# Uptake of Subdermal Contraceptive Implants in Alex Ekwueme Federal University Teaching Hospital Abakaliki

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**Abstract** **Background:** Subdermal contraceptive implant is one of the major forms of long acting reversible progestogen-only contraceptives. It is very reliable and its acceptance is on the increase globally. There is a need to evaluate its use among women of reproductive age group in Abakaliki. **Aim:** To review the uptake and discontinuation of Subdermal contraceptive implants-Jadelle and Implanon at the Alex Ekwueme Federal University Teaching Hospital Abakaliki. **Materials and Methods:** This was a 3-year retrospective study undertaken between 1st January 2013 to 31st December, 2015 which involved 516 study participants. Client characteristics, the reason for implant uptake and reason for discontinuation of contraceptive implants were collected using a specially designed proforma. The statistical analysis was performed using SPSS version 22. **Result:** The implant acceptance rate over the study period was 50.2%, and it represents the highest contraceptive uptake in the facility. The mean age of the clients was 31.87±4.94 years, while the mean parity was 4.75±2.33. Majority (326/516) 63.2% had Jadelle while the remaining 190 clients (36.8%) had Implanon inserted. Most of the clients were aged between 20 and 34 years, and were multiparous. Majority (61.7%) of the clients got the information from health care personnel, while the media was the least source of contraceptive information. The discontinuation rate for implants in the facility was 20.2%, (16.1% for Jadelle and 4.1% for Implanon). There was no pregnancy recorded among the client during the study period. The commonest reasons given for discontinuation of the contraceptive method was the desire for more pregnancies. **Conclusion:** Contraceptive implants are the commonest form of contraceptive uptake in our facility. The pearl index was 0% with a high discontinuation rate.

*Keywords: contraceptive implants, Jadelle, Implanon, uptake, Abakaliki*

## 1. Introduction

Subdermal contraceptive implant is one of the major forms of long acting progestogen-only contraceptives [1-15]. It is the most effective family planning method available and is well accepted world wide [2].

They are better option for women in sub-Saharan Africa due to its effectiveness and convenience [3-21]. In Nigeria, there is significant unmet need for family planning as 16% of married women have unmet need for family planning [4,5] while only 15.1% of married women of reproductive age used any contraceptive [4]. Sustained release progestogen implants is a new approach to meeting the worldwide need for effective and acceptable birth control [6]. Several studies have demonstrated that there is widespread knowledge of contraceptive options in Nigeria [16,17]. Egede et al showed 83.3% of knowledge of contraceptive

methods among market women in Abakaliki [16], while study by Oluwole et al also revealed a high awareness of contraceptive methods 83.2%, in the study in Ilorin [17]. In the study by Umoh et al, majority of respondents, 92.4% were aware of different methods [18]. However, despite high level of awareness, usage remains poor [18]. Contraceptive prevalence rate is related to the maternal mortality rate, and it has been shown that countries with a low prevalence of contraception have high maternal mortality rate [19]. This explains one of the cascade pathways that lead to high maternal mortality in Nigeria of 576 deaths per 100,000 live births, with maternal mortality rate in Abakaliki as 1,359 per 100,000 [20]. This reflects the poor prevalence of uptake in Abakaliki of modern contraceptives in general and implants in particular.

Therefore, the aim of this study is to determine the uptake and discontinuation of Subdermal contraceptive implants - Jadelle and Implanon at the Alex Ekwueme Federal University Teaching Hospital Abakaliki.

## 2. Materials and Method

**Study area:** Alex Ekwueme Federal University Teaching Hospital (formerly known as Federal Teaching Hospital) is a tertiary hospital within Abakaliki metropolis. It is made up of 10 clinical departments; Obstetrics and Gynaecology, Paediatrics, Medicine, Surgery, Psychiatry, Community Health, Family Medicine, Ophthamology, Otorlanrygology and Anaesthesiology. The Obstetrics and Gynaecology Department is one of the 10 clinical departments in the hospital. The department has 5 teams, divided into two, with each comprising of consultants, senior registrars, registrars, senior house officers and house officers. The department runs gynaecology clinics, family planning clinics, preconception, antenatal, intrapartum and postnatal services. It is also a referral centre to the surrounding maternities and hospitals. It receives referral from the surrounding states of Cross River, Enugu and Benue. The family planning clinic of the obstetrics and gynecology department holds daily from Mondays to Fridays. It is usually run by resident doctors, house officers and family planning nurses under the supervision of a Consultant Gynecologist.

**Study design:** This was a retrospective study covering a period of 3 years, from 1st January 2013 to 31st December 2015. After ethical approval was obtained from the Ethics committee, attendance registers and case records of clients that had visited the family planning clinic and adopted a sub-dermal contraceptive implants was studied. Information extracted included age, marital status, religion, educational qualification, occupation, source of contraception information and reason for contraception. Side effects and reasons for discontinuation of use were also sought. The data obtained was recorded on a tabulated Proforma and then subsequently entered into a statistical software.

**Statistical analysis:** Data analysis was done using Epi Info software version 7.2.1 (CDC Atlanta Georgia). Categorical values were presented as numbers and statistical frequencies. Continuous variable was presented as mean and standard deviation. Associations between categorical variable were analyzed with Chi-square while continuous variables were analyzed with t test. The test of significance was determined and p-value less than 0.05 was taken to be significant.

**Ethical consideration:** Permission to carry out this research work was sought and obtained from the Research and Ethical Committee of the Alex Ekwueme Federal University Teaching Hospital Abakaliki.

## 3. Results

The number of women who received contraceptives in the facility over the study period were 1027, among whom 516 clients accepted implants (Jadelle®/Implanon®) giving a rate of 50.2% which was the most prevalent type of contraceptive accepted in the facility over the study period.

Table 1 shows the socio-demographic characteristics of the clients. Most of the clients were aged between 20 and 34 years, and were multiparous. The mean age of the

clients who had implants was 31.87±4.94 years, while the mean parity was 4.75±2.33. A comparison of the mean ages and parity of the acceptors was 29.92±4.59 vs 33.05±4.78 (p-value<0.0001) and 3.58±1.99 vs 5.43±2.22 (p value<0.0001) for Implanon® and Jadelle® respectively. Nearly all the clients were married; Christians and most had tertiary education as their highest educational qualification.

**Table 1. Sociodemographic characteristics of the study participants**

| Parameters | Frequency | Percentage |
|---|---|---|
| Age (years) | | |
| <20 | 2 | 0.4 |
| 20-34 | 342 | 66.3 |
| ≥35 | 172 | 33.3 |
| Parity | | |
| 1 | 23 | 4.5 |
| 2-4 | 302 | 58.5 |
| ≥5 | 191 | 37 |
| Marital status | | |
| Married | 514 | 99.6 |
| Single | 2 | 0.4 |
| Religion | | |
| Christian | 492 | 95.3 |
| Islam | 24 | 4.7 |
| Occupation | | |
| Civil servant | 140 | 27.1 |
| House wife | 114 | 22.1 |
| Farmer | 58 | 11.2 |
| Trader | 119 | 23.1 |
| Student | 34 | 6.6 |
| Artisans | 51 | 9.9 |
| Highest educational level | | |
| No formal education | 78 | 15.1 |
| Primary | 109 | 21.1 |
| Secondary | 134 | 26 |
| Tertiary | 195 | 37.8 |

**Table 2. Method of contraception accepted over the study period**

| Method of contraception | Frequency | percentage |
|---|---|---|
| Condom | 209 | 6.8 |
| Noristeride | 14 | 2.0 |
| Depo | 81 | 17.6 |
| Implants: | | |
| Jadelle | 326 | 63.3 |
| Implanon | 190 | 36.8 |
| IUCD | 97 | 17.6 |
| Pill | 81 | 2.2 |
| tubal ligation | 29 | 0.7 |
| Total | 1027 | 100.0 |

The distribution of the various contraceptive commodities accepted by the clients over the study period is shown in Table 2. Implants 50.2% (516/1027) was the commonest contraceptive accepted by the clients while tubal ligation was the least accepted method. Majority (326/516) 63.2% had Jadelle® while the remaining 190 clients (36.8%) had Implanon® inserted.

The source of information on contraception for the study cohorts are shown in Table 3. Majority (61.7%) of the clients got the information from health care personnel, while the media was the least source of contraceptive information.

**Table 3. Source of information on contraception for the study participants**

| Source of information | Frequency | Percentage |
|---|---|---|
| Clinic personnel | 276 | 53.5 |
| Friends/relative | 105 | 20.3 |
| Print media | 23 | 4.5 |
| Electronic media | 67 | 13.0 |
| Not stated | 45 | 8.7 |
| Total | 516 | 100 |

**Table 4. Reasons given for discontinuation of implant**

| Reason for discontinuation | Frequency | Percentage |
|---|---|---|
| Due for removal | 16 | 15.4 |
| Desire for pregnancy | 43 | 41.4 |
| Menstrual irregularities | 30 | 28.8 |
| Weight gain | 2 | 1.9 |
| Headache | 1 | 1.0 |
| Amenorrhea | 5 | 4.8 |
| Not stated | 7 | 6.7 |
| Total | 104 | 100 |

The discontinuation rate for implants in the facility was (104/516) 20.2%, (16.1% for Jadelle and 4.1% for Implanon). There was no pregnancy recorded among the client during the study period. The commonest reasons given for discontinuation of the contraceptive method were the desire for more pregnancies 43(41.4%) and that the implant was due for removal. Only 30(28.8%) had intolerable side effects majorly menstrual abnormalities (Table 4).

# 4. Discussion

The acceptance rate of contraceptive implants (Jadelle® and Implanon®) in this study was 50.2%. This is considerably higher than the 7% reported by Madugu and coworkers in Zaria [10] and the 18.6% reported by Abasiattai et al in Port Harcourt [22]. This value is also higher than the 31.9% reported previously by Nwali and coworkers in Abakaliki [21]. The Implanon® acceptance rate in this study (18.5%) was also much higher than the 3.6% and 4.1% reported in PortHacourt [23] and Ilorin [24] respectively. The higher acceptance rate in this study might be a reflection of the educational status of the clients, as most of the women who accepted Implants had tertiary level of education which enhanced counselling; this is in sharp contrast to the finding in Zaria where most clients had primary school as their highest educational qualification. Almost all of the women in this study were Christians this is not surprising as Abakaliki Ebonyi state is predominantly habited by Christians although religious denomination had not been shown to be a significant determinant of contraceptive uptake [16,21].

Over the study period no client accepted Norplant, this is because Norplant had been withdrawn as a contraceptive device from the facility due to the associated difficulty at insertion and removal. The acceptance rate of Jadelle was much higher than the acceptance rate of Implanon (31.7% vs 18.5%) this difference may be due to the fact that most women who ab initio accepted contraceptive implant were only given Jadelle as Implanon was only recently introduced in the facility. There was a statistical difference (p value <0.0001) in the age and parity of the acceptors of these implants. Younger women and women with lower parity were more likely to accept Implanon, this may be due to the shorter duration of action of Implanon as most women in our environment would only accept contraceptives for child spacing rather than for family size limitation [21].

Most of the clients who accessed family planning commodities from the facility obtained the information from medical/health personnel; this is similar to the finding in similar studies [22,24]. This is in sharp contrast to the study by Egede and coworkers in Abakaliki where the commonest source of information was from patent medicine stores [16]. It is also, different from studies where the mass media played significant role. This is particularly worrisome as the mass media has the capacity to dispel some of the erroneous beliefs and cultural practices that are prevalent in our environment [25].

Although a Cochrane review had shown that women who use implants tend to be satisfied with the method and continuation rates are high [26], the discontinuation rate in this study was 20.2%. The discontinuation rate was much higher with Jadelle when compared with the Implanon. Similarly high rate of discontinuation of implants have been reported in similar studies [10,23,24]. Conversely Abasiattai had reported a very low discontinuation rate in Uyo [22], while Nwali reported a lower level in a similar study in Abakaliki [21]. The reason for this difference in discontinuation might not be readily obtained from this study.

The two commonest reasons for discontinuation of contraceptive implants in this study were the desire for pregnancy (41.4%) and that the implant was due for removal (15.4%) while menstrual irregularities was the commonest side effect reported by the acceptors (28.8%). This is similar to the finding in other similar studies [10,22] however; Nwali et al had previously reported Amenorrhea to be the commonest side effect and the commonest reason for discontinuation of contraceptive implants in Abakaliki [21]. Other side effects of implants are similar to those observed in other similar studies; headache and weight changes.

The Pearl index found in this study was 0% as there was no pregnancy among users over the study period. This is in consonance with the findings in similar studies, thus emphasizing the efficacy of this method of contraception.

# 5. Conclusion

In conclusion, contraceptive implants are the commonest form of contraceptive uptake in our facility. The pearl index was 0% with a high discontinuation rate.

# Acknowledgements

# Conflict of Interest

There are no conflict of interest.

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