at no cost to clients as well as the continuous education and counselling of women during antenatal, post-natal, family planning clinics by both nurses and doctors comparable to the contraceptive choice research study among American women aged 14-45 years [4].

The IUCD contributed majority (51.7%) of the overall uptake while Implant contributed (48.3%). This was similar to the study in Kaduna [13] and also the contraceptive choice study in America [4]; where IUCD was the most commonly used LARC but in contrast with the study in Enugu, Lagos and Gambia where Implant was the most commonly used LARC [10, 11, 15]. This may be explained by the fact that majority of the women who chose LARC were limiters and IUCD has a more extended use than Implant.

There was a rising trend in the uptake of LARC in this study with peak in 2019. This may be due to the overall efficacy and women's satisfaction of LARC, and these women go further to tell their friends and relative about the method, with eventual rise in the uptake of LARC. Older women were more likely to use LARC as shown in the age group (30-39years) with majority of LARC uptake. Only 5.6% of women <25years used LARC. This trend was similar with other studies done in Enugu, Lagos, Nnewi and Kaduna [8, 11, 13, 14, 15].

Majority of the women were married (95.7%) just like in most other studies in Lagos, Enugu, Kaduna, Gambia [10, 11, 13, 15]. It thus seems that married women were more inclined to seek family planning methods. The motivation to do so might be based on the long term challenges of raising children and need to reduce their family sizes. Only 3.4% of single women used LARC.

Women using LARC were mostly educated up to secondary level or more; 41.8% and 50.2% for secondary and tertiary education respectively. The increasing LARC uptake with educational attainment in this study also collaborated with the NDHS 2013 [1] finding and the Ghanian study [16]; which found that educational status was the most significant predictor of a woman's use of contraceptive. This was also similar with other studies and may be due to their increase knowledge of modern contraceptive.

LARC uptake was more among women with 3 or 4 living children, (30.5% and 26.7% respectively). This trend was similar in other studies. These thus suggest that most women with this parity would consider their family size completed, and hence the demand for LARC. Only 1.8% of nulliparous women used LARC in this study, which is where the focus of advocacy should be shifting towards.

Limitations

This was a single institution based study conducted only in one centre, it might undermine generalization of result to the entire population including rural community and non-users.

Conclusion

There was high uptake of LARC in this study as well as a rising trend in the usage of LARC. The most commonly used LARC was copper IUCD (51.7%). However, adolescent, less educated and nulliparous women had low uptake.

Recommendations

- Adolescent, nulliparous and less educated women's uptake of LARC and overall utilization of family planning clinic was low. Therefore, efforts should be made to target sexually active adolescents in secondary schools, young women in tertiary institution, nulliparous and less educated women in the rural areas to ensure wilder coverage of LARC uptake.
- Options of LARC were limited to only IUCDs and Implants. Levonorgestrel – releasing intrauterine systems (LNG-US) should be made available in the family planning clinic to increase the choice of LARC.
- There should be training and retraining of service providers, and consistent supply of LARC should be ensured by government.
- Education of the girl child should be strengthened due to its Implant on contraceptive uptake

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