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A ten year review of Jadelle contraceptive use at Rivers State University Teaching Hospital, south south Nigeria

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Abstract

Norplant-2 (Jadelle) is an effective long acting hormonal contraceptive method. It is highly acceptable and safe with efficacy equivalent to sterilization. To determine the uptake rate, socio-demographic characteristics of the acceptors of Jadelle contraceptive method and its pattern of use at the RSUTH. This is a retrospective observational study in which patients' records in family planning clinic at the Rivers State University Teaching Hospital (RSUTH) over a period of ten years were reviewed; data extracted, coded and analyzed in statistical package for social sciences (SPSS) IBM version 25.0 (Armonk NY). The prevalence rate of Jadelle contraceptive among contraceptive acceptors at the RSUTH is 13.4 %. The mean age and range of the acceptors of jadelle contraceptive were 33.43 SD 4.9 years and 19-49 years respectively. The modal age group was 30-34 years. Majority of the clients had secondary level of education 185 (73.1 %) followed by tertiary education 44 (17.4%) while 7 (2.8%) had no formal education. Of the 253 acceptors of jadelle, greater than two third 176 (69.5%) were multipara. Most of the clients were married 248 (98%) and of Christian religion 238 (94%). The uptake of Jadelle over the study period was low. Adequate counseling and public enlightenment are needed for an improvement in its uptake in our environment.

Keywords: Contraception; Jadelle; Acceptors; RSUTH.

1. Introduction

Sub-dermal contraceptive implants are used by millions of women worldwide. They are highly effective, convenient and safe [1]. The other benefits include their ease of use, long duration of action, non-interference with sexual intercourse and immediate return of fertility after discontinuation. They reduce the risk of ectopic pregnancy, pelvic inflammatory disease and improve dysmenorrhoea [1]. They do not contain oestrogen hence they are used by breastfeeding mothers and other women who have contraindications to oestrogen use. They reduce the frequency and severity of sickle cell crisis making them suitable for use by patients with sickle cell anaemia [1,2]. Abnormal menstrual bleeding pattern, especially in the early months after insertion, is a major problem accounting for most of its discontinuations [3].

Jadelle is inserted sub-dermally in the non-dominant upper arm by a trained provider. It contains levonorgestrel like the 6-rod norplant but has only two rods which makes both insertion and removal easier. Each of the two thin flexible rods is 43millimetres (mls) long and 2.5mls wide, consisting of a dimethylsiloxane/methylvinylsiloxane copolymer core enclosed in thin walled silicon tubing. Each implant contains 75milligrams (mg) of progesterone, levonorgestrel. The mean daily release of levonorgestrel is about 100microgram (ug) per day, followed by a decline and stabilization at 24 months to 30ug/day. It is effective for 5 years [1,2,4]. The mechanisms of action include inhibition of ovulation through the suppression of the Luteinizing hormone surge, increase in the viscosity of the cervical mucus making it impenetrable to spermatozoa and thinning out of endometrial lining making it atrophic [5-7].

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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.

2. Material 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 jadelle 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 jadelle 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.

3. Results

During the study period, there were 1893 contraceptive acceptors out of which 253 women (13.4%) accepted jadelle. The jadelle inserted were done in the first 7 days of menstruation after excluding pregnancy. One hundred and seventy six (69.6%) women used jadelle for birth spacing, 63 (24.9%) women have completed their family size and used it to prevent further pregnancy. There was no reason for the use of jadelle indicated in the cards of 14 (5.5%) clients.

The ages of the clients ranged from 19 to 49 years. Majority of the clients 221 (87.4%) were between the age range of 25 to 39 years with age range 30-34 years being the highest, 95 (37.5%). The mean age was 33.4± 4.9 years. Majority of the clients were multiparous women, 176 (69.5%) and Christians 238(94%). The parity range was 0 to 9 and modal parity was para 4. Four (1.6%) women were nullipara while 69 (27.3%) were grandmultipara. Two hundred and forty six (97.2%) women had formal education out of which 185 (73.1%) had secondary level of education while 44(17.4%) and 17(6.7%) had tertiary and primary levels of education respectively.

Majority of the clients were married 248 (98%) while 5 (2%) were single. The occupation of the clients were not documented in the patients' cards therefore could not be analyzed. The socio-demographic characteristics of the jadelle acceptors are shown in table 1.

Sources of information on contraception are shown in table 2. One hundred and sixty seven (66%) women obtained their information concerning contraception from clinical personnel, 42 (16.6%) from friends and relatives, 16 (6.3%) from community health workers and 3 (1.2%) from print and media. Radio/Television and outreach contributed 8 (3.1%) and 7 (2.8%) respectively.

Table 3 shows the yearly trend of acceptors of jadelle. In 2008, 10 (4.2%) women accepted and used jadelle. No new client used jadelle in 2009. 2015 recorded the highest uptake, 62 (35.4%). From 2010 to 2014, 28 (10.6%), 20 (11.6%), 26 (13.1%), 14(8.2%) and 31 (22.5%) women used this type of contraception respectively. After 2015, there was a decline in the use of jadelle in 2016 and 2017 with 35 (19.7%) and 27 (19.3%) women using it respectively.

Table 1 Socio-demographic characteristics of the clients

Variable	No.	Percentage (%)
AGE		
<20	1	0.4
20-24	2	0.8
25-29	47	18.6
30-34	95	37.5
35-39	79	31.2
40-44	25	9.9
45-49	4	1.6
EDUCATIONAL STATUS		
No formal education	7	2.8
Primary	17	6.7
Secondary	185	73.1
Tertiary	44	17.4
RELIGION		
Christianity	238	94.0
Islam	6	2.4
Others	9	3.6
PARITY		
Nullipara	4	1.6
Primipara	4	1.6
Multipara	176	69.5
Grand multipara	69	27.3
MARITAL STATUS		
Single	5	2.0
married	248	98.0

Table 2 Sources of information on contraception

Sources of Information	No. of clients	Percentage (%)
Clinical personnel	167	66.0
Friends/relatives	42	16.6
Community Health Worker	16	6.3
Print Media	3	1.2
Radio/Television	8	3.1
Outreach	7	2.8
Others	10	4.0

Table 3 Yearly trend of acceptors of jadelle

Year	No	Total no. of contraceptive users	Percentage (%)
2008	10	237	4.2
2009	0	220	0
2010	28	264	10.6
2011	20	172	11.6
2012	26	199	13.1
2013	14	170	8.2
2014	31	138	22.5
2015	62	175	35.4
2016	35	178	19.7
2017	27	140	19.3

4. Discussion

The contraceptive prevalence rate in Nigeria is generally low [8,9]. The acceptance rate of jadelle during the study period was 13.4%. This is similar to 13% recorded in a study done in Jos [10]. The yearly distribution of jadelle showed fluctuation throughout the study period. This trend is similar to a study done in Port Harcourt ¹¹. The fluctuation might be due to multiple national strikes by health workers in Nigeria. Also the rising cost of jadelle may have contributed to the decline in its acceptance especially after 2015.

Though jadelle has two rods 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 [12] 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 jadelle also contribute to the high cost of the implant. This high cost of the implants has prevented widespread provision of jadelle in resource poor countries like Nigeria [12].

The socio-demographic characteristics of the clients are also in keeping with findings of earlier studies [4,13]. Most of the women were young, married and multiparous who would want to space childbirth rather than postponing pregnancy for complete family size. More than two thirds of the women used jadelle for short term contraceptive purpose to space childbirths. More than 90% of Jadelle users had at least secondary level of education. Education and religion in Nigeria are important predictors of the use of modern contraceptives like Jadelle [14-16]. It was found that women with at least secondary level of education were twice more likely to have ever used modern contraceptives than women with no formal education [14]. Christians were also more likely than Muslims to have used a modern contraceptive method [14]. In our study, majority of the women were Christians. This is not surprising because majority of the population in south south Nigeria are Christians.

During the study period, only one married teenager accepted and used jadelle. The use of family planning clinics by adolescents in Nigeria is poor. It is even worse with the use of long acting reversible contraceptives (LARC) by this age group [17-19]. Lack of access to LARC method is one of the reasons given by adolescents for not using them [17]. In Nigeria, family planning clinics are regarded as exclusively for married women [8,17,18]. This is different in Europe and America where teenagers make up a significant number in the users of family planning clinics and LARC methods including jadelle [20-22]. 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 sexually transmitted diseases (STDs).

Majority of the clients heard of the family planning through clinic personnel in keeping with the result of an earlier study [12]. 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 [11,23]. Therefore publicity of contraceptives through both the electronic and print media in southern Nigeria is of essence. Acceptance

and use of jadelle also depend on the information and counseling provided by the family planning providers. Their training and retraining on the use of jadelle by the government will go a long way in reducing its cost and increasing the use.

5. Conclusion

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

Compliance with ethical standards

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Disclosure of conflict of interest

Authors have declared that no competing interests exist.

Statement of ethical approval

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

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