

## Original Article

# Depot medroxyprogesterone injectable contraception at the University of Uyo Teaching Hospital, Uyo

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### Abstract

**Background:** Depot medroxyprogesterone acetate is the most studied injectable contraceptive and also one of the most effective methods of contraception currently available. It is reversible, its use is independent of intercourse, and can be provided by trained non-medical staff making it particularly suitable for use in developing countries. The aim of this study is to determine the socio-demographic characteristics of its acceptors, the timing of use and complications at the University of Uyo Teaching Hospital, Uyo.

**Materials and Methods:** The record cards of all clients who accepted medroxyprogesterone acetate injectable contraception over a nine-year period were studied.

**Results:** There were 1065 new contraceptive acceptors out of which 166 (15.1%) accepted depot medroxyprogesterone acetate. The modal age group of the clients was 30–34 years (35.0%). Majority of clients were grandmultiparous (63.9%), married (82.0%), and 50.6% had primary level education. Majority of the clients (84.2%) derived their sources of information on contraception from clinic personnel and friends/relatives. All the clients received their injections within seven days of menstruation. The most common side effects were amenorrhea (12.0%) and spotting of blood per vaginam (10.8%).

**Conclusion:** Depot medroxyprogesterone acetate is a safe form of contraception, which was mostly accepted by grandmultiparous women and those in their thirties. The involvement of the print and electronic media in the propagation of accurate information about depot medroxyprogesterone acetate to members of the community and the introduction of post-abortion and puerperal administrations of depot medroxyprogesterone acetate and its new formulation; depo sub-Q provera in all our hospitals are advocated.

**Key words:** Depot medroxyprogesterone acetate, acceptors, injectable contraception, Uyo

### Résumé

**Arrière-plan:** SAV acétate de médoroxyprogéstérone est le plus étudié injectable contraceptive et aussi l'une des méthodes plus efficaces de la contraception actuellement disponible. Il est réversible, son utilisation est indépendante des rapports sexuels et peut être assurée par personnel non médical qualifié rend particulièrement adapté à une utilisation dans les pays en développement. L'objectif de cette étude est de déterminer les caractéristiques socio-démographiques des ses acceptors, la durée d'utilisation et des complications à l'hôpital d'enseignement Université de Uyo, Uyo.

**Patients and Methods:** Les cartes d'enregistrements de tous les clients qui ont accepté de contraception injectable d'acétate de médoroxyprogéstérone sur une période de neuf ans ont été étudiés.

**Résultats:** Il y a eu 1065 nouvelle contraception acceptors de laquelle acétate de médoroxyprogéstérone dépôt accepté de 166 (15,1%). Le groupe d'âge modal des clients a été 30–34 ans (35,0%). La majorité des clients ont été grandmultiparous (63,9%), marié (82,0%) et 50,6% avait niveau primaire. La majorité des clients (84,2%) dérivé leurs sources d'information sur la contraception personnel clinique et amis/famille. Tous les clients reçus leurs injections dans les sept jours de menstruation. Les effets secondaires plus courantes étaient aménorrhée (12,0%) et spotting

de sang par vaginam (10,8%).

**Conclusion:** Acétate de médroxyprogestérone SAV est une forme sécuritaire de contraception, qui a été acceptée principalement par les femmes grandmultiparous et ceux dans les années trente. La participation des médias imprimés et électroniques dans la propagation des informations précises sur acétate de médroxyprogestérone de dépôt pour les membres de la Communauté et l'introduction des administrations post-abortale et puerpérale d'acétate de médroxyprogestérone de dépôt et de sa nouvelle formulation ; subQ depo provera sont préconisées.

**Mots clés:** Acétate de médroxyprogestérone SAV, acceptors, contraception injectable Uyo

## Introduction

The injectable progesterone-only contraception are one of the most successful means of contraception in the world today.<sup>[1]</sup> They were introduced to avoid the side effects of estrogen, and their use has substantially increased in the last two decades. Currently, several reports indicate that they have become the third most commonly used contraceptive method in the developing world.<sup>[2]</sup>

The two main progestogen-only injectables are depot medroxyprogesterone acetate (DMPA) and norethisterone enantate. Depot medroxyprogesterone acetate is the most commonly used and thoroughly studied injectable contraceptive.<sup>[3]</sup> It was developed by the Upjohn Company in 1954 for the treatment of endometriosis and habitual abortion.<sup>[4]</sup> However, in the early 1960s, it was noticed that females receiving it subsequently had a marked delay in return of fertility that led to its development as a fertility regulating agent.<sup>[4]</sup>

DMPA is one of the most effective methods of contraception currently available.<sup>[3]</sup> Its use is independent of intercourse and avoids the need for partner co-operation; it is reversible, has a few side effects, is long acting, demands less compliance, and is private.<sup>[3,5]</sup> In addition, it is affordable, does not require storage and can be provided by trained non-medical staff making it particularly suitable for use in developing countries.<sup>[6]</sup> It has several non-contraceptive benefits that include protection against endometrial carcinoma, pelvic inflammatory disease, uterine fibroids, ectopic pregnancy, iron-deficiency anemia and ovarian carcinoma.<sup>[6-8]</sup> It is the ideal contraceptive for sicklers and epileptics as it prevents sickling of cells thereby reducing sickling crisis and frequency of seizures.<sup>[7,8]</sup>

DMPA is currently available in two formulations; 150 mg/1ml for intramuscular injection and 104 mg/0.65 ml for subcutaneous injection (depo-subQ provera) both administered every three months with contraceptive protection continuing for an additional two weeks.<sup>[9,10]</sup> Since the family planning unit in our center was established in 1999, there has been no study evaluating the use of

DMPA. This study was conducted to determine the socio-demographic characteristics of its acceptors, timing of use and complications and subsequently suggest measures that would improve its use among our women.

## Materials and Methods

This retrospective study was carried out at the family planning unit of the University of Uyo Teaching Hospital (UUTH), located in Uyo, the capital of Akwa Ibom State in the South-South geopolitical zone of Nigeria. The hospital which has 300 beds was established in 1996 as a state specialist hospital and later metamorphosed into a Federal Medical center. With the establishment of the college of Health Sciences, University of Uyo in 2001, the hospital was converted into a teaching hospital for the training of medical students and specialist doctors in addition to service delivery. It is the only tertiary health facility serving the state with a population of 3.9 million people.

The registration numbers of all clients that accepted DMPA injectable contraception between 1<sup>st</sup> January 2000 and 31<sup>st</sup> December 2008 were obtained from the family planning register. Their clients' record cards were retrieved for in-department study. Information abstracted included their socio-demographic characteristics, period of administration of injections, source of referral, previous history of contraceptive use and complications. The data were analysed using tables and percentages and results formed the basis of discussion. During the period of study, the modern methods of contraception available to clients in the family planning clinic were the intrauterine contraceptive device (copper T 380 A), progestogen-only injectables (depot medroxyprogesterone acetate and norethisterone enantate), combined oral contraceptive pills, progestogen-only pills, contraceptive implants (Jadelle), barrier methods (cervical cap, vaginal diaphragm and male condom) and surgical sterilization (both male and female).

## Results

There was a total of 1065 new contraceptive

acceptors during the study period out of which 166 accepted DMPA resulting in an acceptance rate of 15.7%. The age of the clients ranged from 20 to 40 years with modal age group being 30–34 years (35.0%) and median age 34.4 years. Majority of clients were grandmultiparous 106 (63.9%), married 136 (82.0%) and 50.6% of them had primary level education. Traders, farmers and civil servants constituted 52.3% of the acceptors. One hundred and sixty four clients were Christians (98.8%), while 2 (1.2%) were Moslems [Table 1].

The sources of information of the clients surrounding contraception are shown in Table 2. Majority of clients obtained their information from clinic personnel 100 (60.2%), while 4 each (2.4%) obtained theirs from community health extension workers and the print media, respectively.

Fifty eight clients (35.0%) had used contraceptives previously, 97 (58.4%) had not while in 11 cases (6.6%) information about previous contraceptive use was not documented in their record cards.

One hundred clients (60.2%) did not desire any more children, 56 (33.7%) did while in 10 cases (6.0%) their intention was not certain. All the clients received their injections during the first seven days of menstruation. There were no post-abortion or puerperal administrations.

The side effects documented following DPMA use are shown in Table 3. The most common side effects were amenorrhea 20 (12.0%) and vaginal spotting 18 (10.8%), while the least were dizziness, headache, body ache and nausea 2 each (1.2%), respectively.

Only the 150 mg/1ml formulation of DMPA was available and thus administered. There were no accidental pregnancies recorded during the period of the study.

## Discussion

Current scientific data shows that the use of DMPA has increased remarkably throughout sub-Saharan Africa, and DMPA is increasingly becoming the most commonly used modern method of contraception in some Nigerian centers.<sup>[12,13]</sup> The mean age of the acceptors of 34.4 years in our study is similar to those from previous Nigerian studies.<sup>[13,14]</sup> In addition, most of the clients that accepted DMPA were grandmultiparous. This might suggest that DMPA is particularly popular and used for terminal contraception by women who have passed the peak of their reproductive career and who wish to stop childbearing.<sup>[13]</sup> This is not surprising as due to cultural and religious reasons, there is very low

**Table 1: Socio-demographic characteristics of the clients N = 166**

Variable	No. (%)
<b>Age (years)</b>	
12	(7.2)
31	(18.7)
58	(35.0)
52	(31.3)
≥ 40	13 (7.8)
<b>Parity</b>	
1-4	60 (36.1)
5-8	83 (50.0)
> 8	23 (13.9)
<b>Educational level</b>	
Primary education	84 (50.6)
Secondary education	40 (24.0)
Tertiary education	24 (14.5)
Not recorded	8 (4.8)
<b>Marital status</b>	
Married	136 (82.0)
Widowed	10 (6.0)
Single	8 (4.8)
Not recorded	12 (7.2)
<b>Occupation</b>	
Trader	49 (29.5)
Farmer	20 (12.0)
Civil servant	18 (10.8)
House wife	16 (9.6)
Seamstress	10 (6.0)
Unemployed	12 (7.2)
Student	9 (5.4)
Teacher	8 (4.8)
Professional	7 (4.2)
Hair dresser	6 (3.6)
Not recorded	11 (6.6)

**Table 2: Sources of information on contraception N = 166**

Source of information	No. (%)
Clinic personnel	100 (60.2)
Friends/relatives	40 (24.0)
Radio	10 (6.0)
Outreach personnel	8 (4.8)
Community health extension worker	4 (2.4)
Print media	4 (2.4)

**Table 3: Side effects following administration of medroxyprogesterone-injectable contraception**

Side effect	No. (%)
Amenorrhoea	20 (12.0)
Vaginal spotting	18 (10.8)
Prolonged menstrual bleeding	10 (6.0)
Lower abdominal pain	8 (4.8)
Scanty menses	8 (4.8)
Weight gain	4 (2.4)
Internal heat	4 (2.4)
Excessive menstrual flow	3 (1.8)
Dizziness	2 (1.2)
Headache	2 (1.2)
Nausea/vomiting	2 (1.2)
Body ache	2 (1.2)

acceptance of surgical sterilization by women in our environment.<sup>[15]</sup>

In this study, no adolescent was recorded to have accepted DMPA. Due to the stigma attached to premarital and adolescent sex in our environment, adolescents usually do not patronize family planning clinics in Government hospitals.<sup>[16,17]</sup> However, due to theoretical concerns about effects on bone development, DMPA may not be first choice contraceptives for adolescents who are also in the process of attaining peak bone mass.<sup>[6]</sup> Prospective studies have found mean losses of bone mineral density (BMD) at the lumbar spine of between 0.87 and 3.52%, which appear to be proportional to the duration of use of DMPA.<sup>[18,19]</sup>

Several studies have confirmed the fact that contraception is more readily and widely practiced by educated women.<sup>[20]</sup> However, in this study, majority of the clients had only primary level education. This may probably be because educated women in our state may prefer to obtain contraceptives from private or other health facilities rather than the family planning clinic of the Teaching Hospital.

Most of the clients obtained their source of information about contraception from clinic personnel. This is similar to what obtains in other Nigerian centers.<sup>[13,20]</sup> A large proportion of patients who attend the family planning clinic are often referred from the post natal clinic. In addition, the advantages of family planning are usually emphasized during health talks in the hospital's antenatal clinic. Only 8.4% of clients heard about contraception from the mass media, which probably reflects the poor role they play in disseminating family planning messages and also in improving the reproductive health indices of women in our environment. Family planning programs often rely on mass media campaigns to inform people about contraception and influence social norms concerning family planning.<sup>[2]</sup> Throughout the developing world, most women have been shown to find family planning messages in the mass media acceptable and levels of approval are rising.<sup>[21]</sup>

As shown in our study, disruption of regular menstrual cycles and amenorrhoea are the most common side effects of DMPA,<sup>[6,12]</sup> and are also the most common reason for their discontinuation.<sup>[22]</sup> Nearly all women experience some changes in their menstrual pattern, usually more frequent or prolonged bleeding initially, and infrequent bleeding or amenorrhoea after two years of use.<sup>[6]</sup> The menstrual changes associated with DMPA are rarely of medical concern and good counseling prior to administering the contraceptive

agent increases acceptability and minimizes discontinuation.<sup>[6]</sup> The relatively new 104 mg formulation provides slower and more sustained release of the progestogen than conventional DMPA, which allows a 30% lower dose of progestogen with fewer side effects but with the same duration of effect as conventional DMPA.<sup>[10]</sup> In addition, it can be self administered making suitable for women in developing countries who may reside far away from the facilities where they obtain their injections<sup>[10]</sup> Thus, self injection will save women time and expense of repeated visits to healthcare providers and could increase continuation rates. Unfortunately, this new formulation is not yet available in most countries in the developing world.<sup>[10]</sup>

Though DMPA can be administered anytime it is certain a client is not pregnant; in our study, it was only administered within the first seven days of menstruation. The reason for this is not immediately obvious. However, DMPA is safe for breastfeeding mothers and may actually increase the quantity of breast milk and duration of lactation.<sup>[8]</sup> Hence, in a breastfeeding client its use can be initiated six weeks postpartum while in a non breastfeeding one, it can be initiated immediately.<sup>[23]</sup> It can also be administered immediately or within seven days (without a back up) after a first or second trimester miscarriage or abortion.<sup>[23]</sup>

There were no accidental pregnancies recorded during the period of the study. DMPA is one of the most effective methods of contraception with typical one-year pregnancy rates of 0.4% or lower.<sup>[6,7]</sup> Used correctly, it is as effective as female sterilization. The limitations of the study were the small sample size and that it was hospital based. However, it forms a baseline for further research.

## Conclusion

DMPA is a safe form of contraception that was mostly accepted by grandmultiparous women and those in their thirties. There is need to involve the print and electronic media in the propagation of information about DMPA to members of the community. The introduction of post-abortal and puerperal administrations of DMPA and the availability of the new formulation; depo-subQ provera would increase acceptance and use.

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