

## Research paper

# Uptake of Long-Acting Reversible Contraceptive Methods in Enugu State University Teaching Hospital Enugu, South-East, Nigeria

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## ABSTRACT

**Background:** Long Acting Reversible Contraceptive (LARC) methods provide very effective contraception for extended periods that do not depend on clients' daily compliances or adherences. They are the ideal methods for the prevention of the harmful consequences of unintended pregnancies in most women including adolescents.

**Objectives:** To determine the uptake rate of LARC in ESUTH Enugu, assess the characteristics of the acceptors, identify barriers, and make recommendations.

**Method:** The new client register in ESUTH, Enugu was reviewed retrospectively from December 31, 2015 back to January 1, 2011. Data on clients' characteristics, and uptakes of LARC and Non-LARC were extracted from the register, entered in Excel 2007 software, analyzed, and presented using percentages and graphs.

**Results:** A total of 1737 clients accepted the available family planning methods during the five-year study period. One thousand five hundred and sixty seven (90.21%) accepted

LARC while 170(9.79%) only accepted non-LARC. The LARC uptake rate was 90.21%. Majority of the clients were 30-39 years of age 1121(64.54%), 690 (39.72%) had secondary education, 821(47.27%) had tertiary education, and Christians were 1510(86.93%). The acceptors increased as parity increased with a peak at Para 4 of 490(28.21%). Clients less than 20 years (0.06%), not educated (1.27%), and Para 0 (0.4%) rarely access the family planning clinic. The LARC acceptors opted for jadelle 526(30.28%) and implanon 465(26.77%) sub-dermal implants, depo-provera 276(15.89%), interval intrauterine contraceptive device 232(13.36%), noristerat 48(2.76%), and postpartum intrauterine contraceptive device 20(1.15%).

**Conclusion:** There is a very high uptake of LARC in Enugu. Jadelle and implanon constitute over 50% of the LARC uptakes. Adolescents (< 20 years), less educated and low parity clients rarely access the family planning clinic.

**Keywords:** Uptake, LARC, Acceptors, Barriers, Recommendation

## Background

Worldwide, unintended pregnancy rates are high even in United States of America [1]. Unintended pregnancy has chains of harmful consequences on maternal and child health; causes social and economic marginalization of women, millions of unsafe abortions annually, and substantial costs to health services, families and society. The women are poor, their educations are truncated, and they are thus not empowered to liberate themselves from poverty [2,3]. They become economically dependent and cannot negotiate safe sex that can prevent unintended pregnancies and sexual transmitted infections. Although, majority of these unintended pregnancies occur in those not using any form of contraception, many still occur in women using contraceptive methods incorrectly or inconsistently [4].

The major benefit of LARC such as the intrauterine contraceptive device, intrauterine hormone containing system, sub-dermal implants and injectable contraceptives is that their effectiveness does not depend on client's daily compliance or adherence. LARC provide effective contraception for an extended period, their 'typical use' failure rates are less than 1% per year, and are about the same as their 'perfect use' failure rates [5]. They are safe, long-acting, reversible, convenient, liked by users, and very effective. They are the ideal contraceptives

for the prevention of unintended pregnancies in most women including adolescents. The high unintended pregnancy rates in non-LARC (e.g. combined oral contraceptive) users of 2-6% are mainly due to the difficulties in adhering to a daily intake schedule by busy women [6]. American College of Obstetricians and Gynecologists (ACOG) [7, 8] in 2014 advocated LARC as the first-line contraceptives for adolescents and other women to decrease the unplanned pregnancy rates. LARC are almost 100% effective, readily reversible with rapid return of fertility, are as effective as sterilization, and do not interfere with spontaneous sexual intercourse [5, 9]. Despite these numerous advantages, LARC worldwide are underutilized because of fears and barriers [10-12].

Studies in Africa have documented deep-seated resistance to the use of modern contraceptives [13, 14]. In France and Norway, only 6.4% and 12% of young women aged 15-29 year use LARC respectively [15, 16]. Ten percent of women aged 30 years and above in 14 European countries in a random sample study was using LARC [17]. Political, religious, ethical, safety concerns, misconceptions, lack of healthcare provider knowledge or skills, low awareness of the benefits of LARC by women, and high upfront costs are major barriers. Many healthcare providers were found reluctant to provide intrauterine contraceptive device to nulliparous women or women post-abortion without knowing the evidence-based recommendations [18, 19]. It

very important that misconceptions about LARC are dispelled based on current evidence to increase the uptake. Intrauterine contraceptive devices can be inserted in nulliparous women including adolescents; and do not increase the risk of pelvic infection and infertility [20-22]. The safety and effectiveness in immediate postpartum, post-abortion, and even trans-caesarean insertions of intrauterine contraceptive devices have been documented [23, 24]. There is no evidence associating weight gain to the use of implants [25]. Prolong use of depo-provera injections among young women aged 18-22 years should, however, be discouraged because of the potential concerns on bone density [26]. LARC can be commenced once pregnancy has been excluded. There is no evidence supporting neither intrauterine contraceptive device insertion during menses makes the insertion procedure less difficult for the woman or inserter nor that subsequent bleeding patterns are improved by insertion during menses [27]. The common side effects (i.e. require no interventions) of progestogen-only methods like changes in menstrual cycle, irregular spotting of blood through the vagina and amenorrhea, depict the need for careful counseling prior to use to avoid dissatisfactions and unnecessary discontinuations of the methods.

A study in New Zealand found an increased uptake of post-abortion LARC from 44% to 61%, with method retention rates of 89% at 6 weeks and 86% at 6 months [23]. The authors recommended increasing uptake of LARC by eliminating cost and raising awareness and benefits of LARC methods among both clinicians and clients [23]. Educating clients and healthcare providers, dispelling misconceptions by providing correct information, 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[24].

To date, no study on uptake of LARC has been carried out in this institution. The aim of this study is to determine the uptake rate of LARC in ESUTH Enugu, assess the characteristics of the acceptors, and make recommendations to address identified barriers to uptake of LARC.

## Setting

Enugu State University Teaching Hospital (ESUTH) Enugu is a state owned health institution that became a teaching hospital in June 2006 [28]. It is located in the center of Enugu metropolis and most of the population are Christians and of the Igbo tribe. The family planning clinic of ESUTH, Enugu provides family planning services from Monday to Friday between 8.0am to 4.0pm. A consultant obstetrician and gynecologist, and four trained nurses direct activities in the specialist clinic. Medical and nursing students, resident doctors in Obstetrics and Gynecology, and Community Medicine are posted to the clinic for clinical experiences. The services provided in the clinic include family planning counseling, same day provision of chosen methods to clients, teaching, research, training of students, and medical record documentations. Group family planning counseling is undertaken at regular intervals in the antenatal and immunization clinics; antenatal, postnatal and labor wards to create demands for various family planning methods. Mrs. Felicia Ngozi Okite a.k.a. "Uwa di uto (i.e. the

World is sweet) with an effective contraceptive method" in addition regularly create demand for family planning in Enugu through herself sponsored outreach counseling in churches and various women organizations in Enugu metropolis. She made the clinic client-friendly with prompt service delivery to clients.

Other services provided in the clinic include pre-sex selection, natural family planning, infertility counseling and medical referrals.

The contraceptive methods commonly available in the clinic can be group into LARC and Non-LARC (Figure 1). Available LARC during the period of study in ESUTH include CuT380A intrauterine device, implanon (68mg Etonogestrel) and jadelle (Levonorgestrel 2x75mg) sub-dermal implants, noristerat (200mg) and depo provera (150mg medroxyprogesterone acetate) injectables. Non-LARC methods are combined oral and progesterone-only pills, and male and female condoms. These commodities are provided free by Enugu State Ministry of Health and are offered at no cost to clients in the clinic. Between July 22, 2013 and October 5, 2013, Society for Family Health trained 59 family planning providers on postpartum intrauterine device (PPIUD) in ESUTH [24]. This introduced the availability of postpartum intrauterine device as a contraceptive method in this facility.

## Methodology

The new client register was reviewed retrospectively from December 31, 2015 back to January 1, 2011. Data on clients' characteristics, and uptake of LARC and Non-LARC were extracted from the register, entered in Excel 2007 software, analyzed and presented using percentages and graphs.

## Results

One thousand seven hundred and thirty seven (1737) new clients accepted the available family planning methods in ESUTH, Enugu during the study period. A total of 1567(90.21%) accepted LARC while 170(9.79%) only accepted non-LARC methods, thus giving a very high uptake rate for LARC of 90.21%. Table 1 showed majority of the clients were 30-39 years of age 1121(64.54%) while less than 20 years were 0.06% only. Six hundred and ninety (690) of the new acceptors had



Figure 1 Available LARC\* and Non-LARC in ESUTH: 2011-2015 LARC\* Long Acting-Reversible Contraceptive methods

### Characteristics of the New Acceptors

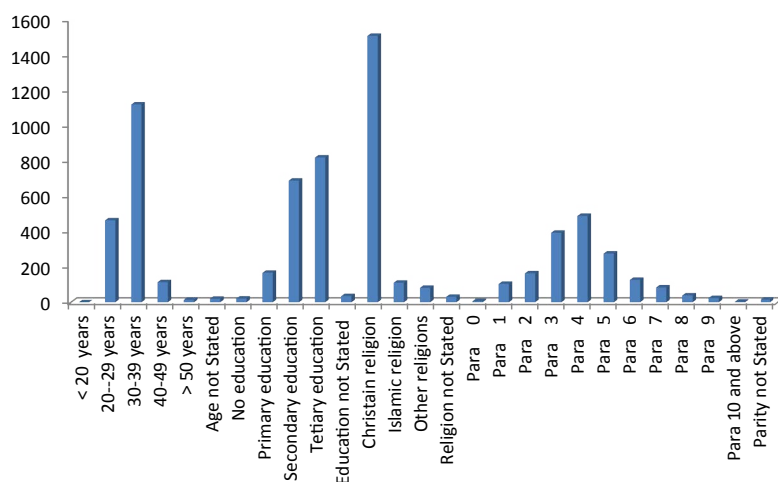


Figure 1 Available LARC\* and Non-LARC in ESUTH: 2011-2015 LARC\* Long Acting-Reversible Contraceptive methods

**Table 1:** The characteristics of the new acceptors.

Age in years	Number	Percentage
< 20	1	0.06
20—29	465	26.77
30-39	1121	64.54
40-49	115	6.62
> 50	14	0.81
Not Stated	21	1.2
<b>Total</b>	<b>1737</b>	<b>100</b>
<b>Level of education</b>		
None	22	1.27
Primary	168	9.67
Secondary	690	39.72
Tertiary	821	47.27
Not Stated	36	2.07
<b>Total</b>	<b>1737</b>	<b>100</b>
<b>Religion</b>		
Christianity	1510	86.93
Islam	112	6.45
Others	83	4.78
Not Stated	32	1.84
<b>Total</b>	<b>1737</b>	<b>100</b>
<b>Parity</b>		
0	7	0.4
1	105	6.04
2	165	9.5
3	395	22.74
4	490	28.21
5	277	15.95
6	128	7.37
7	85	4.89
8	40	2.31
9	25	1.44
10 and above	4	0.23
Not Stated	16	0.92
<b>Total</b>	<b>1737</b>	<b>100</b>

**Table 2:** The characteristics of the new acceptors.

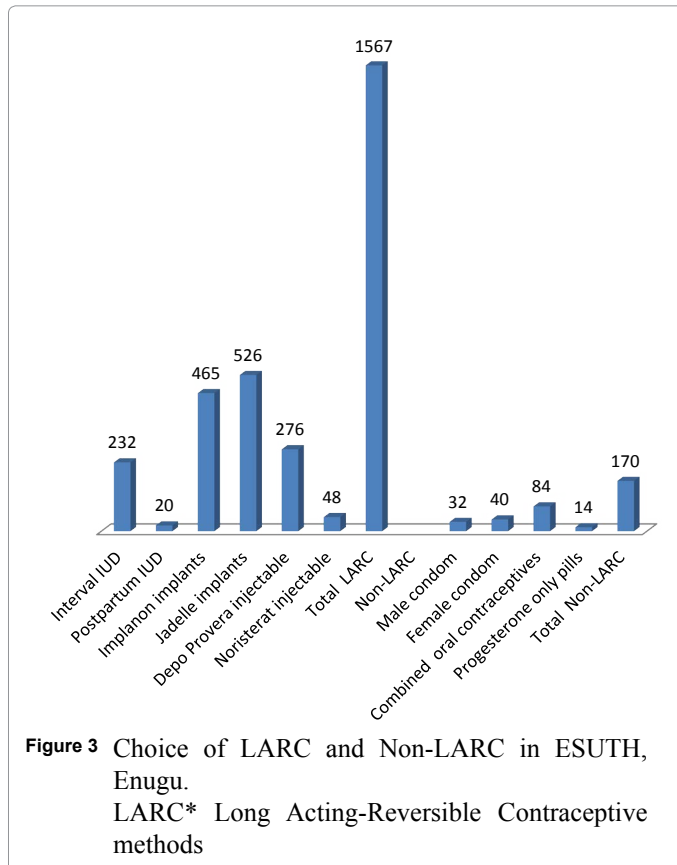
LARC	Number	Percentage
Interval IUD	232	13.36
Postpartum IUD	20	1.15
Implanon implants	465	26.77
Jadelle implants	526	30.28
Depo Provera injectable	276	15.89
Noristerat injectable	48	2.76
<b>Total LARC</b>	<b>1567</b>	<b>90.21</b>
<b>Non-LARC</b>		
Male condom	32	1.84
Female condom	40	2.3
Combined oral contraceptives	84	4.84
Progesterone only pills	14	0.81
<b>Total Non-LARC</b>	<b>170</b>	<b>9.79</b>
<b>Grand total</b>	<b>1737</b>	<b>100</b>

secondary education (39.72%), 821 9(47.27%) had tertiary education, Christians were 1510 (86.93%), and Moslems were 112(6.45%) only. Acceptance of the contraceptive methods increased as parity increased with a peak at Para 4 490(28.21%) as shown in Figure 2. Parity 0 acceptors were 0.4% only.

Table 2 showed over 50% of the new LARC acceptors opted for jadelle 526(30.28%) and implanon 465(26.77%) sub-dermal implants. Others LARC acceptors in decreasing order were depo-provera 276(15.89%), interval intrauterine contraceptive device 232(13.36%), noristerat 48(2.76%), and postpartum intrauterine contraceptive device 20(1.15%) as was depicted in Figure 3. There was no post-abortion intrauterine contraceptive device.

### Discussion

The uptake rate of 90.21% for LARC in the study is very high and outstanding. This is contrast to the documented underutilization and low LARC uptake rates of 6.4% to 12% among adolescents and young people by many workers [10-



**Figure 3** Choice of LARC and Non-LARC in ESUTH, Enugu.  
LARC\* Long Acting-Reversible Contraceptive methods

12, 15-17]. Only <20 year 0.06% and young people 20-29 years 26.77% accept family planning methods in this work. The availability of methods at no cost to clients, client-friendly nature of the clinic, the commitment of nursing staff on demand creation for the methods through counseling in the antenatal and immunization clinics, antenatal, postnatal and labor wards, and self-sponsored outreach in churches and women organizations may explain this outstanding overall uptake of LARC in this study. Jadelle and implanon constitute over 50% of the LARC uptakes in this study. The commodities should be readily available to maintain the established acceptability of the subdermal implants in this study population.

Adolescents (< 20 years) and young people 20-29 years are very fertile and vulnerable to unintended pregnancy and its complications. Unfortunately, it appears that family planning clinic in ESUTH is not adolescent-friendly, or the young people are afraid of stigmatization. The staff in the clinic may be biased and judgmental to this group of clients. This may explain the poor uptake rate by adolescents in this study. Integrating the adolescent family planning clinic into the adult gynaecological clinic will protect the adolescents from stigmatization and increase their access to contraceptive methods.

Again it appears that the specialist clinic is mainly for limiting or spacing childbirth as low parity clients rarely access the clinic. The use of LARC to prevent unintended pregnancy among all sexual active clients should be advocated. The less educated and non-Christians should also be reached through organized outreach family planning services.

Increasing the availability of other LARC like LNGIUS (20micrograms levonorgestrel /24hours intrauterine delivery

system), postpartum and post abortion intrauterine device, and vaginal rings will increase method mix and uptake.

### Recommendations

1. All sexual active single, divorced, and nulliparous women including adolescents should have access to client-friendly family planning services without bias, and stigmatization.
2. The services should be at no cost to the clients as in ESUTH, Enugu.
3. Further demand creation for family planning methods in ESUTH should target sexually active adolescents in secondary schools, young women in tertiary institutions, the poor and less educated women in the rural areas.

### Limitations of the study

This study was a retrospective facility-based review of the uptake of LARC and Non-LARC methods. There were missing information on marital status, sources of family planning information and the even the indications for choosing a method in the new client register. Such data can affect uptake rates of the methods by the clients. The study being a facility-based one cannot be generalized to the entire study population. The commodities were procured free from Enugu State Ministry of Health and offered at no cost to the clients. This may not be applicable to other settings where cost may be a major barrier to uptake of expensive LARC methods.

### Conclusion

There is a very high uptake of LARC in Enugu. Jadelle and implanon constitute over 50% of the LARC uptakes. Other LARC uptakes include depo-provera, interval intrauterine device, and postpartum intrauterine device. Adolescents (< 20 years), less educated and low parity clients should be reached to access the family planning clinic.

### Dedication

I wish to dedicate this study to Mrs. Felicia Ngozi Okite a.k.a. "Uwa di uto (i.e. the World is sweet) with an effective contraceptive method" for her commitment, dedication and meticulous documentation of information. She is the pillar of family planning services in ESUTH, Enugu, and she is known in the entire Enugu metropolis as "Uwa di uto" during herself sponsored family planning outreach counseling in churches and various gatherings of women organizations.

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