Profile of Implanon Acceptors at The Rivers State University Teaching Hospital, Southern Nigeria: Ten Years Review

[1]Nonye-Enyidah EI, [1] Akpo CS.

[1] Department of Obstetrics and Gynaecology, Rivers State University Teaching Hospital (RSUTH), Port Harcourt.

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Abstract- Background: Implanon, a single rod long acting reversible implant contraceptive containing 68mg of etonogestrel, has been described as highly effective and is of similar effectiveness to sterilization.
Objective: To determine the profile of implanon acceptors at the RSUTH, a South South tertiary hospital.
Method: The case records of all the clients who accepted implanon at RSUTH between 1st January, 2008 and 31st December, 2017 were retrieved, studied and the information analysed using statistical package for social sciences (SPSS) IBM version 25.0 (Armonk, NY).
Results: Out of 1893 contraceptive acceptors during the study period, 308 (16.3%) accepted implanon. Majority of the clients 124 (40.3%) were between the age range of 30-34, married 293 (95.1%), multiparous 228 (74.0%), Christians 296 (96.1%) and 302 (98.1%) had formal education. The acceptors with secondary level of education were highest, 209 (67.9%). Clinical personnel were the commonest source of information 231(75%).
Conclusion: Implanon was used mostly by young, married and educated multiparous women. Education and increased patient awareness will increase its desirability and uptake.

Index Terms- Implanon, contraceptives, acceptors, Rivers State University Teaching Hospital.

I. INTRODUCTION

The possibility of the sub-dermal contraceptive implant began when silicone in the 1940s was found to be bio-compatible with the body. Long acting reversible contraception has gained wider acceptance for decades due to overwhelming conveniences to the users and higher probability of future fertility upon discontinuation[1,2]. Implanon which is a single rod sub-dermal implants was developed by Organon and contains 68mg of etonogetrel (3-ketodesogestrol) which provides contraception for 3 years. It is silicone free and releases about 60-70 micrograms of etonogestrel initially reducing to 25-30 micrograms at the end of third year. Some data have shown its effectiveness for 5 years [1,2]. Implanon is a safe, very effective, convenient and reversible long term contraceptive with a one year failure rate of 0.05% [2-4].

Implanon acts by inhibiting ovulation, thickening the cervical mucus and altering the lining of the endometrium. Hormonal protection starts within 24 hours of insertion and return of fertility is almost immediately after removal. It is made up of 40mm by 2mm semi rigid single rod inserted subdermally in the medial aspect of the middle third of the non-dominant upper arm by a trained provider [5,6]. It is inserted within 5 days of a menstrual cycle. It is safe for lactating mothers, adolescents, diabetics and hypertensives [4]. It reduces the risk of ectopic pregnancy, pelvic inflammatory disease and improves dysmenorrhoea. Implanon has also been documented to reduce frequency and severity of sickle cell crisis making it suitable for use by patients with sickle cell anaemia by stabilizing cell membrane, reducing the clogging rate and improving the red cell transit time[1,2,6].

The two commonly used and available contraceptive implants currently available in the family planning clinic of this hospital are Jadelle and Implanon. There has never been any study on contraceptive implants in the centre. This study was designed to determine the profile of the acceptors of implanon, the acceptance rate and sources of contraceptive information over a period of 10 years.

II. MATERIALS AND METHODS

This retrospective study was carried out at the family planning clinic of the Rivers State University Teaching Hospital (RSUTH), a newly established teaching hospital in Port Harcourt, the capital of Rivers State in South-South geopolitical zone of Nigeria. The clinic gets its clients from within and outside the hospital. It has its own records section different from the hospital records and this makes it easy to retrieve the clients' case notes. The clinic is headed by a consultant Gynaecologist, with the support of trained family planning nurses and resident doctors.

At presentation, the clients were warmly welcomed by trained family planning nurses and physicians who also counseled them. The clients were allowed to make informed choice based on their needs and available contraceptives suitable for them. Thereafter medical history and clinical examination were done. Urine analysis and pregnancy test were also done for the clients and informed consent obtained.

Insertion and removal of implanon were carried out in strict compliance with the manufacturer's protocol. In the absence of complications, post insertion follow up visits were at 4 weeks, 3 months, 6 months and thereafter annually. They were counseled to report to the clinic if any complications occur and also to discontinue the method if the side effects were unbearable. At each

visit, the blood pressure and weight of the clients were recorded and complications managed appropriately after evaluating the clients. The evaluation included history of complaints, clinical examinations and sometimes ancillary investigations to rule out the possibility of an organic cause. A client is lost to follow up if she defaulted for more than 6 months.

The record cards of all the clients that accepted implanon between 1st January, 2008 and 31st December, 2017 were retrieved and studied. The information extracted from the cards included the socio-demographic characteristics of the clients, indications for their use and source of information concerning contraception. The data was analyzed with the statistical package for social sciences (SPSS) IBM version 25.0 (Armonk, NY) using frequency counts and percentages.

III. RESULTS

During the study period, there were 1893 contraceptive acceptors out of which 308 women (16.3%) accepted implanon. All the implanon inserted were done in the first 7 days of menstruation after excluding pregnancy. One hundred and ninety six (63.6%) women used implanon for birth spacing, 100 (32.5%) had completed their family size and used it to prevent further pregnancy. There was no reason for the use of implanon indicated in the cards of 12 (3.9%) clients.

The ages of the clients ranged from 19 to 46 years. Majority of the clients 265 (86.1%) were between the age range of 25 to 39 years with age range 30-34 years being the highest, 124 (40.3%). The mean age was 31.4± 4.9 years. Majority of the clients were multiparous women, 228 (74%) and Christians 296 (96%). The parity range was 0 to 7 and modal parity was para 3. Eight (2.6%) were nullipara while 37 (12%) were grandmultipara. Three hundred and two (98%) of the clients had formal education out of which 209 (67.9%) had secondary level of education while 82(26.6%) and 11(3.5%) had tertiary and primary levels of education respectively.

Majority of the clients were married 293(95.1%) while 15 (4.9%) were single. The occupation of the clients were not documented in the patients' cards therefore could not be analysed. The socio-demographic characteristics of the implanon acceptors are shown in table 1.

Sources of information on contraception are shown in table 2. Two hundred and thirty one (75%) women obtained their information concerning contraception from clinical personnel, 34 (11%) from friends and relatives, 16 (5.2%) from community health workers and 9 (2.9%) from print and media. Radio/Television and outreach contributed 2 (0.7%) and 3 (1%) respectively.

Table 3 shows the yearly trend of acceptors of implanon. In 2008, 6 (2.5%) women accepted and used implanon. No new client used implanon in 2009. 2016 recorded the highest uptake, 71 (39.9%). From 2010 to 2015, 14 (5.3%), 15 (8.7%), 42 (21.1%), 17(10%), 39 (28.3%) and 56 (32%) women used this type of contraception respectively. After 2016, there was a decline in the use of implanon in 2017 with 48 (34.3%) women using it.

Table 1
Socio-demographic characteristics of the clients

Variable	No.	Percentage (%)
AGE		
<20	3	0.9
20-24	23	7.5
25-29	78	25.3
30-34	124	40.3
35-39	63	20.5
40-44	16	5.2
45-49	1	0.3
EDUCATIONAL STATUS		
No formal education	6	2.0
Primary	11	3.5
Secondary	209	67.9
Tertiary	82	26.6
RELIGION		
Christianity	296	96.0
Islam	6	2.0
Others	6	2.0
PARITY		
Nullipara	8	2.6
Primipara	35	11.4
Multipara	228	74.0
Grand multipara	37	12.0
MARITAL STATUS		
Single	15	4.9
married	293	95.1

Table 2:
Sources of information on contraception

Sources of Information	No. of clients	Percentage (%)
Clinical personnel	231	75.0
Friends/relatives	34	11.0
Community Health Worker	16	5.2
Print Media	9	2.9
Radio/Television	2	0.7
Outreach	3	1.0
Others	13	4.2

Table 3:
Yearly trend of acceptors of implanon.

Year	No	Total no. of contraceptive users	Percentage (%)
2008	6	237	2.5
2009	0	220	0
2010	14	264	5.3
2011	15	172	8.7
2012	42	199	21.1
2013	17	170	10.0
2014	39	138	28.3
2015	56	175	32.0
2016	71	178	39.9
2017	48	140	34.3

IV. DISCUSSION

The acceptance rate of implanon during the study period was 16.3% which was second to intrauterine contraceptive device (IUCD) acceptance rate of 43% [7]. This is similar to a study done in South Africa [8]. This is more than 13%, 4% and 9.6% acceptance rates recorded in Jos, Port Harcourt and Uyo respectively [9-11]. The yearly distribution of implanon showed a progressive increase in the first five years with no record of acceptance in 2009. It is possible that the state ministry of Health did not make implanon available in the family planning clinic that year. There was a decline in the acceptance of implanon in 2013. Thereafter it started rising again up till 2017 when the rate declined again. Therefore the acceptance and use of implanon fluctuated during the study period. This trend is similar to a study done in Port Harcourt [10]. The fluctuation might be due to multiple national strikes by health workers in Nigeria. The decline in the acceptance of implanon in 2017 might also be due to the rising cost of implanon.

Though implanon has one rod which makes it easier to insert and remove than the older ones with six rods, the number of women who accepted and used it during the study period was still small. This may be due to the invasive nature of this method of contraception. The highest barrier to its use is the high cost in addition to shortage of the implants and equipment for insertion [11] which could have contributed to its absence in 2009. The expensive nature of training and retraining providers with the skills of insertion and removal of implanon also contribute to the high cost of the implant. This high cost of the implants has prevented widespread provision of implanon in resource poor countries like Nigeria [11].

The socio-demographic characteristics of the clients are also in keeping with findings of earlier studies [12-14]. Majority of the clients was young, married and multiparous who would want to space childbirth rather than postponing pregnancy for complete family size. About a third of the clients used implanon to limit the family size. This is not surprising because cultural and religious reasons have made our women in Nigeria not to accept permanent contraceptive methods [15-18]. Over half of the clients preferred spacing the births with implanon showing they prefer implanon for short term contraceptive purpose. Majority of the women were Christians. This is not surprising because majority of the population in south south Nigeria are Christians.

Counseling for the insertion and removal of implanon was easy as most of the clients had formal education. There were 3 (1%) adolescents who used implanon during the study period. In our environment, adolescents are at risk of having unwanted pregnancies, unsafe abortion and all its complications [19-21]. Adolescents have been shown to be an ideal population for the use of implants and the contraceptive CHOICE project [22] showed good acceptance and continuation rates among adolescents. Therefore it is necessary to intensify efforts at reaching the adolescents especially in higher institutions and telling them how effective the contraceptive is at the same time encouraging them to use barrier method to prevent STDs.

Majority of the clients heard of the family planning through clinic personnel in keeping with the results of earlier study [8,11,12,16,18]. This may explain the low uptake rate of modern contraceptives especially in Nigeria. The contribution from non medically related sources like print and media was low in this study as reported in previous studies [10,12,23]. Therefore efforts should be made to increase the publicity of contraceptives through both the electronic and print media in southern Nigeria. Acceptance of implanon also depends on the information and counseling provided by the family planning providers. The training and retraining of service providers on the use of implanon by the government will go a long way in reducing the cost of implanon and increasing its uptake.

V. CONCLUSION

Implanon is a contraceptive implant mainly used by young, married, multiparous and educated women who would want to space their childbirths. Making the implant readily available and subsidizing its cost will increase the acceptance rate of implanon. Also increasing the information on this type of contraceptive through the media will go a long way in its awareness and acceptance.

CONSENT:
It is not applicable.

ETHICAL APPROVAL:
Ethical approval was given by the Hospital's Ethics committee.

COMPETING INTERESTS:
Authors have declared that no competing interests exist.

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AUTHORS

First Author – Nonye-Enyidah EI, Department of Obstetrics and Gynaecology, Rivers State University Teaching Hospital (RSUTH), Port Harcourt.
Second Author – Akpo CS., Department of Obstetrics and Gynaecology, Rivers State University Teaching Hospital (RSUTH), Port Harcourt.

Correspondence: Dr Nonye-Enyidah EI., E mail: hernsi@yahoo.com, +2348033410619