



Associated Factors in the Declining Trend in the Use of Progestogen Only Injectable Contraceptive in a Niger Delta University Teaching Hospital, Nigeria

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Authors' contributions

This work was carried out in collaboration between all authors. Author EOO designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author JDO managed the analyses of the study. Author NCO managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

Background: Progestogen-only injectable contraceptive (POIC) is a reversible and widely accepted contraceptive method. In an earlier study in the University of Port Harcourt Teaching Hospital, it was the contraceptive method of choice for the clients; a recent review however showed a declining acceptance and increasing discontinuation hence the study.

Objectives: To determine the associated factors in the declining acceptance and growing discontinuation of progestogen only injectable contraceptives in our centre.

Materials and Methods: A retrospective study of clients who accepted and used POIC at the family planning clinic of the University of Port Harcourt Teaching Hospital (UPTH) between 1st January 2004 and 31st December 2013. The case files of these clients were retrieved. Their data, which included socio-demographic characteristics and reasons for discontinuation of POIC was extracted, entered into a data bank and analyzed using SPSS for windows 19.0 version.

Results: During this study period, the main methods of contraception available and proportion of

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clients who accepted them were: condom-male and female- (44.52%), intrauterine contraceptive device (15.98%), POIC (15.35%), implants (8.20%), oral contraceptive device (7.63%), bilateral tubal ligation (2.66%), foam tablets (0.43%).

There were 1075 (15.35%) new acceptors of POIC out of the 7001 total new acceptors of contraception during this period. Secondary amenorrhea was the most common side effect occurring in 781 (72.7%) women. Eight hundred and fifty six (79.6%) were lost to follow up while 57(5.3%) discontinued POIC use due to pregnancy, a change to intrauterine device and implant; and complications such as weight gain and irregular vaginal bleeding. Other reasons for the decline in the use of POIC were multiple injections involved and frequent visits to the health care facility. No pregnancy was reported among these women during the study period.

Conclusion: There was appreciable drop in the use of progestogen only injectable contraceptive and reasons such as its side effects, increasing acceptance of intra uterine devices and implants; and dislike based on frequent visits to the health care provider and concerns on possible impact of the repeated injections were noted.

Keywords: Contraception; declining acceptance; discontinuation; progestogen-only injectable contraceptive; Port Harcourt.

1. INTRODUCTION

The progestogen only injectable contraceptives are a popular contraceptive option among our clients and one of the most successful means of contraception globally [1-3]. Several reports have documented that they are the most commonly used contraceptive method in developing countries; [2,3] and it is the most commonly used contraceptive in different parts of Nigeria [2-4].

With good compliance, their efficacy increases and the absence of oestrogen makes it beneficial especially to breast feeding mothers [5]. The minimal service provider user attention, low Pearl index, availability, long duration of action, simple storage and non contraceptive benefits makes it suitable in the developing countries; [2,4,6] hence its popularity in these regions. Earlier work done by Ojule et al. showed POIC, in keeping with the above, as contraceptive method of choice (take up rate of 30.9%) among our clients; [7] two recent reviews by Oranu et al. (take up rate of 9.7%) and Ojule et al. however showed a decline in acceptance and continuation of this method by users [8,9].

The continuation rate of POIC is dropping and various reasons have been advanced for this limitation of usage. The various adverse effects of this method of contraception appear to contribute significantly to this observation. Irregular vaginal bleeding followed by secondary amenorrhea accounts for the commonest unwanted effects as reported by users [10-12]. Equally of concern are side effects such as

weight gain, [13] cardiovascular disorders (such as venous thrombo-embolism), abdominal bloating and discomfort, breast discomfort, mood swings and reduced libido. Others are loss of bone density, headache, dizziness, metabolic disorders (like diabetes mellitus) and delay in return of fertility following use [14,15].

Both works by Salem et al. reviewing the acceptability of injectable contraceptives [16] and Veisi et al. on comparison of two different injectable contraceptives [17] concluded on irregular vaginal bleeding as a major cause for discontinuation. This is buttressed by other local works done in Port Harcourt [2,3]. Although alteration in lipid profile of users of POIC was noted [18] it did not significantly affect client attitude to opting out of it.

Cochrane library data base systematic review revealed that the affectation of bone density leading to occasional fracture cannot be solely attributed to the effect of progesterone but mainly to physiological changes in women occasioned by age [19]. Weight gain remains another single most important reason for discontinuing POIC, though Cochrane systematic review showed a limited evidence in support of this claim on weight gain [20]. On the other hand, continued use of a particular POIC, [21] good counseling [22-24] and home administration of the injection [25] tend to improve the continued use of this method. This study will subject the declining use of POIC to scientific scrutiny with a view to finding out the various associated factors for the declining trend in the choice of this method.

2. METHODOLOGY

This was a 10-year retrospective study of clients who accepted and used progestogen only injectable contraceptives at the UPTH between 1st January 2004 and 31st of December 2013. The family planning clinic of the UPTH was established in 1986 and provides a variety of contraceptive services from which clients makes their choices. The clinic is open to clients from 8am to 4pm, Monday to Friday. It has a robust staff strength which includes consultant family planning physicians, family planning nurse practitioners and other support staff. Resident doctors and medical students rotate through the clinic in batches.

Usually, at presentation in the family planning clinic, prospective clients are adequately counseled by family planning nurse practitioner and guided to make an informed contraceptive choice suitable for her. Further, a full medical history is taken and a thorough physical examination carried out. Pregnancy test is usually done to exclude pregnancy. Those who accepted POIC are given intramuscular injection of 150 mg of depot medroxyprogesterone acetate (DMPA) or 200 mg of norethisterone enantate (NET-EN) according to client's prior choice, into the gluteus or deltoid muscle within the first 7 days of a normal menstrual period when the menstrual dates are known or after abortion. Repeat injections of DMPA or NET-EN are given every 12 or 8 weeks respectively. At each follow up visit, all complaints volunteered by the clients are documented in their case files. The weight, blood pressure and result of urinalysis are recorded as well. A client was regarded lost to follow up if she defaulted more than twice from scheduled visit.

For this study, the case files of the clients for the period under review were retrieved from the records section of the UPTH family planning clinic. The data, including age, religion, parity, marital and educational status, desire for further pregnancy, side effects, complications and source of information on contraception were extracted using a pro-forma. The data obtained were coded, entered into a personal computer and analyzed using SPSS for window version 19.0. The results were expressed in figures and percentages and presented in tables and graph.

The ethical committee of the University of Port Harcourt teaching hospital approved the study.

3. RESULTS

Within this study period, 1075 clients chose POIC method of contraception out of the 7001 new acceptors of modern contraception in the University of Port Harcourt teaching hospital. The acceptance rate was 15.35%. There was a steep decline in acceptance of POIC in 2006, followed by a slight but not sustained rise from 2007 – 2010. Thereafter, the decline continued (Fig. 1).

During this study period, the main methods of contraception available and proportion of clients who accepted them were: Condom-male and female-(44.52%), intrauterine contraceptive device (15.98%), POIC (15.35%), Implants (8.20%), oral contraceptive device (7.63%), bilateral tubal ligation (2.66%), foam tablets (0.43%).

The age of these new acceptors ranged from 19-51 years and majority of them belonged to the 30-34 years age group with a mean age of 32.11 ±4.93 years. Their parity ranged 1 -11 and most of them (65.9%) were between the parities of 2 and 4. The mean parity was 3.65±1.73. Eighty five percent of the clients had a minimum of secondary education while only 9 (0.8%) clients had no formal education. All the clients, within this study period were married. A reasonable number of these acceptors 403(37.5%) were civil servants while 354(32.9%) were traders (Table 1). The source of information for contraceptive services was mostly from clinic personnel (67.3%) while 220 (20.5%) women got information from friends and relatives. Mass media contributed only 5.8%.

Secondary amenorrhea and weight gain, 72.7% and 14.7% respectively, were the main side effects noted (Table 2). Only 162 (15.1%) clients were continued users of POIC. Majority of the clients, 856 (79.6%) were lost to follow up while 57 (5.3%) discontinued. Eight (21.62%) clients had a change of method to implants among others (Table 3). There was no case of unintended pregnancy while on POIC within these 10 years, giving a Pearl index of zero.

4. DISCUSSION

Reviewing the result of this study, POIC was the third most accepted form of contraception. In previous studies in Port Harcourt and Nnewi however, it was the most sought after method of contraception [2,3]. This observation is

illustrated by Fig. 1, which showed a sharp drop in the demand for POIC in 2006 and 2008; and a persistent downward trend from 2010. The introduction of implants into our growing

ACCEPTORS

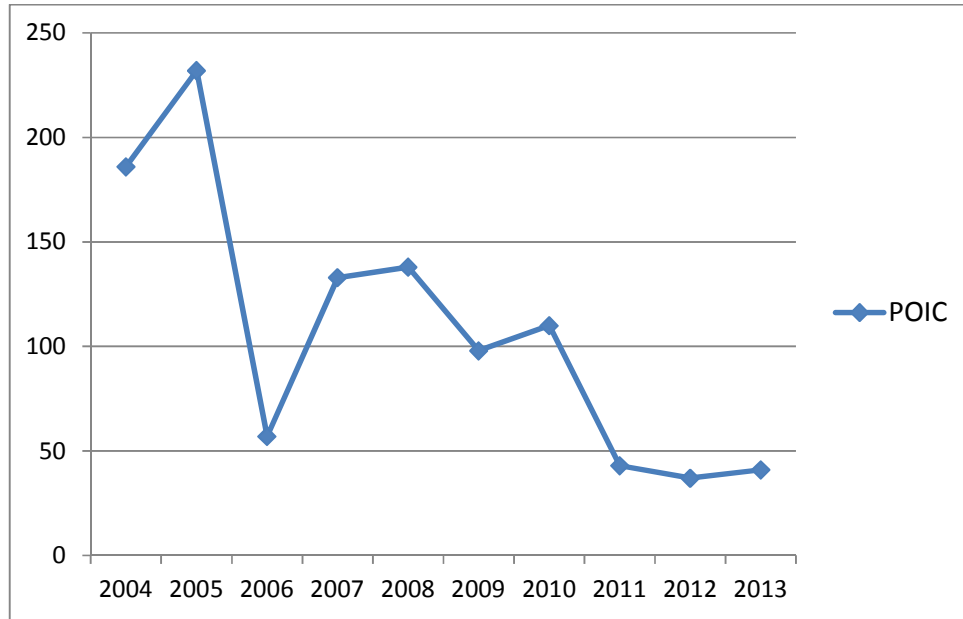


Fig. 1. Showing yearly distribution of acceptors of POIC from 2004 - 2013

Table 1. Socio-demographic characteristics

Age	DMPA freq n=677	Percentage (%)	NET-EN freq n=398	Percentage (%)	Total freq n=1075	Percentage (%)
<20	0	0	2	0.5	2	0.2
20-24	30	4.4	19	4.8	49	4.6
25-29	174	25.7	121	30.4	295	27.4
30-34	260	38.4	144	36.2	404	37.6
35-39	162	23.9	82	20.6	244	22.7
>40	51	7.5	30	7.5	81	7.5
Educational status						
No formal education	4	0.6	5	1.3	9	0.8
Primary	40	5.9	23	5.8	63	5.9
Secondary	248	36.6	123	30.9	371	34.5
Tertiary	324	47.9	229	57.5	553	51.4
Not documented	61	9.0	18	4.5	79	7.3
Occupation						
Civil Servants	244	35.9	159	39.9	403	37.5
Trader	229	33.8	125	31.4	354	32.9
House Wife	122	18.0	56	14.1	178	16.6
Students	36	5.3	29	7.3	65	6.0
Artisans	40	5.9	25	6.4	65	6.1
Farmers	6	0.9	4	1.0	10	0.9
Parity						
1	37	5.5	40	10.1	77	7.2
2-4	449	66.3	259	65.1	708	65.9
5-9	187	27.6	99	24.9	286	26.6
>10	4	0.6	0	0.0	4	0.4

contraceptive options (to the already existing intrauterine contraceptive device) in 2006 and 2008, perhaps contributed to this decline in the use of POIC. In exploding and economically consuming population like ours, the benefit of effective contraception in spacing and limiting of the number of children a couple have cannot be over emphasized. The decline in the use of POIC is therefore worrisome as this reduces the options of effective contraception from which the client chooses; in a country with contraceptive rate as low as 15% [26].

Majority (85%) of the clients had a minimum of secondary educational status. Only 0.8% had no formal education. This obviously should make counseling easier; appropriate and adequate counseling has been shown to increase acceptance, improve compliance and maintain continuation rate of contraception [22,24]. This was not reflected in this study with the huge loss to follow up (client was regarded as lost to follow up if she missed 2 or more appointments) that was noted and is actually worrisome. This may not be unconnected with the nature of Port Harcourt, an oil-rich city with heavy human traffic with various engagements, primary health care centers at easy access and high cost of living necessitating relocation [8]. The importance of this is that care (subsequent progestogen injection) is received at the nearest convenient center and not necessarily at port of entry into the family planning health care chain, hence the huge loss to follow up. Also a sizable number of clients belonged to 30-34 year age group and most of them had between 2-4 children which suggested that birth spacing and limiting of family size as was observed were concerns in their quest for contraception.

Due to the difficulty with keeping multiple hospital appointments, compliance posed great challenge

to the acceptability of POIC. This, in addition to the loss to follow up no doubt led to the poor continuation rate of 15.1%. This correlates with findings in previous studies globally [3,9,15]. Fifty seven (57%) of the clients discontinued from POIC and opted out mainly for longer acting reversible contraception with low frequency of clinic appointments/visits. The commonest complaint of women in this study was abnormal menstrual pattern. Secondary amenorrhea ranked highest, 72.7% as shown in previous studies in Nigeria [3,4] and this in agreement with other global findings [16,17,22]. Interestingly however, it ranked third in reason for opting out of POIC. Weight gain following POIC usage is controversial and there was limited evidence supporting POIC as causative factor as most of the so-called weight gain might not be confirmed [20,27]. Weight gain was reported in 158 (14.7%) of POIC acceptors in this study. This rate is quite high compared to 1.73% in a previous study in Port Harcourt and 2% in Nnewi [2,4]. Despite low evidence, weight gain is the main reason for discontinuation of POIC in as high as 27.03 % of the clients in this study. This differs from other previous studies where abnormal menstruation was the commonest reason for discontinuation of POIC [3,28].

Implanon and Jadelle were introduced in our family planning clinic in 2006 and 2008 respectively. The decline in acceptance of POIC was noted first as a sharp drop in 2016 then again from 2011 after a slight increase in acceptance in the years in between (Fig. 1). In this study implants accounted for 21.16% of reason for discontinuation of POIC. Considering that intrauterine device (IUD) was second only to condom in choice of contraception in this evaluation, the long acting reversible contraceptives (IUD and Implants) have perhaps contributed to the decline in the use of POIC.

Table 2. Complications of POIC

Complications	DMPA freq	Percentage (%)	NET-EN freq	Percentage (%)	Total freq	Percentage (%)
Secondary amenorrhea	503	74.3	278	69.8	781	72.7
Weight gain	93	13.7	65	16.3	158	14.7
Hypertension	11	1.6	10	2.5	21	2.0
Irregular menses	167	24.7	101	25.4	268	24.9
Headache	8	1.2	6	1.5	14	1.3
Reduced libido	3	0.4	1	0.3	4	0.4
Lower abdominal pain	9	1.3	6	1.5	15	1.4
Chest Pain	4	0.6	0	0.0	4	0.6
Palpitation	1	0.1	0	0.0	1	0.1
Breast discomfort	0	0.0	1	0.5	1	0.1
Diabetes mellitus	2	0.3	0	0.0	2	0.2

Table 3. Reasons for discontinuation of POIC

Reason	DPMA	NET-EN	Total	Percentage (%)
Frequent visits to the facility	10	3	13	22.81
Weight gain	6	4	10	17.54
Opted for implant	5	3	8	14.04
Irregular vaginal bleeding	5	2	7	12.28
Multiple injections	4	3	7	12.28
Hypertension	1	3	4	7.02
Desire to get pregnant	1	2	3	5.26
Diabetes mellitus	2	0	2	3.25
Varicose vein	0	1	1	1.75
Headache	1	0	1	1.75
Goiter	1	0	1	1.75
Total	21	16	37	100.0

Fifteen percent of users discontinued based on cardiovascular concerns such as hypertension and varicose vein as found previous studies [29-30] while changes in lipid profile [31] and bone density which has been observed to influence change of method from POIC in some studies is not evidence based and were not documented here, because these parameters were not monitored in this study [18,19].

Other complications that could occur following the use of POIC but were not noted in the study include blurring of vision, hot flushes, depression, acne, asthenia, urinary tract infection and vulvovaginitis [1].

There was no reported accidental pregnancy in the 10 year period under review and this reflects a high level of effectiveness of this method of contraception.

5. LIMITATION OF STUDY AND RECOMMENDATION

This study is not questionnaire based but retrospective hence not all reasons for method change was ascertained. Subsequent periodic reviews should be questionnaire based.

6. CONCLUSION

Although progestogen only injectable contraceptive is a reasonably common, safe, and effective contraceptive option, its initial leading position in our centre is increasingly being challenged among others by the unjustified belief in weight gain while on this method, cardiovascular changes and perhaps the newer longer acting reversible contraceptive options with more acceptable safety profile, user

friendliness and efficacy hence better compliance.

CONSENT

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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