

# A Decade of Jadelle Subdermal Implant Contraception in a Tertiary Health Institution in Port Harcourt, Southern Nigeria

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## Abstract

**Background:** Jadelle, a long acting reversible progesterone contraceptive, has been in use in our centre for over 10 years and has not been comprehensively evaluated. **Objectives:** To determine the acceptance, efficacy, and safety profile associated with the use of Jadelle contraceptive implant in the University of Port Harcourt Teaching hospital, Port Harcourt. **Methods:** This is a 10-year retrospective study of clients who accepted and used Jadelle for contraception in the university of Port Harcourt Teaching Hospital (UPTH), Port Harcourt. The case files were retrieved and information on their socio demographic profile, source of information, side effects, failures and reason for removal were extracted using a proforma. Data were filled into a spread sheet, analyzed using SPSS version 21.0 and presented in tables of frequencies and percentages. **Results:** Within the period under review, March 2007 to February 2017, 569 clients used Jadelle out of the 3829 women who accepted and used modern contraceptive in the UPTH. The mean age of users was  $33.7 \pm 4.2$ , 536 (94.2%) were multipara with a mean parity of  $4.5 \pm 3.8$  while 541 (95.1%) had secondary education and above. The major side effect was irregular vaginal bleeding 36 (60.9%) while the main reason for removal of the device was expiration of method 272 (53.9%). A pregnancy was recorded during this period giving a pearl index of 0.002. **Conclusion:** Jadelle is a popular and a very effective means of contraception with increasing acceptance among our clients. The safety profile is high.

## Keywords

Jadelle, High Efficacy, Safe, Port Harcourt

## 1. Introduction

The world population reached 7.3 billion as of mid-2015 [1]. Sixteen per cent

(1.2 billion) of this reside in Africa [1] the continent with the second highest population, after Asia. The implications of population growth for universal access to reproductive health are particularly relevant to sub-Saharan Africa, a region that has experienced rapid population growth that is projected to remain above 2 percent per year through 2030 [2], the time period of the 2030 agenda for sustainable development. For instance, in 2015, sub-Saharan Africa failed to achieve universal reproductive health coverage, a target under Millennium Development Goals 5 aimed at improving material health [3].

The Nigerian population forecast by 2021 is put at 210 million [4] and a current fertility rate of 5.7. With the several challenges associated with over-population such as environmental pollution, rural-urban migration, and depletion of natural resources [5] [6], this fertility rate is worrisome. Adoption of population policies and fertility control by means of contraception is one acceptable route of controlling this population explosion [7]; noting that in spite of the relatively high fertility and population growth rates, low uptake of family planning services has been reported in several countries in the sub-Saharan Africa, especially in West-Africa. Contraceptive prevalence in 2015 was several times as high in Northern Africa and Southern Africa (53 percent and 64 percent, respectively) as in Middle Africa (23 percent) and Western Africa (17 percent) [8]. This relatively low prevalence has been associated with several challenges inherent in the delivery of family planning services in this sub-region.

Jadelle, a long acting reversible contraceptive option, consists of 2 sealed individual silicon rods; each is 2.5 mm in diameter and 4.3 in length, containing 75 mg levonorgestrel and is licensed for use for 5 years [9] [10]. It induces anovulation and hypotrophic endometrium by suppression of oestrogen maturation of the follicles and the endometrium; and thickens the cervical mucus [9] [11]. Jadelle is highly effective, safe and acceptable [12] [13] [14]. This long acting reversible contraceptive has minimal requirement for medical follow up once inserted. However, menstrual disturbances, compliant of weight gain and requirement for trained personnel for its insertion/removal remained issues to be sorted out in a poor resource setting like ours.

It is with these challenges in mind, coupled with the absence of enough data on the experience with Jadelle usage that this study was conceived. It is hoped that with the availability of more information on Physicians' experiences on Jadelle usage, more could be done in tackling the difficulties associated with uptake of contraceptive services in our environment particularly and Nigeria in general.

## 2. Methodology

This is a retrospective descriptive study of 569 clients who accepted to use Jadelle for contraception at the UPTH family planning clinic between March 1<sup>st</sup>, 2007 and February 28<sup>th</sup>, 2017. The ethical clearance for this study was given by the ethical committee.

Trained family planning counselors (Nurses and physicians) counsel clients on the various modern contraceptive methods (implants, intrauterine device, injectable progestogen, oral contraceptives, bilateral tubal ligation) and guided them to make informed choices of method suitable for them. Medical history is taken and a clinical examination is performed. A urine analysis is done as well as a pregnant test to exclude pregnancy. Those who were pregnant, severely hypertensive diabetic, have unexplained vaginal bleeding or did not give consent were excluded from receiving Jadelle. Barrier contraceptives were excluded in this study as there was no recorded evidence on their follow up hence its use for the purpose of contraception was not guaranteed.

Case records of clients on contraception are kept in the family planning record section. Their socio demographic characteristics, source of information, side effects, failures and reasons for removal of implant for clients on Jadelle extracted from their case files and the data entered into statistical package for social sciences (SPSS) version 21.0 spread sheet for analysis and result presented in tables in frequencies and percentages.

### 3. Result

In the period under review 2007-2017, a total of three thousand eight hundred and twenty nine women accepted and used modern contraceptive methods in this center. Out of this number, one thousand two hundred and twenty one of this number used intrauterine device (32.0%), 116 (30.3%) used injectable progestogen while 930 of them chose implant, giving an uptake of 24.3% (569 were on Jadelle-uptake of 14.9%). Three hundred and fifteen used oral contraceptives (8.2%) and 223 (5.8%) had bilateral tubal ligation.

The mean age of users was  $33.7 \pm 4.2$ , 536 (94.2%) were multipara with a mean parity of  $4.5 \pm 3.8$  while 541 (95.1%) had secondary education and above (**Table 1**). Increasingly greater number of acceptors was recorded in the later half of the study, between 2012 and 2017 (**Table 2**). Source of information was mainly through clinic personnel 276 (48.5%) and friends and relations 233 (40.0%) while media contributed only 33 (5.8%) self referral was 27 (4.7%). The major side effect was irregular vaginal bleeding 36 (60.9%), weight gain was 3(5.1%); **Table 3**. The main reason for the implant removal was expiration of method 272 (53.9%) and discontinuation due to complication was only 54 (10.3%); **Table 4**. Pearl index was 0.002 from one pregnancy recorded within the period of study. Jadelle use was almost same for spacing and limiting of children (273 and 296—48% and 52% respectively).

### 4. Discussion

There were 569 (14.9%) acceptors of Jadelle out of the 3,849 women who accepted and used contraception in this centre during the study period. The uptake of 14.9% for Jadelle alone demonstrated and increasing acceptance when compared with 15.8% for implants generally in a previous study on progestogen

only injectable contraceptives [15] [16]. Apart from year 2014 that witnessed prolonged industrial action in this hospital, there was a progressive yearly increase in uptake of Jadelle in the lower half of the study period.

The socio demographic characteristics of users of implant in various studies are similar [17] [18]. They are young enlightened women, hence a possibly better follow up. Clinic personnel and friends and relations (88.5%) have remained the main source of information in all studies, media accounting for appalling rate of

**Table 1.** Socio demographic characteristics of Jadelle acceptors.

Age(years)	Frequency	Percentage (%)
20 - 24	16	2.8
25 - 29	89	15.6
30 - 34	223	39.2
35 - 39	165	29.0
40 and above	76	13.4
<b>Total</b>	<b>569</b>	<b>100%</b>
<b>Parity</b>		
Nulliparity	4	0.7
Primiparity	29	5.1
multiparity	536	94.2
Total	<b>569</b>	<b>100%</b>
<b>Education</b>		
Primary	28	4.9
Secondary	200	35.1
Tertiary	341	60.0
<b>Total</b>	<b>569</b>	<b>100%</b>

**Table 2.** Yearly distribution of Jadelle acceptors.

Year	No.	Percentage (%)
March 2007 - Feb. 2008	63	11.1
March 2008 - Feb.2009	44	7.7
March 2009 - Feb.2010	47	8.3
March 2010 - Feb.2011	45	7.9
March 2011 - Feb.2012	36	6.3
March 2012 - Feb.2013	62	10.9
March 2013 - Feb.2014	61	10.7
March 2014 - Feb.2015	45	7.9
March 2015 - Feb.2016	100	19.6
March 2016 - Feb.2017	66	11.6
<b>Total</b>	<b>569</b>	<b>100%</b>

**Table 3.** Complications of Jadelle contraceptive.

Side effects	Frequency	Percentage (%)
Spotting	16	27.1
Amenorrhea	10	16.9
Menorrhagia	10	16.9
Headache	9	15.3
Weight gain	3	5.1
Cervical erosion	3	5.1
Increased blood pressure	3	5.1
Breast tenderness	3	5.1
Varicose-vein	2	3.4
<b>Total</b>	<b>59</b>	<b>100%</b>

**Table 4.** Reasons for Removal of Jadelle contraceptive.

Reasons	Frequency	Percentage (%)
Expiration	299	56.9
Desire for pregnancy	98	18.7
Menopause	66	12.6
Complications	54	10.3
Client request	8	1.5
<b>Total</b>	<b>525</b>	<b>100%</b>

5.8% [16] [17] [18]. Of the 569 clients on Jadelle, only 59 had side effects and of these, spotting per vaginam, menopause, and amenorrhea topped the complications. This is in keeping with complications of all progestogens only contraceptives [19] [20] [21] [22]. It then means that this main drawback of all progestogens only contraceptives still persists. The complaint on weight gain, though not proven [23] [24] is of concern.

Other complications such as occurrence of ovarian cyst in users though common was not documented in this study but are found to be transient [25]. It is equally noted that not all complications warranted discontinuation of the device. More importantly, most of this side effects especially the relatively common one which is irregular vagina bleeding usually remits within four months in early use and also on medication [26] [27]; meaning that it is a safe means of contraception [28] [29]. More than half (56.9%) of the removal of the implant were due to expiration hence reinsertion. Its discontinuation due to complications occurred in 10.3% of users. This is however lower than 19% found in Zaria study [30]. It also support the evidence that discontinuation due to complication is higher in Implanon than in Jadelle [30] [31].

Pearl index of jadelle was 0.002 and hence it is a very effective Contraceptive [28] [29]. Generally, long acting reversible contraceptives' higher continuation

rate encourages superior protection from unintended pregnancies [18] [32] [33] [34]. Forty four of the users (7.7%) were lost to follow up and must have obtained care in the other numerous primary health care centres in the city. Unlike Implanon, Jadelle is almost equally used for limiting as in spacing children (52% and 48% respectively).

In conclusion, Jadelle has amazing protection against unintended pregnancy, good safety profile, and increasing acceptance among our clients.

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