

Full Length Research Paper

Experience with Implanon in Southern Nigeria

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Abstract

Implanon, a single rod long acting reversible implant contraceptive containing 68 mg of etonogestrel is relatively new, and has not been comprehensively evaluated since its introduction at the University of Port Harcourt Teaching Hospital, Port Harcourt, Southern Nigeria. The study aimed at determining the acceptance, efficacy and safety profile of implanon in our centre. This is a cross-sectional retrospective study on whole clients who accepted implanon in UPTH between 1st march 2006 and February 28, 2011. Data on the clients' socio-demographic characteristics, insertion and post insertion complications were extracted from their case files, entered into Microsoft Excel sheet, analyzed using Epi-Info statistical software. Of the 4,065 acceptors of contraception, 168 had implanon, representing 4.1% of the acceptors. The age range was 20-44 years with a mean age of 32.3 ± 4.2 years. One hundred and sixty-two (96.4%) acceptors were married and multiparous. Up to 64.4% (87) clients who were on previous contraceptive method, changed over to implanon. The discontinuation rate was 5.4%, while failure rate was 0%. Implanon is therefore, highly effective, safe and an acceptable method of contraception in Port Harcourt, Southern Nigeria.

Keywords: Implanon, acceptance, safety, efficacy, Port Harcourt, Southern Nigeria.

INTRODUCTION

Implanon, a progestogen-only subdermal contraceptive implant is a relatively new entrant into the ever growing contraceptive methods available on choice (Implanon Product Monograph N.V Organon 2005).

It was developed by Organon and contains 68mg of etonogestrel (3-Ketodesogestrol) which provides contraception for 3 years by releasing 30 micrograms of etonogestrel into the body system daily (Implanon Product Monograph N.V Organon, 2005).

Generally, progestin contraceptives have been found to be well tolerated by users because of absence of estrogenic side effects (Meckstroth and Darney, 2001). They are convenient, effective and safe (Horacio *et al* 1999, Funk and Mishell 2005). Norplant is a long term reversible hormonal contraceptive which has been discontinued (Okpani and Enyindah 2003), with the advent of implanon.

Implanon acts by inhibiting ovulation and causing changes in the cervical mucus that makes it difficult for spermatozoa to access the uterine cavity (Meckstroth and

Darney 2001, Horacio *et al* 1999, Design and composition of implanon 2005). It has a long term hormonal contraceptive protection that commences within 24 hours of insertion and return of fertility almost immediately after removal (Croxatto and Makarainen 1998, Edwards and Moore, Clinical profile of implanon 2005, Croxatto 2002). It is made of 40 mm semi-rigid plastic single-rod which is inserted into the medial aspect of the middle third of the non-dominant upper arm. It is inserted within the first five days of a woman's natural menstrual cycle. Compared with other implants, it is simpler to insert and remove. Failure of this implant, resulting in pregnancy is mainly due to insertion after pregnancy, expulsion and interaction with hepatic enzyme with resultant degradation (Horacio *et al*, 1999). With failure rate approaching zero per 100 woman years, it is a very effective contraceptive implant (Meckstroth and Darney 2001, Yildizhas *et al* 2007, Croxatto 2000, Darney 1994).

The risk of ectopic pregnancy, dysmenorrhea and pelvic inflammatory disease are reduced in comparison with those of women using copper or non-medicated intra uterine contraceptive device (Sivin 2000). The side effects of implanon vary widely from bleeding irregularities such as amenorrhea, infrequent or

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prolonged vaginal bleeding to non menstrual adverse effects such as breast pain, acne, vaginitis, pharyngitis and mild pain at the insertion site (Edwards and Moore 1992, Yildizhas *et al* 2007, Croxatto 2000, Monsour *et al* 2008). Adverse effects, especially irregular vaginal bleeding is a common reason for discontinuation (Yildizhas *et al* 2007, Croxatto 2000). Others include desire for conception, spouse disapproval and weight gain (Horacio *et al* 1999, Fakeye 1989). Implanon is a good and safe contraceptive option in lactating mothers, adolescents, hypertensive or diabetic clients. It is also beneficial in case of endometritis and anaemia (Meckstroth and Darney 2001, Horacio *et al* 1999). Implants have no significant effect on serum lipid profile (Horacio *et al* 1999, Adekunle *et al* 2000, Hohmann and Creimum 2007).

The minimal service provider and user attention/involvement, low pearl index, high safety profile and the non-contraceptive benefits of implanon have assured maximum client satisfaction, acceptance and continuation with implanon.

Port Harcourt, the Rivers state capital has been the nerve centre for oil and gas prospecting and refining activities in Nigeria for over 52 years and as such densely populated. The UPTH draws its clients from a cross section of multi-ethnic and indigenous population who reside in Port Harcourt and its extended catchment areas that traverse the difficult terrain of the Niger Delta area of Nigeria.

Implanon was introduced into the family planning clinic of UPTH in March 2006, immediately following the regional Implanon introduction meeting for family planning physicians in Ibadan, South-West Nigeria.

This cross-sectional retrospective study aims at documenting our experience with the use of implanon in the first five years of its use as a comprehensive study in Port Harcourt, Southern Nigeria, and at determining the acceptance, efficacy and safety of implanon in the study population.

METHODS

The family planning clinic of the UPTH established in 1986 is one of the largest family planning clinics in the oil rich Niger Delta area of Nigeria and the only centre in Rivers state where implant contraception can be accessed by clients. It is headed by a consultant Gynaecologist, supported by resident Doctors and nurses in the Obstetric and Gynaecology department of the hospital. Clients are sourced from the post-natal clinic, Out-patient clinic and the general public.

The clients are adequately counseled by family planning nurse practitioners and physicians in accordance with the family planning protocol. Baseline medical history is taken from the clients and general

physical and systemic examinations performed and informed consent obtained.

Insertion and removal of implanon are carried out in strict compliance with the manufacturer's protocol for implanon insertion. Exclusion criteria are pregnancy, obesity and severe systemic illness.

In the absence of complications, post-insertion follow up visits are at the first four weeks, at three and six months respectively, then annually. Clients are counseled to report to the clinic if complications arise and all complaints are documented. At each follow up visit, the weight and blood pressure of the client are recorded and complications managed as appropriate. A client is considered lost to follow up if she defaulted for more than six months.

The case files of all clients who accepted implanon contraception between 1st March 2006 when implanon was introduced in UPTH, and 28 February 2011 were all intact and retrieved from the UPTH family planning records section. Data collected from the files included clients age, parity, educational status, marital status, and source of information, change from other contraceptive method to implanon, side effects, insertion/removal complications, and reasons for removal/discontinuation.

The collected data were fed into a spread sheet and analyzed using Microsoft-Excel and Epi- info software and presented as percentages, means and standard deviations.

RESULTS

During the study period, 4065 clients accepted contraceptive methods, of these, 168 clients used implanon, representing 4.1% of acceptors.

Table 1 shows the socio-demographic characteristics of acceptors. The age range of the clients was 20-44 years with a mean age of 32.3 ±1.2 years. Multiparous clients constituted 94.6%. One hundred and twenty three clients, representing 95.3% were married and most 126 (97.7%) have at least a secondary education.

Table 2 illustrates the distribution of total contraceptive acceptors against implanon users in the respective years. While the absolute number of implanon users in the first year of introduction of implanon in the centre was 3 (representing 0.3% of total contraceptive acceptors) there was astronomical upsurge in acceptance; 37 clients (2.7% of acceptors) in the 2nd year and 89 (11.1% of acceptors) in the 3rd year, thereafter, there was a sharp decline; 23 clients (5.6% of acceptors) in the 4th year and 16 (4.1% acceptors) in the fifth year.

Important sources of information were clinic personnel for 69% and friends/ relatives 17.8% of the clients. Other sources are as shown in table 3.

Fifteen clients had unwanted side effects: spotting 60%, menorrhagia 13.3%, and intermenstrual bleeding 13.3% were the most prevalent side effects as shown in

Table 1. Socio-demographic characteristics of implanon acceptors

Characteristics	Number	Percentage (%)
Age (years)		
20 – 24	8	4.8
25 -29	31	18.4
30-34	77	45.8
35—39	41	24.5
≥40	11	6.5
<i>Total</i>	<i>168</i>	<i>100</i>
Parity		
Nulliparous	1	0.6
Primiparous	5	0
Multiparous	162	96.4
<i>Total</i>	<i>168</i>	<i>100</i>
Educational status		
Primary	7	4.2
Secondary	33	19.6
Tertiary	128	76.2
<i>Total</i>	<i>168</i>	<i>100</i>

Table 2. Yearly distribution of contraceptive acceptors and Implanon users

Year	Total no. of acceptors	No. of implanon users
March 2006 – February 2007	1109 (27.3%)	3 (1.8%)
March 2007 – February 2008	1348 (33.2%)	37 (22.0%)
March 2008 – February 2009	801 (19.7%)	89 (53.0%)
March 2009- February 2010	413 (10.1%)	23 (13.7%)
March 2010—February 2011	394 (9.7%)	16 (9.5%)
<i>Total</i>	<i>4065 (100%)</i>	<i>168 (100%)</i>

Table 3. Source of information

Source	Number	Percentage (%)
Clinic personnel	116	69.0
Friends/relations	29	17.2
Electronic media	9	5.4
Private clinic	8	4.8
Print media	6	3.6
<i>Total</i>	<i>168</i>	<i>100</i>

Table 4. Side effects of implanon

Side effects	Frequency	Percentage (%)
Spotting	11	52.4
Amenorrhea	4	19.0
Menorrhagia	2	9.5
Intermenstrual bleeding	2	9.5
Breast pain	1	4.8
Weight gain	1	4.8
<i>Total</i>	<i>21</i>	<i>100</i>

table 4. There was one (0.8%) significant weight loss and 1 case of myalgia.

Eighty seven (51.8%) clients changed from other contraceptive method to implanon. Seven (5.4%) acceptors discontinued implanon during the study period, giving a continuation rate of 94.6%. The common indications for discontinuation were desire for pregnancy 5 (71.4%) and intermenstrual bleeding 2(28.6%). Failure rate of implanon was zero per hundred woman years. There was no loss to follow up.

DISCUSSION

Implanon users constituted 4.1% of acceptors of contraception in Port Harcourt, South-South Nigeria. This is less than the 13% reported in earlier study in Nnewi, South-East Nigeria (Mutahir and Nyango 2010).

The yearly distribution of acceptors of implanon showed progressive increase in the first three years of this review. More importantly, majority of these clients that accepted this contraceptive option made a change from their initial choice. This showed a preference for implanon in keeping with findings of other studies (Horacio *et al* 1999, Croxatto 2000, Darney 1994, Riney *et al* 2009). However, there was a sharp decline of implanon users in the subsequent 2 years of the study. This may probably due to overall decline in contraceptive acceptors in our family planning clinic as a result of multiple national industrial actions by health workers in Nigeria, 'surgery' for insertion and removal and rising cost of implanon. Implanon was supplied free of charge to our centre at the introductory phase by the manufacturing firm and so was accessed free by the clients, but newer acceptors paid for the commodity at the exhaustion of the initial stock.

The socio-demographic characteristics of implanon users are also in keeping with findings of earlier studies (O'Connor *et al* 2009; Mutahir and Nyango 2010, Riney *et al* 2009). Almost all the clients were parous, suggesting that postponing pregnancy rather than spacing was the main contraceptive desire. All the clients had formal education, with 97.7% having at least a secondary education. This apparently made counseling easier.

These favorable socio-demographic characteristics of the clients especially high level of education and parity with need for contraception, pre-acceptance counseling by family planning clinic staff, coupled with ongoing information by the service providers during use must have accounted for the high acceptance level recorded in this study.

Majority of our clients heard of the family planning through clinic personnel/hospital in keeping with the results of earlier studies (Ojule and Macpepple 2011). The impact of mass media in this study is still rather low as earlier reported in a previous study in our centre (Ojule and Macpepple 2011). Concerted efforts should

therefore be made to intensify publicity through both the electronic and print media in southern Nigeria.

The acceptability of hormonal contraceptives depends mainly on the level of subjective side effects especially irregular vaginal bleeding (Clinical profile of implanon 2005, Yildizhas *et al* 200; Croxatto 2000, Balogun *et al* 1992; implanon product monograph 2005). Others include safety profile and depth of counseling. Menstrual irregularities were the commonest adverse effects with spotting constituting 60%, the most worrisome complaints. It then means that implanon may not have completely addressed the problem of irregular vaginal bleeding associated with progestogen-only contraceptive. There were no cases of insertion complications such as infection and expulsion at variance with earlier studies elsewhere (implanon product monograph 2005). The indications for discontinuation were desire for conception in 71.4% and menorrhagia in 28.6%. Other indications for removal as found in other studies were husbands disapproval (Fakeye 1989, Ladipo and Akinso 2005) and excessive weight gain.

Significant weight gain was taken as 10% weight gain post insertion while significant rise in blood pressure was taken as diastolic increase of 10mmHg and above or systolic of 20 mmHg or above from the pre-insertion value. Only one case of significant weight gain was recorded in this study.

Implanon has a high safety profile, and amazing excellent contraceptive quality. The Pearl index of implanon in this study is zero per hundred woman years in keeping with findings of other studies (Horacio *et al* 1999; Yildizhas *et al* 2007). Side effects noted were tolerable as only two clients (1.6%) discontinued implanon based on untoward effects.

Implanon may not have answered all the short falls other progestogen-only contraceptives, especially irregular vaginal bleeding, but proven to be a much better contraceptive option.

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