

## IMPLANON SUB-DERMAL IMPLANTS: A 10-MONTH REVIEW OF ACCEPTABILITY IN JOS, NORTH-CENTRAL NIGERIA

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### ABSTRACT

**Objective:** To determine the acceptance of Implanon so far, the group of women accepting it, insertion complications and immediate post insertion problems, if any, and report our initial experience with the method.

**Methodology:** This was a retrospective review study of all cases of Implanon acceptors between 1<sup>st</sup> May and 28<sup>th</sup> February 2007. Demographic and social factors were collated. Insertion and post-insertion complications were evaluated.

**Results:** A total of 2,608 clients accepted contraceptive methods out of which 350 clients had Implanon capsules inserted within the study period (13.4%). One hundred and ninety-one (54.6%) of the acceptors desired more children, and therefore using it to space pregnancies, 154 (44.0%) would not want more children, but opted for the temporary long term method, and 5 (1.4%) were uncertain whether to have more children in the future or not. The mean age and parity of acceptors were 32.4 years and 3.6 respectively. The mean number of living children to the women was 3.4. All the women were married.

About three-quarters (75.8%) of the women had secondary and tertiary education. Seventy-two (20.6%) of the women were taking a modern contraceptive method for the first time. The rest 278 (79.4%) had used one or more methods of contraception, and were only switching over to Implanon sub-dermal implants. The patients weighed between 40 and 122 kg with an average of 62.4 kg. Post-insertion complications like infection, expulsion, bruising and induration were not reported. Four women discontinued the method for varying reasons.

**Conclusion:** Women are accepting the new method. Over three-quarters of the clients are switching from other methods to Implanon. The method appears to have good continuation rate and therefore a promising long term sub-dermal contraceptive method amongst our women.

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### INTRODUCTION

Progestin contraceptive methods have been found to be tolerated by many users for the absence of estrogenic effects. Implants (Norplant) have been used in Jos for more than 2 decades as long term hormonal contraceptive methods. They were found to be effective, safe, reversible, and convenient method for many clients. Implanon® is a newly introduced contraceptive implant system into the country, developed by Organon<sup>1</sup>. It is a single rod, long acting, reversible subdermal contraceptive implant system containing the progestin, etonogestrel. It consists of a non-biodegradable rod made of ethylene vinyl-acetate holding 68 mg of etonogestrel, and meant to provide contraception for 3 years. The rod measures 40 mm in length and 2 mm in diameter<sup>1,2</sup>. Implanon is inserted in the first 5 days

of a woman's natural cycle, day 1 being the first day of her menstrual bleeding<sup>3</sup>.

Etonogestrel is the active metabolite of desogestrel and has been used in combined oral contraceptives for many years with established pharmacological effects<sup>1</sup>. It has been used in combined oral contraceptive pills with good effect.

Implanon is suitable for a wide range of women particularly women who want an easy-to-use contraceptive method to postpone a first pregnancy, space pregnancies or stop pregnancies using the reversible long-term contraception on achieving the desired family size<sup>2</sup>. Implanon may also be useful for women who are not satisfied with other contraceptive methods, or in women in whom estrogen is contraindicated. Women want and desire contraceptive methods that are effective, safe and convenient; and do not interfere with sexual life<sup>3</sup>. Implanon has been successfully used by more than 2.5 million women since 1998, and is one of the major

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long-acting hormonal contraceptives in the world offering 3 years of highly reliable contraception<sup>4</sup>.

Regional introduction meetings for medical professionals were organised in the country (Ibadan for the South and Jos for the North) in May 2006. Attending health care providers were fully informed about the profile of Implanon including the advantages and disadvantages, insertion and removal techniques and suggested counselling tips. Good counselling contributes to greater client satisfaction and better continuation which are relevant issues for both the client and service provider.

Informed consent after counselling is obtained prior to insertion of the implant. More contraceptive choices help couples to find the contraceptive method that better suits their wishes and preferences.

The objectives of the study were to determine the acceptance of Implanon within the period of study among our clients, the group of women accepting Implanon and to report our initial experience with the method.

#### CLIENTS AND METHODS

This was a retrospective review of all clients that accepted contraceptive methods including Implanon between May 2006 and February 2007 (10 months) in Jos University Teaching Hospital, North-Central Nigeria. The records/register of all clients accepting the method in the Family Planning Clinic of the teaching hospital were retrieved. The family clinic has its own records that are not in the main hospital records. This makes it easier for the retrieval of records of these clients. Socio-demographic factors, insertion and post-insertion complications were collated and evaluated. Analysis was done using percentages.

#### RESULTS

Two thousand, six hundred and eight clients accepted contraceptive methods within the study period. Out of these, 350 women accepted Implanon, constituting 13.4%.

The age of the women ranged between 19 and 47 years, with an average of 32.4 years. The parity was from 0 to 11 with the average of 3.6. At the time of accepting the Implanon, the women had a total of between 0 and 8 living children and a mean of 3.4 children. The women were of body weight of between 40 and 122 kg with the mean of 62.4 kg, (Table 1).

About three-quarters (75.8%) of the acceptors of the method were of the secondary and tertiary education. Non-literate women constituted only 2.3%, (Table 2). One hundred and ninety-one (54.6%) of the women desired more children on discontinuation of the method, 154 (44.0%) would not want more children, while 5 (1.4%) were not sure, (Table 3).

There were no insertion or removal complications like infection, expulsion, bruising or induration. Four women had discontinued the method giving a continuation of 98.9% within the 10-month period.

**Table 1: Parameters of the Women That Accepted Implanon in Jos University Teaching Hospital during the Study Period**

Parameter	Range	Means
Age in Years	19-47	32.4
Parity	0-11	3.6
No. of Living Children	0-8	3.4
Weight in Kilogrammes	40-122	62.4

**Table 2: Literacy Level of the Women Accepting Implanon**

Literacy Level	Number (%)
Non-Literate	8 (2.3)
Primary	67 (19.1)
Secondary	137 (39.1)
Tertiary	128 (36.7)
Not Stated	10 (2.8)
<b>Total</b>	<b>350 (100.0)</b>

**Table 3: The Women's Desire for More Children in the Future or Otherwise**

Desire to Have More Children	Number (%)
Would Like To Have More Children	191 (54.6)
Would Not Want To Have More Children	154 (44.0)
Not Sure or Undecided	5 (1.4)
<b>Total</b>	<b>350 (100.0)</b>

#### DISCUSSION

Users of Implanon constituted about 13% of the acceptors of contraception within the study period. This is higher than the 5% documented for Norplant in the same centre, and falls within the range of less than 20% of users of contraceptives in Nigeria<sup>4</sup>. The acceptability of hormonal contraception depends mainly upon the level of subjective side effects and the effect on vaginal bleeding among others<sup>2</sup>. The major advantages of implants are their effectiveness, convenience, safety, long-term contraceptive protection that commence within 24 hours of insertion and return of fertility almost immediately after removal<sup>5-8</sup>. The most common side effect is the disruption of the menstrual cycle<sup>9</sup>. It is also known that menstrual disturbance also occurs in untreated women of reproductive age with amenorrhoea occurring in about 1% of women, infrequent bleeding in about 8% and frequent and prolonged bleeding in less than 0.1%<sup>10</sup>.

The use of Implanon is supported in any client who knows what to expect from it in terms of efficacy, convenience and limitations like irregular menstrual bleeding. About one-fifth (20.6%) of the women were taking a contraceptive method for the first time while four-fifths of them had been on one method of contraception or the other and were only switching over to Implanon sub-dermal implants. A little over 50% of the women were using the method for the limitation of family size.

The socio-demographic characteristics of Implanon users revealed that the women were young with the mean age of 32.4 years. They had the mean parity of 3.6, while the mean of the number of living children to the women was 3.4. These figures are lower than the 6.0 and 4.4 for Norplant acceptors respectively in a previous study<sup>11</sup>. About 54.6% had the desire for more children after the removal of the implants. Some of the clients were of parity zero, or yet to be pregnant but needed to postpone pregnancy using the implant.

Majority (75.8%) of the clients were of tertiary and secondary education. Non-literate women appear to be suspicious of new methods and therefore shunned the method, constituting less than 3% of the acceptors. The level of formal education among Norplant users in Zaria, a largely Hausa and Muslim community where contraceptive use is generally low, was reportedly lower<sup>12</sup>. All the women were married and in stable family relationships, and were mainly urban dwellers within Jos metropolis.

The mean weight of the women was 62.1 kg. Because of the reported good Pearl index of Implanon, Implanon insertion was not limited to only women of 70 kg or below as initially applied for Norplant implants. Weight did not appear to be a barrier to offering Implanon in the unit. This is because in a clinical trial of 130 women of body weight above 70 kg for 2-3 years, not a single pregnancy was recorded<sup>3</sup>. The clients were however counselled about the possibility of a higher chance of failure compared with those of lower body weight. Over three quarters of them had a prior positive history of previous contraceptive use.

As many as 44% of the clients who had completed their family size chose to use Implanon instead of a permanent method of contraception. This means that despite the fact that they had completed their family size most clients still chose the option of a long-term method of contraception and not a permanent method, or female sterilization.

Insertion complications like infection, expulsion, bruising and induration were not reported. The acceptors of Implanon were previous users of other contraceptive methods in addition to new comers to any form of contraception.

Four clients had the Implanon removed within

the study period giving a continuation rate of 98.9% in the 10 months period. The indications for removal included adverse side effects 2, husband's disapproval 1, and pregnancy before insertion of the implant 1.

In conclusion, women are accepting this new method. The initial prospect is good for the clients and providers alike. Three-quarters of the clients switched from other methods of contraception to Implanon. The method appears to be a popular and promising long term sub-dermal contraceptive method amongst our women. There is the need to begin to think of supply logistics and sustainability if the method is to continue to enjoy the patronage of prospective users. Women of reproductive age wishing to prevent pregnancy have a right to safe, effective and well-tolerated method of contraception. This may just be one of such a method for many clients.

## RECOMMENDATIONS

Implanon appears to have a good acceptance rate among other methods of contraception. This will therefore entail that the following measures are put in place.

1. Close monitoring and follow-up of these clients to determine client satisfaction with the method, side effects, safety and effectiveness of Implanon among Nigerian women.
2. Collaborative studies should be conducted across the country to determine the acceptability, effectiveness and safety of Implanon among the different ethnic groups.
3. Structures for sustainability are put in place supported by legislation and strong government policy.
4. The establishment of training centres for counselling; insertion and removal of implants; and research on implants, in both the public and private sectors across the country.

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