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A FIVE – YEAR REVIEW OF UPTAKE AND DISCONTINUATION OF IMPLANON USE IN A TERTIARY INSTITUTION IN CALABAR, NIGERIA

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ABSTRACT

Background: Implanon is a safe, highly effective modern hormonal contraceptive with a long-acting and reversible effect. It is effective for up to 3 years and can be given during breastfeeding, thus preventing early pregnancy in about 99% of breastfeeding mothers. The current prevalence rate for contraceptive use in Nigeria is approximately 11%–15%. This rate is very low in spite of the high rate of sexual activity and widespread awareness of the various contraceptive methods among Nigerian adolescents and youths.

Objective: To determine the socio-demographic profile of implanon acceptors, the side effects profile and reasons for discontinuation of the method in Calabar.

Method: This was a five-year retrospective review of records of clients who accepted Implanon at the University of Calabar Teaching Hospital (UCTH), Calabar, Nigeria.

Result: During the period under review, 311 clients accepted Implanon as a method of modern contraceptive in this tertiary facility. The mean age of users was 31.0 $\pm$ 5.5SD.Of this number, 97.7% were Christians while 2.3% were Muslims. 93.6% of the clients had at least secondary education and above, 52.7% of the clients had three or more children at the point of accepting the method. However, 80.0% of them desired future fertility.The commonest reported side effect was menstrual irregularities while the commonest reason for removal was the desire to conceive. Pear index was 0.064.

Conclusion: Implanon is a safe, highly effective and long-acting reversible method of contraception. It is associated with some side effects but adequate pre- and post- insertion counselling will increase rate of uptake and reduce discontinuation rates. Contraceptionplays a vital role in reduction of maternal mortality and should be effectively used to achieve global reduction in maternal mortality .

Keyword: Implanon, socio-demographic profile, menstrual irregularities, Calabar.

INTRODUCTION

Family planning /contraception plays a critical role in reducing unwanted pregnancies, high risk and/ or high parity deliveries and subsequently maternal mortality rates which have been shown to be directly associated with each other.[1,2]Nigeria has a low contraceptive prevalence rate (20%), high (21%) unmet need for family planning anda high total fertility rate (4.8%).[3]These indices have contributed to Nigeria's rising maternal mortality ratio.Nigeria has the third (3rd) highest maternal mortality ratio in the world, with an estimated 1047 deaths per100,000 live births. [4]

Contraception interacts with the other factors by preventing women from having unplanned/unwanted pregnancies, reducing the rates of high risk pregnancies thus subsequently reducing death from pregnancy-related causes. It has also been known to improve the educational and economic status; especially that of girls and women. [5, 6]There is a wide range of contraceptive methods available which include the traditional or folk methods, barrier methods, Intrauterine Contraceptive Devices (IUCDs), hormonal methods, emergency contraception and sterilization. The choice of contraceptive is mostly influenced by the education, poverty, awareness, ignorance, culture, religion, myth about the method, availability, cost and side effects of the type of contraception. [7,8]

Implanon is a modern hormonal contraceptive method,which is produced by organon and was first marketed in 1998.[7,8,9] It is a long – acting reversible contraceptive (LARC) method. It is one of the contraceptive implants and is known to be safe, widely acceptable and highly effective.[8-10]Implanon is a progestin-only contraceptive, and consists of a non-biodegradable, single, sterile rod implant for subdermal insertion. It is 40mm in length and 2mm in diameter and contains an Ethinyl Vinyl Acetate (EVA) copolymer with 68mg of etonorgestrel surrounded by EVA copolymer skin.[8- 11] It releases 60 - 70µg of etonorgestrel per day in the early (15th – 16th) weeks of insertion. This decreases to 35 - 45µg of etonorgestrel per day by the end of the first year of insertion. This further decreases to 30 – 40µg of etonorgestrel per day by the end of the third year of insertion. [8-11]Implanon can be removed at any time of the menstrual cycle but must be removed at the end of three (3) years after insertion.The onset of contraceptive efficacy is within 24 hours after insertion, if it was inserted within the first five days of the menstrual cycle. When it is inserted at any other time of the menstrual cycle, an alternative barrier method of contraceptive must be used for seven days before contraceptive efficacy is assured. [8-12]

The mechanisms of action of implanon are by suppression of ovulation, cervical mucus thickening and induction of endometrial atrophy.[8-13]The advantages of implanon include the fact that it is user independent and requires minimum medical follow-up after insertion. [11-13]The side effects of implanon include menstrual irregularities (menorrhagia, metrorrhagia, reduced or scanty menstrual flow, shortened menstrual cycle, and amenorrhoea), weight gain, headache, raised blood pressure. [11- 13]

Implanon was introduced into the family planning unit of the University of Calabar Teaching Hospital (UCTH) in 2005. It was introduced at the same time with Jadelle, which is another contraceptive implant which is licensed to be used for five (5) years. They were both preceded by Norplant, another contraceptive implant which was withdrawn in same year 2005 shortly before these two implants were introduced. Implanon is usually inserted sub dermally in the inner aspect of preferably the left arm. The procedure does not require highly skilled medical personnel, as well trained nurses in family planning can carry out the procedure.

The objective of this study is to determine the sociodemographic profile of implanon acceptors in University of Calabar Teaching Hospital (UCTH) as well as the side-effects and reasons for discontinuation of use of the product.

METHODOLOGY

This was a five-year retrospective study of 311 clients who accepted implanon at the family planning clinic of the University of Calabar Teaching Hospital (UCTH), Calabar, Nigeria from January 1st, 2016 toDecember 31st, 2020.

Data retrieved from their case records included socio-demographic profile, reproductive history, desire for future fertility, side effects profile and reasons for discontinuation of the method.

Descriptive and analytical statistics was carried out on all data using SSPS statistics program.

The result was presented in Tables as frequencies and percentages

RESULTS

TABLE 1

Socio-demographic profile of Implanon acceptor

Age group (year)	**Implanon**
	N (%)
10-19	5 (1.6)
20-29	124 (39.9)
30-39	164 (52.7)
40-49	18 (5.8)
Religion	**n (%)**
Christianity	304 (97.7)
Islam	7 (2.3)
Educational status	**n (%)**
None	1 (0.3)
Primary	19 (6.1)
Secondary	61 (19.6)
Tertiary	230 (74.0)
Total	311 (100.0)

TABLE 11

Mode of contraceptive usage by Implanon acceptor

Mode of usage contraceptive	**Implanon n (%)**
Permanent	57 (18.3)
Temporary	249 (80.1)
Uncertain	5 (1.6)
Total	311 (100.0)

TABLE 111

Reproductive history of Implanon acceptors

Parity	**Implanon n (%)**
0A	24 (7.7)
2A	123 (39.5)
3 - 4A	146 (46.9%)
_> 5A	18 (5.9)
Total	311 (100.0)

TABLE IV

Contraceptive methods previously used by respondents for Implanon acceptors

Contraceptive method	**Number of people n(%)**
Nil	177 (56.9)
Condom	46 (14.6)
Jadelle	2 (0.6)
Implanon	10 (3.2)
Injectables	27 (8.7)
IUCD	18 (5.8)

Pills	17 (5.5)
Withdrawal	5 (1.6)
Natural	9 (2.9)
Total	311 (100.0)

TABLE V

Complications/Side effects among Implanon acceptors

Complication/ side effect	**Implanon N (%)**
Amenorrhoea	41 (28.3)
Menstrual irregularities	86 (59.3)
Excessive weight gain	3 (2.0)
Localized device problems	2 (1.4)
Others	13 (9.0)
No side effects	69 (22.2)
No follow-up visit	97 (31.2)
Total	311 (100.0)

Table VI

Reasons for Discontinuation by implanon acceptors

Discontinuation Reasons	**Implanon n (%)**
Desire for pregnancy	30 (61.2)
Menstrual irregularities	13 (26.5)
Expiration	6 (12.3)
Total	49 (100.0)

DISCUSSION

In this study, 311 women accepted implanon as their family planning method of choice. Only 5 (1.6%) of the clients were teenagers although implanon has been found to be suitable for teenagers. There is also a low rate of teenagers' uptake of implanon in similar studies in the country like that done in Port Harcourt[8], Ilorin[9]. This is contrary to what obtains in many European and American countries where adolescents form a significant proportion of users of contraception in general and implants in particular. [10-12]The low uptake of adolescent contraceptive in Nigeria and some other African countries is thought to be connected to the fact that sex education is hardly taught in our schools and the mention of sex even at home by parents or siblings is like a taboo.[13-15] There are virtually no hospital or school based counselling units in Nigeria to cater for the needs of the teenagers and /or adolescents. Even where such facilities exist, there will be low patronage due the stigmatization. It is generally believed in Nigeria that the teenagers and adolescents have no business engaging or discussing sexual issues. It is considered a taboo in most communities.

Table I shows the mean age of Implanon users was 31.0 $\pm$ 5.5 SD with a range of 19 – 49 years. Majority (52.7%) of the implanon users belonged to the 30 – 39 years' age group. Table 11 shows the proportion of implanon users who choose the method as a permanent form of contraception 57(18.3%); 249(80.1%) choose it as a temporary form of contraception while 5(1.6%) were uncertain about their desire for future fertility.

In our study, 97.7% were Christians and 2.3% were Muslims. In a similar study carried out in Ilorin, Nigeria 52.3% were Christians and 46.6% were Muslims.[9]This could be explained by the fact that Calabar is located at the southern part of Nigeria, where there are predominantly Christians. On the other hand, Ilorin is located in the North-central part of Nigeria, where there are high proportion of both Christians and Muslims from the Yoruba tribe, of almost equal proportion.

Majority of the clients, 230 (74%) had received tertiary education, 61(19.6%) had secondary education, 19(6.1%) had primary education while 1(0.3%) had no formal education.Among the implanon clients, 93.6% had at least secondary level of education and above. This is similar to studies done in Port Harcourt, Nigeria (95.8%)[8] and Ilorin (88.6%)[9]whereas those with at least secondary level of education constituted majority of the implanon acceptors. A higher level of education has been found to be strongly associated with higher use of modern family planning methods.[16-18]

Table III Shows the number of living children the clients had prior to insertion of the implant. 24(7.7%) had no living child, 123 (39.5%) had one or two, 146(46.9%) had three or four, 18(5.8%) had five or more living children.

During the study period, 145(46.6%) of the clients reported side effects. The commonest reported side effect was menstrual irregularities which occurred in 86(61.4%) clients. This was also the commonest side effect reported in Port Harcourt[8], Ilorin[9] and Benin City.[16]

It was noted that 97(31.2%) of the clients did not report for follow – up during the period of the study. Thus, it cannot be confirmed whether they had side effects or not. This was a major constraint of this study, as almost one-third of the acceptors were lost to follow up.

Table IV shows previous methods of contraception used by implanon acceptors. There were 177(56.9%) of them who had never previously used any method of contraception. The previous methods of contraception used and their distributions are clearly shown in this table.

Table V shows that 145 of the implanon acceptors reported side effects during the study period. The commonest reported side effect was menstrual irregularities (59.3%) followed by amenorrhoea (28.3%). Weight gain was reported by 2.0% and localized implant problems reported by 1.4%. Other reported side effects included headache, dizziness, increased blood pressure, skin changes,

abdominal bloating. Only 69(22.2%) of the clients had no side effect. However, 97(31.2%) of the clients did not report for any follow-up visit.

It was noticed during this study period that whereas 86(27.7%) reported having menstrual irregularities, only 13(4.2%) discontinued implanon due to this complaint. Menstrual irregularities are well-known complications of all forms of progestogen–only contraceptives.[19-21]However, with adequate pre- and post-insertion counselling, it is found to be more tolerable. In addition, it is found to remit within six months of onset of contraception in many acceptors with or with treatment. [19-21]

Table VI shows that 49(15.8%) of the clients discontinued Implanon during the period under review. Out of these, majority of them, 30(61.2%) discontinued the method due to the desire to conceive, 13(26.8%) discontinued due to menstrual irregularities and 6(12.2%) discontinued due to expiration of the method.

It was also noted during the study period that although 52.7% of the clients had three or more children, 80.1% of them had desire for future fertility. This agrees with previous study done in Benin City[16] and Ibadan[21]. It is noticed that Implanon is much more commonly used as a temporary method of contraception than a permanent method.

CONCLUSION

Implanon is a safe, highly effective and reversible hormonal contraceptive implant. The commonest side effect is menstrual irregularities but the commonest reason for discontinuation is desire for pregnancy in the University of Calabar Teaching Hospital (UCTH), Calabar.During the period under review, only one woman was confirmed pregnant and this was confirmed after 1 year 10 months of use. It can be confirmed to be true failure of the contraceptive method since pregnancy occurred remote from insertion and was confirmed by a blood pregnancy test. The Pearl index was 0.064 which shows that it is a highly effective contraceptive method.

Adequate pre - and post – insertion counseling would help to increase its uptake, reduce its discontinuation and eventually reduce maternal mortality ratio.

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