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■ Original Research Article

Perception of Self-Administration of Subcutaneous Depot Medroxy-Progesterone Acetate (Dmpa-Sc) Among Clients Attending Family Planning Clinic of Aminu Kano Teaching Hospital.

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ABSTRACT

Introduction: Injectable contraception is among the most popular modern methods and women's interest in it is growing. This is because of its effectiveness, reversibility, long action and potential for discreteness. However, it is one of the contraceptives difficult to access because it needs the availability of a health care worker to administer it. Objectives: To assess the knowledge of, the interest in, the prevalence of use of DMPA-SC and willingness of clients to use self-administered DMPA –SC. Cross-sectional survey**.** Methodology: A total of 423 women participated in the study. Data were obtained through a structured questionnaire and analyzed using SPSS Version 28.0.1. Descriptive statistics and Chi-square test were carried out. Results: The prevalence of use of DMPA- SC was found to be 6.6%, 22.2% were aware of DMPA-SC as a method of contraception, 57% had a good perception of DMPA-SC, and 29.3% are willing to use DMPA-SC for contraception. Participants with high income (≥150000) were more likely to know about DMPA-SC as a contraceptive (p-value 0.001), Participants who have ever used DMPA-SC and that are employed were found to be more willing to use DMPA-SC/SI (p-value 0.031)**.** Conclusion: This study demonstrated that only 22% of the respondents are aware of DMPA-SC, with a little over half having a good perception of it as a method of contraception. However, only 29% are willing to use DMPA-SC/SI as a method of contraception.

Keywords; Contraception, Subcutaneous, Injection

INTRODUCTION

Contraception is the intentional prevention of conception or impregnation through the use of various devices, agents, drugs, sexual practices or surgical procedures.[1]Injectable contraception is among the most popular modern methods and women's interest in it is growing. This is because of its effectiveness, reversibility, long action and potential for discreteness.[2]

Traditionally, Depot medroxy-progesterone acetate (DMPA) is a progestin only, injectable contraceptive administered every three months given intramuscularly (IM) in crystalline suspension of 150mg/ml. However, it is one of the contraceptives difficult to access because it needs the availability of a health care worker to administer it.[3]It also has the disadvantage of discontinuation due to frequent visits to the family planning clinic.[4]

In underdeveloped countries, it is estimated that about 18 million unsafe abortions occur every year, leading to high maternal mortality and morbidity.[5] On the other hand, unwanted birth also puts children's health and well-being in danger and contributes to rapid population expansion. One of the most important elements of safe parenthood and reproductive right is family planning.[5]

According to the Nigeria Demographic and Health Survey (NDHS) 2013, only 15% of currently married women use a contraceptive method, and only 10% of currently married women report using a modern method.[6],[7]

There is a wide gap between contraceptive usage in the urban and rural areas – 26.3 and 10%, respectively. [8]The 2013 NDHS showed that 3% of married women in Nigeria use injectable contraceptive, a total fertility rate of 6 per woman, and an annual population growth rate of 3.2%.[6] The low prevalence of contraception is said to be a major contributor to high maternal mortality ratio of 576 per 100,000 live births and maternal deaths of 32% of all deaths among women aged 15–49years.[9]

In 2004, the US Food and Drug Administration approved subcutaneous depot medroxy-progesterone acetate (DMPA-SC), which is administered more easily than intramuscular DMPA (DMPA-IM).[10] Available in single-use prefilled syringes with an attachable needle, DMPA-SC is injected into the tissue just under the skin with a finer, shorter needle than for DMPA-IM. As a result, those giving DMPA-SC injections require less training than that needed to provide DMPA-IM injections. [11]

DMPA-SC allows for a 30% lower dose of progestin than DMPA-IM (104 mg instead of 150 mg), but with the same duration of effect.[12] First, it may reduce late reinjections, thus improving continuation resulting in fewer unintended pregnancies and abortions.[13]

Second, offering self-administration would reduce the number of return visits, resulting in Decongestion health care facility and cost savings to the client. It is hoped that it will reduce the unmet needs of contraception.[14].[15]

Studies done on DMPA-SC examining the introduction of DMPA-SC in some pilot studies show high acceptability among users, high desire to continue with the method, and increased contraceptive continuation.[16]

The aim of the study was to assess the knowledge of the interest in, the prevalence of use of DMPA-SC and willingness of clients to use self-administered DMPA –SC.

The study objectives were as follows:

1. To assess knowledge and perception of clients on DMPA-SC for self- administration among clients attending Family planning Clinic of AKTH.
2. To assess the prevalence of use DMPA-SC among clients attending Family planning Clinic of AKTH
3. To assess the factors associated with current use of health worker administered DMPA-SC among clients attending Family planning Clinic of AKTH.
4. To assess the acceptability/ willingness to use DMPA-SC and the factors associated with willingness to self- administer DMPA-SC among clients attending Family planning Clinic of AKTH

METHODOLOGY

It was a cross-sectional study conducted in the family planning clinic of the obstetrics and gynaecology departments in Aminu Kano teaching hospital. Information was extracted via a self-administered Questionnaire over a period of 3months after selecting clients by systematic sampling system. Filled questionnaires were checked during collection on the field to ensure completeness, rule out missing information and ensure corrections are made before leaving the field on the same day. Data cleaning and checking was subsequently done to exclude incomplete, inaccurate and inconsistent data before analysis. Data obtained was analysed by the Statistical Package for Social Sciences (SPSS) version 28 (SPSS Inc., Chicago, IL, USA). Chi-square tests was used to compare differences between categorical variables. P-value was set at ≤5% (0.05) for consideration of statistical significance.

Ethical Consideration And Consent

Ethical approval was obtained from Hospital Research Ethics Committee.

RESULTS

The review was conducted from April 2022 to August 2022. During the review period, 423 clients were recruited. The mean age of the respondents was 30.5yrs ±6.3. The median parity was 3 range (1-10) with primipara constituting about 18.9% of the participants while multipara were 54.8% and grand multipara were 26.2%. The age range of the participants was 19-45years with mean age of 30.5yrs ±6.3. Most were Hausa by tribe (73%), majority were married (98.6%) with secondary (35.5%) and tertiary Education (57.9%). Housewives constituted 53%. A significant percentage of the participants have a household income of ≤ ₦50000 (79.2%) and 16.3% above ₦ 100,000 (table 1).

Among the respondents, 98.1% are currently on a contraceptive, while 63.1 % had previously used a method

of contraception. Of the methods used currently, use of IUD was highest (32.3%) followed by Implants (29%) and Injectables (19.5%).

Table 1: Sociodemographic characteristics of clients attending Family Planning Clinic of AKTH

Characteristics	Frequency n=423	Percentage
Age category (years)		
≤24	76	18.0
25 – 29	111	26.2
30-34	121	28.6
35-39	72	17.0
≥40	43	10.2
Mean ±SD	30.5 ± 6.3	
Tribe		
Hausa	309	73.0
Yoruba	15	3.5
Igbo	3	0.7
Fulani	74	17.5
Others	22	5.2
Marital Status		
Married	417	98.6
Divorced	5	1.2
Widowed	1	0.2
Education		
Primary	11	2.6
Secondary	150	35.5
Tertiary	245	57.9
None	17	4.0
Occupation		
Housewife	224	53.0
Trader	77	18.2
Civil servant	62	14.7
Teacher	44	10.4
Student	16	3.7
Household income (₦)		
<50,000	335	79.2
50,000- 99,999	69	16.3
100,000-149,999	11	2.6
≥150,000	8	1.9
Median (range)	20,000 (1,000 – 500,000)	
Parity		
Primipara	80	18.9
multipara	232	54.8
Grand multipara	111	26.2
Median (range)	3 (1 – 10)	

SD- Standard deviation

The prevalence of use of DMPA- SC was found to be 6.6%. Of the respondents only 22.2% were aware of DMPA-SC as a method of contraception, that it is an injectable contraceptive administered usually in the subcutaneous tissues of the thigh and available in the family planning unit. Out of those aware, 92.5% got the information from the health workers in the antenatal clinic and 5.3% from their friends.

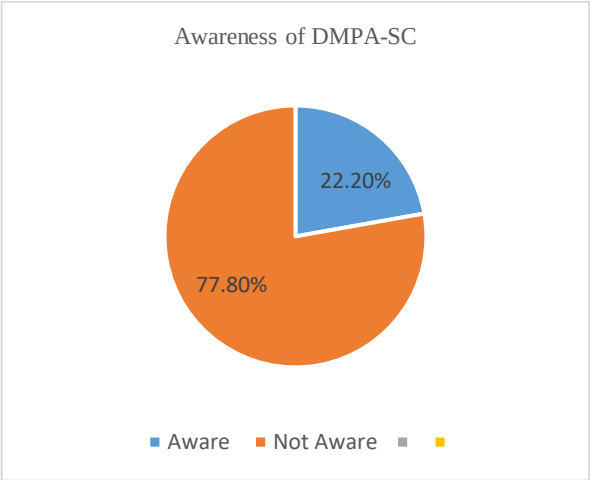

Figure 1: Knowledge of clients on DMPA-SC for self-administration among clients attending Family planning Clinic

Household income, type of current contraceptive used, previous use of DMPA-SC and current use of DMPA-SC were found to be statistically associated with knowledge of DMPA-SC. Those with higher income had better knowledge of DMPA-SC compared to those with lower income, those who have ever used DMPA-SC had better knowledge than those who used other methods.

After adjusting for confounding factors, using multivariate analysis, household income, previous use of DMPA-SC and current use of DMPA-SC remained statistically associated with knowledge of DMPA-SC. Those with income of ≥ N150,000 having 12 times the odds of having good knowledge on DPMA-SC compared to those earning less than N50,000. Those who have ever used DMPA-SC had better knowledge than those who have never used it.

At bivariate level marital status, previous use of DMPA-SC and current use of DMPA-SC were found to be associated with perception on DMPA-SC use. Those who are married and those who have ever used it have a good perception of DMPA-SC compared to those who are not married and those that have never used it. At multivariate level, only current use of DMPA-SC remained statistically associated with perception on DMPA-SC use after adjusting for previous use of DMPA-SC. Those that are currently using DMPA-SC had 10 times the odds of having good perception on DMPA-SC compared to those not currently using it with a P value of 0.018.

Table 2: Factors associated with knowledge of DMPA-SC among clients attending Family planning Clinic of AKTH at bivariate level

	knowledge of DMPA-SC			
Respondent Factors	Good (n=94)	Bad (n=329)	χ2 Value	P Value
Age(years)			2.116	0.714
≤ 24	16 (21.1)	60 (78.9)		
25 – 29	27 (24.3)	84 (75.7)		
30-34	25 (20.7)	96 (79.3)		
35-39	19 (26.4)	53 (73.6)		
≥ 40	7 (16.3)	36 (83.7)		
Tribe				
Hausa	73 (23.6)	236 (76.4)	1.305	0.253
Others	21 (18.4)	93 (81.6)		
Marital Status			Fisher's Exact	1.000
Married	93 (22.3)	324 (77.7)		
Divorced/ Widowed	1 (16.7)	5 (83.3)		
Education			5.958	0.114
Primary	3 (27.3)	8 (72.7)		
Secondary	31 (20.7)	119 (79.3)		
Tertiary	60 (24.5)	185 (75.5)		
None	0 (0.0)	17 (100.0)		
Occupation			8.823	0.066
Housewife	41(18.3)	183 (81.7)		
Trader	17 (22.1)	60 (77.9)		
Civil servant	20 (32.3)	42 (67.7)		
Teacher	14 (31.8)	30 (68.2)		
Student	2 (12.5)	14 (87.5)		
Household income (N)			15.993	0.001*
<50,000	66 (19.7)	269 (80.3)		
50,000- 99,999	18 (26.1)	51 (73.9)		
100,000-149,999	4 (36.4)	7 (63.6)		
≥150,000	6 (75.0)	2 (25.0)		
Parity			1.000	0.606
Primipara	18 (22.5)	62 (77.5)		
Multipara	55(23.7)	177(76.3)		
Grand multipara	21(18.9)	90(81.1)		
Previous Contraceptive Use				
Yes	59 (22.1)	208 (77.9)	0.007	0.936
No	35(22.4)	121 (77.6)		
Current method of Contraceptive				
OCPs	17 (25.4)	50 (74.6)	34.613	<0.001*
Injectables	15 (26.8)	41 (73.2)		
DMPA-SC	7 (100.0)	0 (0.0)		
IUD	14 (23.7)	45 (76.3)		
Implant	7 (8.5)	75 (91.5)		
Previous Use of DMPA-SC				
Yes	32(97.0)	1 (3.0)	115.700	<0.001*
No	62 (15.9)	328 (84.1)		
Current Use of DMPA-SC				
Yes	27 (96.4)	1 (3.6)	95.530	<0.001*
No	67 (17.0)	328 (83.0)		

Key: OR= Odds Ratio, CI=Confidence Interval, R=reference value

About 29.3% of the respondents expressed interest in using the DMPA-SC/SI formulation if introduced. The commonest reason for interest is that it will save Cost, followed by its convenience. For the respondents who are not interested, majority of them sited fear of needles as their reason, followed by fear of not injecting correctly.

At bivariate level, level of education, occupation, current method of contraceptive used, previous use of DMPA-SC, and current use of DMPA-SC were found to be statistically associated with willingness to use DMPA-SC. About one-third of those with secondary (28.7%) or tertiary education (33.1%) were willing to use DMPA-SC, compared to those with either primary or no formal education. About 35.5% of those gainfully employed are willing to use self-injectable DMPA-SC compared to only 24% of those unemployed. 69.7% those who previously used DMPA-SC and 75% of those currently using it are willing to use DMPA-SC/SI compared to only 25.9% and 26.1% of those that have never used or are currently not using it.

At multivariate level occupation, previous use of DMPA-SC and current use of DMPA-SC remained statistically associated with willingness to use DMPA-SC/SI after adjusting for confounding while Education was not statistically associated with willingness to use DMPA-SC/SI.

DISCUSSION

The study involves 423 women of the reproductive age group attending the family planning clinic of Aminu Kano Teaching Hospital. The mean age is different from a study done across Nigeria[2] and one done in the united states[11]. Majority were married this is different from the study done across Nigeria and in the United States where most of the respondents were single. This is likely due to the selection criteria, and the population of the respondents. In a study in US. Most women had obtained more than a high school education (63%), most were not married (89%) and had no children (63%).[11]

The prevalence of use of DMPA-SC was significantly lower than that found by Osinowo et al in a mixed study done in four states in Nigeria.[5] The number of clients that have ever used DMPA-SC in this study was found to be less than that found in another study by same author [18]. This is likely due to a sensitization program in the areas studied.

This study is similar to a study by Eremutha et al. where the major concerns by clients are the fear of potential side effects, drug interactions and costs.[2] Similar to a study in the US where, are interested in self-administration, the most common reasons were so that they could avoid returning to a health care provider, it would be less of a hassle, and they felt they could give themselves the injection. The most commonly reported reason for not being interested was women just did not want to give themselves an injection, followed by worry

about not being able to correctly self-inject and dislike of needles. [11]

Recommendations

1. Awareness needs to be raised on the availability, safety and efficacy of DMPA-SC as a method of contraception.
2. Awareness needs to be raised on the availability, safety and efficacy of DMPA-SC self-injectable as a method of contraception.
3. Health workers should be trained on how to teach interested clients how to procure the formulation, how to store and how to inject it. Including needle handling and safe methods of disposing them.
4. Self-injection of DMPA-SC should be integrated into the family planning method.
5. National guidelines and standards governing home self-injection of DMPA-SC, should be developed.

CONCLUSION

This study found a poor of knowledge and awareness among clients on DMPA-SC as a method of contraception and as a self-injectable method, despite that the study found a good perception among the populace with about 29% willing to use this method, therefore there is need to Develop an integration and implementation strategy across the country in public and private health facilities. Self-administration of injections is safe and feasible, as it is being used in the management of medical conditions like diabetes, infertility. Self-administration of contraceptive can help women avoid gaps in contraceptive coverage, reduce unintended pregnancies.

REFERENCES

1. Akadri AA, Odelola OI. Progestogen-only injectable contraceptive: Acceptor prevalence and client experience at Sagamu, Nigeria. Niger Postgrad Med J 2017;24:178-81
2. Eremutha F, Gabriel VC. Awareness, knowledge, and perception about Sayana Press® contraceptive technology in Nigeria. Trop J Obstet Gynaecol 2019;36:459-64
3. Burke HM, Chen M, Buluzi M, Fuchs R, Wevill S, Venkatasubramanian L, et al. Factors affecting continued use of subcutaneous depot medroxyprogesterone acetate (DMPA-SC): A secondary analysis of a 1-year randomized trial in Malawi. Glob Heal Sci Pract. 2019;7(1):54–65.
4. Phiri J, Smith GM, Tembo F, Silungwe G, Mutombo N, Mwape DN, et al. of subcutaneous depot medroxyprogesterone acetate through use of community-based distributors in Gates Open Research. 2020;1–22.
5. Osinowo K. Self-injected Depot–Medroxyprogesterone Acetate Subcutaneous (DMPA-SC) Uptake in Nigeria: A Paradigm Shift. Texila Int J Acad Res. 2021;8(3):80–101.
6. NDHS. Nigeria Demographic and Health Survey 2008, National Population Commission federal Republic Of Nigeria Abuja, Nigeria ICF Macro Calverton, Maryland , USA. 2008.
7. Ijarotimi AO, Idowu BS, Sowemimo OO, Adeyemi AB, Orji EO. A review of clinical experience with progesterone- only injectable contraceptives at OAUTHC, Ile-Ife. Trop J Obstet Gynaecol 2018;35:170-6.
8. NPC, ICF. The Federal Republic of Nigeria Nigeria Demographic and Health Survey 2018 National Population Commission Abuja, Nigeria.2019. Available from: www.DHSprogram.com.
9. Akinyemi O, Harris B, Kawonga M. Health system readiness for innovation scale-up: The experience of community-based distribution of injectable contraceptives in Nigeria. BMC Health Serv Res. 2019;19(1):1–11.
10. Williams RL, Hensel DJ, Dennis J. Self-administration of subcutaneous depot medroxyprogesterone acetate by adolescent women. PMC 2014 ; 88(3): 401–407
11. Upadhyay UD, Zlidar VM, Foster DG. Interest in self-administration of subcutaneous depot medroxyprogesterone acetate in the United States. Contraception. 2016 Oct 1;94(4):303-13.
12. Katz M, Newmark RL, Aronstam A, Grady NO, Strome S, Rafie S, et al. Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID- 19 . The COVID-19 resource centre is hosted on Elsevier Connect , the company ' s public news and information . 2020;(January).
13. Liu J, Shen J, Diamond-Smith N. Predictors of DMPA-SC continuation among urban Nigerian women: the influence of counseling quality and side effects. Contraception [Internet]. 2018;98(5):430–7. Available from: https://doi.org/10.1016/j.contraception.2018.04.015
14. Schatzkin E, Afolabi K, Adedeji O, Kongnyuy E, Shen J, Liu J. Lessons learned from a public sector community-based distribution program for scaling up DMPA-SC contraceptive services in Nigeria. Gates Open Res. 2019;3(May):1500.
15. Upadhyay UD, Zlidar VM, Foster DG. Interest in self-administration of subcutaneous depot medroxyprogesterone acetate in the United States. Contraception. 2016 Oct;94(4):303-13. doi: 10.1016/j.contraception.2016.06.006. Epub 2016 Jun 17. PMID: 27326938.
16. Kennedy CE, Yeh PT, Gaffield ML, Brady M, Narasimhan M. Self-administration of injectable contraception: A systematic review and meta-analysis. BMJ Glob Heal. 2019;4(2):1–13.
17. Nai D, Aboagye P, Fuseini K, Tobey E, Jain A, Maresh N, et al. Introduction of DMPA-SC self-injection in Ghana: A feasibility and acceptability study using Sayana® Press. Reprod Health. 2020;
18. Osinowo K, Fintirimam SD, Ojomo O, Ladipo O, Ojo P, Majiyagbe T, Ishaya E, Sagbo L. Knowledge, Perception, and Practice of DMPA-SC/Self-Injectable Contraceptive among Women: Findings from Mixed-Method Study in South-West and North-Central, Nigeria. communities.;7:8