



A COMPARISON OF PROGESTERONE ONLY INJECTABLE CONTRACEPTIVES AT A TERTIARY HOSPITAL IN PORT HARCOURT, RIVERS STATE

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ABSTRACT

Background: Progesterone only injectable contraceptives (POICs) are safe, slow release, long acting reversible preparations lasting for 2-3 months. **Objective:** To determine the use prevalence of POICs, and compare the use of depot medroxyprogesterone acetate (DMPA) and norethisterone enanthate (Noristerat) at the Rivers State University Teaching Hospital, Port Harcourt (RSUTH). **Methods:** This was a retrospective comparative study of 432 clients that used POICs at the family planning clinic of RSUTH from 1st January, 2008 – 31st December, 2017. Their records were retrieved from the clinic and reviewed. Data was extracted, coded and analyzed using the statistical package for social sciences (SPSS) IBM version 25.0 (Armonk, NY). Chi square test was used as test of significance where applicable and a p-value <0.05 was considered statistically significant. **Results:** The prevalence of POICs among 1893 contraceptive acceptors during the study period was 432 (22.8%). Depo-provera was more preferred by the women. Age and parity had significant effects on the preferred injectable contraceptive with P values <0.001 (95% CI: 0.000, 0.000) and 0.002 (95% CI: 0.000, 0.001) respectively. The POICs acceptors were between the ages of 19 and 51 years. The mean age \pm SD for POICs acceptors was 32.0 \pm 4.95 years. The modal parity was para 4. Most (98.8%) of the acceptors had formal education, were married 412 (95.4%) and multiparous 287 (66.4%). **Conclusion:** The uptake rate of POICs is low and Depo-provera was more popular. Age and parity had significant effects on the contraceptive choice.

KEYWORDS: Contraception, Depo provera, Noristerat, Comparison, RSUTH.

INTRODUCTION

Contraception helps to control the growth rate of a population. Accepting a contraceptive method depends on many factors including the characteristics of the method, demographic and socioeconomic variables pertaining to the population of clients.^[1] Knowledge of contraception is widespread in Nigeria but the contraceptive prevalence rate is low with 15% of currently married women using it.^[2] More than 16 million women worldwide use progesterone-only or combined injectable contraceptives.^{[1][3]} Hormonal agents are the most popular and most effective non surgical methods of contraception worldwide.^{[4][5]} They are slow release reversible contraceptives that last for 2-3 months. The two commonly available POICs are Depot provera and Noristerat.^{[6][7][8]} Both work in 3 ways namely the inhibition of ovulation by suppressing the levels of Luteinizing and Follicle Stimulating Hormones, increased viscosity of the cervical mucus thereby impairing the movement of sperm into the uterine cavity and thinning of the endometrial lining making it unsuitable for implantation.^{[4][9]}

It is important to advise the women about the changes to their menses prior to commencing the injectable contraceptives and to counsel for endurance when they occur. The POICs are safe, convenient, long term, reversible and are almost 99% effective when used correctly. The failure rate of DMPA is less than 0.05% and noristerat is less than 1%.^[6] The contraception is independent of sexual intercourse and lactation is enhanced due to increased production of prolactin.^{[3][6]} They do not have oestrogen related side effects like increased risk of deep vein thrombosis, pulmonary oedema, stroke and myocardial infarction. The POICs protect against endometrial cancer, ovarian cancer, pelvic inflammatory disease, uterine fibroids, ectopic gestation and iron deficiency anaemia. They are ideal for sicklers and epileptics because they prevent sickling of cells thereby reducing sickle cell crisis and frequency of seizures. They cause reduction in the incidence of primary amenorrhoea, premenstrual tension and ovulation pain.^{[10][11][12][13]}

Since the family planning unit in our centre was established, there has not been any study comparing the

use of POICs. The study was done to compare the use of the Depo provera and Noristerat.

MATERIALS AND METHODS

This retrospective study was carried out at the family planning clinic of the RSUTH 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. The clinic is headed by a consultant Gynaecologist, with the support of trained family planning nurses and resident doctors.

After counseling by the family planning nurses and physicians, 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 to exclude contraindications to the use of POICs. Urine analysis and pregnancy test were also done for the clients and informed consent obtained. During the study period, the only available progesterone-only injectables were intramuscular injections of DMPA and Noristerat. The nurses injected 150mg and 200mg of DMPA and noristerat respectively into the deltoid or gluteal muscle within 7 days of normal menstrual period after excluding pregnancy. They were also given six weeks post partum in breastfeeding mothers who were yet to resume menstruation. Follow up observations and repeat injections were done every 90 and 60 days respectively.

At each visit, the complaints were documented likewise weight, blood pressure and results of urinalysis. A client was considered lost to follow up if she defaulted more than twice from scheduled visits. The record cards of all the clients that accepted the POICs 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. Chi square test was used as test of significance where applicable and a p-value <0.05 was considered statistically significant. Level of confidence interval was set at 95%.

RESULTS

A total of 1893 clients were seen at the family planning clinic of the hospital during the study period. Four hundred and thirty two clients out of this accepted progesterone only injectable contraceptives (Depo provera, 271 and Noristerat, 161). The use prevalence of POICs was 22.8%. There was no accidental pregnancy recorded during the study period. Depo provera was a more popular injectable contraceptive preferred by 63% of the women while 37% opted for Noristerat as shown in figure 1. The POICs acceptors were between the ages of 19 and 51 years. The mean age \pm SD for POICs acceptors was 32.0 ± 4.95 years. The mean age \pm SD of the acceptors of Depo-Provera was 33.1 ± 5.3 years compared to 30.9 ± 4.6 for Noristerat. The modal parity of the two contraceptives was para 4. The socio demographic profile of the acceptors of POICs is shown in table 1. The modal age group was 30-34 years accounting for 162 (37.5%) clients. Five out of 432 clients had no formal education. Most of the acceptors with formal education, 347 (80.3%) had secondary level of education. Christians accounted for 418 (96.8%) clients. Most of the women, 287 (66.4%) were multipara and married women accounted for 412 (95.4%) of the clients that used POICs during the study period.

Of the socio-demographic characteristics of the acceptors of depo provera and noristerat, age ($X^2= 26.17$, $P = 0.001$) and parity ($X^2=15.38$, $P = 0.002$) were statistically significant. While educational status ($X^2= 5.095$, $P = 0.165$), religion ($X^2= 3.422$, $P = 0.181$), and marital status ($X^2= 0.067$, $P = 0.796$) were not statistically significant (Table 1).

Table 1: Socio-demographic characteristics of the clients.

Variable	Depoprovera	Noristerat	POICs (%)	X ² (d.f)	P-value
	No	No			
Age					
<20	0	1	0.2	26.17 (6)	0.001*
20-24	9	14	5.3		
25-29	55	51	24.6		
30-34	103	59	37.5		
35-39	70	32	23.6		
40-44	26	4	7.0		
45-49	7	0	1.6		
≥ 50	1	0	0.2		
Educational Status					
No formal education	3	2	1.2	5.095 (3)	0.165
Primary	20	5	5.8		

Secondary	209	138	80.3		
Tertiary	39	16	12.7		
Religion					
Christianity	265	153	96.8	3.422 (2)	0.181
Islam	3	6	2.0		
Others	3	2	1.2		
Parity					
Nullipara	0	1	0.2	15.38 (3)	0.002*
Primipara	23	26	11.4		
Multipara	175	112	66.4		
Grand- multipara	73	22	22.0		
Marital Status					
Single	12	8	4.6	0.067 (1)	0.796
Married	259	153	95.4		

The sources of information on contraception are shown in Table 2. Three hundred and fifty seven (82.6%) clients obtained their information on POICs from clinic personnel and 35 (8.1%) from friends and relatives. Twelve (2.8%), 6 (1.4%), 8 (1.9%) and 4 (0.9%) clients

got theirs from community health workers, print media, radio/television and outreach respectively. There was no significant difference in the sources of information on contraception for both depo-provera and noristerat ($X^2 = 6.550, P = 0.364$).

Table 2: Comparison of sources of information on contraception.

Variable	Depoprovera	Noristarat	POICs	X2 (d.f)	P-value
Sources of information	No. of Clients	No. of Clients	%		
Clinical personnel	228	129	82.6	6.550 (6)	0.364
Friends/Relatives	19	16	8.1		
Community Health Worker	5	7	2.8		
Print Media	5	1	1.4		
Radio/Television	5	3	1.9		
Outreach	2	2	0.9		
Others	7	3	2.3		

About 70% of the clients used POICs for spacing of childbirth, 26.9% had completed the family size and were using the contraceptives to prevent further pregnancy. There was no reason for their use recorded in

the cards of 14 (3.2%) clients. There was no statistically significant difference in indications for the use of Depo-provera and Noristerat. ($X^2 = 8.820, P = 0.12$). This is shown in table 3.

Table 3: Indications for use of POICs.

Variable	Depoprovera	Noristarat	POICs	X2 (d.f)	P-value
Indication for use	No. of Clients	No. of Clients	%		
Birth spacing	183	119	69.9	8.820 (2)	0.12
Completed family size	83	33	26.9		
Not recorded	5	9	3.2		

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shown in table 3. The yearly trend of acceptance of POICs over the study period is shown in figure 2.

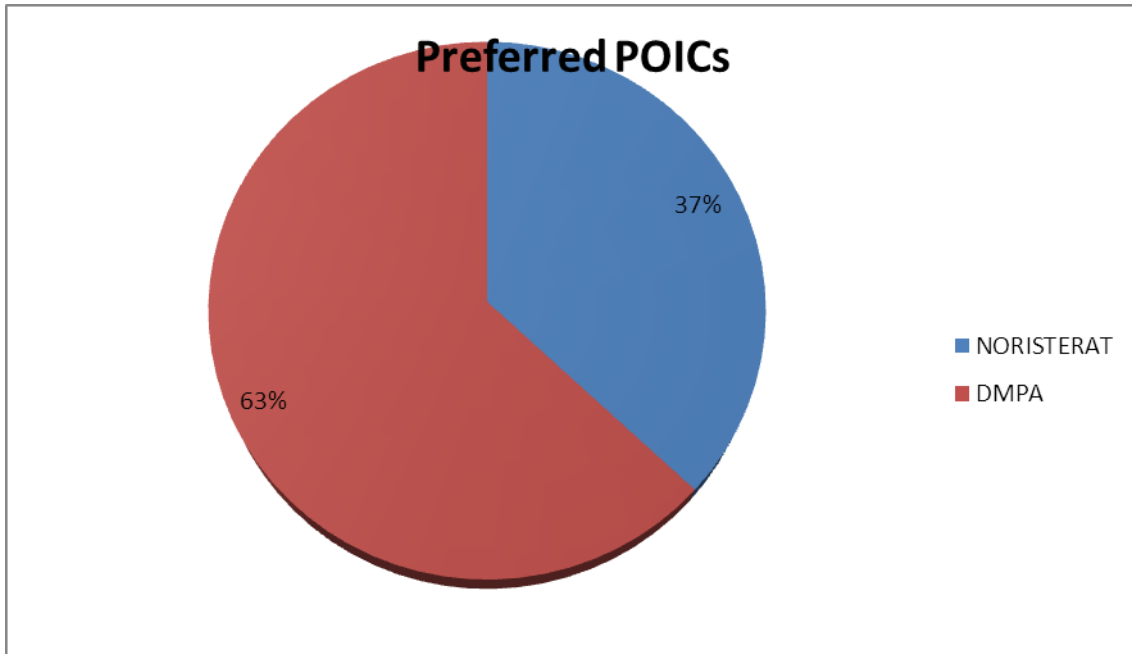


Figure 1: Preferred Progesterone only injectable contraceptives (POICs).

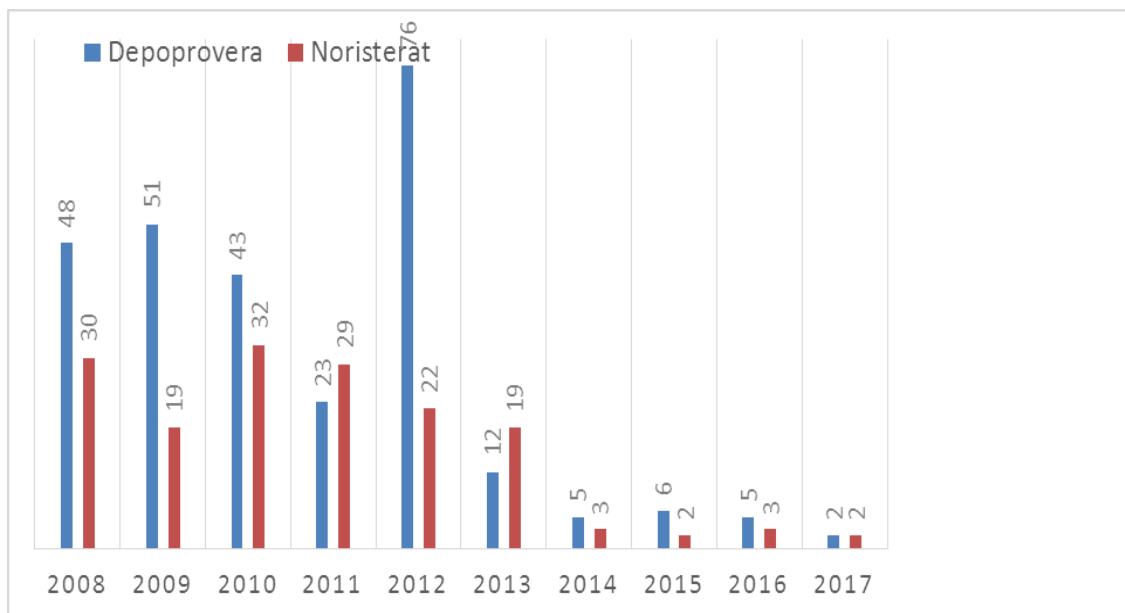


Figure 2: Yearly trend of depo provera and Noristerat.

DISCUSSION

The use prevalence of 22.8% of POICs in the study is comparable to 21.55% reported from Lagos, 22.1% in Osogbo, 21.9% in Ilorin, 23.3% in Calabar^{[14][15][16][13]} but higher than 7.9%, 12.6% and 14.2% reported from Ibadan, Ile-Ife and Jos respectively.^{[17][18][19]} However this study prevalence is lower than 26%, 31.49%, 50.7% and 64.6% reported from Isagamu, Ile-Ife, Zaria and Kano respectively in different geopolitical zones in Nigeria.^{[20][21][22][23]} These variations in the use of progesterone only injectable contraceptives could be as a result of socio-cultural and religious beliefs and individual client perception of the type of contraceptive.^[13] Religious beliefs and cultural practices could also contribute to the poor use or non usage of

contraceptives in developing countries like Nigeria by desire for male children.^[24]

Acceptors of POICs were between the ages of 19 and 51 years with mean age \pm SD of 32.0 ± 4.95 years. This is similar to studies done by Adeyemi et al, Njoku et al and Ijarotimi et al.^{[21][9][13]} Majority (85.7%) of the acceptors were in the age group of 25-39 years. This is not surprising as this represents the reproductive age group which has been extended to late thirties because of delay in childbearing caused by education of the girl child in Nigeria.

More than 98% of the acceptors in this study had formal education. This is expected as studies have shown that

formal education significantly increases the use of contraceptives.^{[21][24]} This finding is in keeping with the national survey's finding that 37% of the women who have more than a secondary education use a contraceptive method as compared with only 3% uneducated women.^[2] It was also noted that after the birth of the first child, 80% of educated couples used contraceptive methods compared to more than 50% of uneducated women who did not use any contraceptives even after the birth of the third child.^[25] Primipara and multipara constituted 77.8% of the acceptors of POICs and 22% were grandmultipara. This is in keeping with another study done in Port Harcourt.^[26] This finding in the study may be due to the fact that clients with higher number of children were likely to be older and also likely to have completed their family size. Hence the need for longer acting contraceptives like implants and intrauterine contraceptive devices (IUCD).

The socio-demographic characteristics of the acceptors of Depo-Provera and Noristerat found to be statistically significant included, age ($P < 0.001$) and Parity ($P = 0.002$) respectively. This finding is in keeping with that of previous study.^[21] Older women were more likely to use the contraceptives than younger age group. The study revealed no statistically significant effect of educational status ($P = 0.165$), religion ($P = 0.181$), and marital status ($P = 0.796$) on the use of both Depo-Provera and Noristerat.

Christians constituted 96.8% of the acceptors of POICs in the study. This is not surprising as majority of people in south-south Nigeria are Christians. About 70% of the clients used POICs for spacing of childbirth, 26.9% had completed the family size and were using the contraceptives to prevent further pregnancy.

In Nigeria, the women do not like bilateral tubal ligation because of cultural and religious beliefs. Therefore a lot of them prefer other methods of contraception to surgical sterilization.^{[27][28]}

The main source of information on POICs was from clinical personnel accounting for 82.6% while only 3.3% came from print media, radio and television. However this was not significant when the sources of information were compared between the acceptors of Depo-Provera and Noristerat ($P = 0.364$). This is similar to findings in other studies^{[21][26]} and indicates poor role of media in dissemination of information on contraception. Therefore the need to improve on the publicity of contraceptives through media is of essence to increase their uptake rate.

Over the period reviewed, we found a decreasing trend in the acceptance of both Depo-Provera and Noristerat. This might be due to the increased uptake of newer methods of contraceptives such as implants- Implanon and Jadelle that last for a longer period 3 and 5 years respectively. Therefore younger women who wish to space their birth tend to prefer the implant to POICs.

Depo provera was more preferred by 63% of the clients which is in keeping with findings from other studies.^{[9][21][26]} This may be due to the reduced frequency of visits associated with DMPA compared with NET-EN. Lastly there was no accidental pregnancy recorded during the study period buttressing the fact that POICs are very effective form of contraception.

CONCLUSION

Progesterone only injectable contraceptives (POICs) are very effective and safe long acting reversible contraceptives used mainly by young, educated, married and multiparous women who would want to space childbirth. Depo provera was more popular than Noristerat. Clients' age and parity were the only factors found to have effect on the use of both contraceptives.

ETHICAL APPROVAL

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

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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