

HORMONAL CONTRACEPTIVE UPTAKE AND SOCIO-DEMOGRAPHIC PATTERN OF ACCEPTORS IN A FAMILY PLANNING CLINIC OF A TERTIARY HEALTH FACILITY IN RIVERS STATE, NIGERIA.

Abstract:

Background: Hormonal methods of birth control are a safe and reliable way to prevent pregnancy for most women. Their uptake rate in comparison to other contraceptive methods in our environment has not been well documented.

Objective: To determine the uptake of hormonal contraceptives and assess socio-demographic characteristics related to the choice, among acceptors in a tertiary health facility in Rivers State.

Methodology: A hospital-based cross-sectional study was adopted. A sample size of 124 was used. New clients were consecutively recruited over a 12-month period. Demographic data (age, parity, educational level, marital status) and contraceptive-related data (choice of contraceptive method, reasons for use) were obtained and analyzed using SPSS version 20.0.

Results: A total of 124 new female clients were recruited with median age of 34 years. Of these, 92(74.2%) accepted hormonal methods while 32 (25.8%) chose non-hormonal methods. Among the hormonal contraceptive acceptors, 94.6% (n=87) used implants, 4.3% (n=4) used injectable and 1.1% (n=1) used oral contraceptive pill. Bivariate analysis of socio-demographic factors and hormonal uptake among the acceptors was statistically significant for marital status, educational level and reason for contraception.

Conclusion: we found a substantial uptake of hormonal contraceptives, mainly implants. The uptake was particularly pronounced among married women with higher educational level and whose reason for contraception is completed family size.

Key Words: Hormonal contraceptives, Contraceptive uptake, New Acceptors, tertiary Hospital, Rivers State

Introduction:

Hormonal methods of birth control contain estrogen and progestin, or progestin only; they are a safe and reliable way to prevent pregnancy for most women. Hormonal methods include subdermal implants, injectable, pills, Mirena IUCD, vaginal ring or skin patch. Non hormonal methods include copper IUCD, condoms, cervical cap, diaphragm, and sponge.

Hormonal contraception, particularly oral pills and injectable (depot medroxyprogesterone acetate), is the most popular and widely available form of contraception in Kenya [1]. It is also a safe and effective form of contraception for HIV-1-infected women [2].

Contraceptive implants are one of the most effective family planning methods available and well-accepted worldwide [3][4]. They are long term hormonal contraceptives and a better option for women in sub-Saharan Africa due to its effectiveness and convenience [5][6]. Jadelle is a set of two flexible cylindrical implants, each containing 75 micrograms of progestin-levenorgestrel, while the Implanon contains 68 micrograms of Etonogestrel [7]. They are sealed with adhesives, sterilized and inserted in a

superficial plane beneath the skin of the upper arm under aseptic condition and can be effective for five years in the case of Jadelle but three years for Implanon [8][9]. Unlike other hormonal delivery systems, they do not cause unnecessary peaks in progestin levels and do not use estrogen, and thus their health risks are minimal [10][11].

The injectable contraceptive method was the most preferred method of birth control among women of reproductive age group in Warri (South-South), South-Eastern and Kano (Northern) Nigeria [12][13][14]. Injectable contraceptive was also the method of choice among women seeking terminal fertility control in South-Western Nigeria [15].

Contrary to the forgoing, intrauterine contraceptive device was the most chosen method in 74.6% of the married women attending family planning of a tertiary institution in Oshogbo, Nigeria [16].

Studies elsewhere have reported high levels of hormonal contraceptive utilization in various groups [17][18][19]. The uptake rate of hormonal contraceptives in comparison to other contraceptive methods in our environment has not been well documented. This study seeks to determine the uptake of hormonal contraceptives and assess socio-demographic characteristics related to the choice, among acceptors in a tertiary health facility in Rivers State.

Methodology:

A hospital-based cross-sectional study was adopted. Using the formula for cross-sectional studies [20], a sample size of 124 was attained based on the alpha level of 0.05, contraceptive uptake of 15% in Nigeria from 2013 Demographic Health Survey (DHS) [21], precision of 7.5% and non-response rate of 30%.

New clients at the family planning clinic were consecutively recruited over a 12-month period. Demographic data (age, parity, educational level, and marital status) and contraceptive-related data (choice of contraceptive method and reasons for use) were obtained in the study. Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 20.0.

The hormonal contraceptive uptake among the new clients at the family planning clinic was expressed in percentages. Bivariate analysis employed Chi square/Fisher's exact statistics in determining significant differences in the demographic pattern. Statistical significance was set at $P < 0.25$ for bivariate analysis.

Statistically significant variables on bivariate analysis were entered into a multivariate analysis model. Multivariate analysis was done using unconditional binary logistic regression model. The dependent variable was hormonal contraceptive uptake (categorized as Yes/No) while the demographic characteristics and reasons for contraceptive use comprised the independent variables. Odds ratio and 95% confidence intervals were determined and $P < 0.05$ following multivariate analysis were considered statistically significant.

Results:

The study comprised of a total of 124 new female clients with median age of 34 years and an age range of 20 to 49 years. Of these, 92(74.2%) accepted hormonal methods while 32 (25.8%) chose non-hormonal methods (Fig 1). For the non-hormonal contraceptive acceptors in the study, 100% (n=32) all used the Copper T intrauterine contraceptive device while among the hormonal contraceptive acceptors, 94.6% (n=87) used implants, 4.3% (n=4) used injectable and 1.1% (n=1) used oral contraceptives (Fig 2).

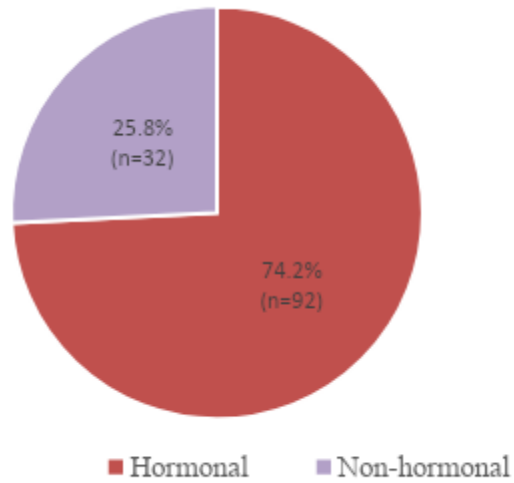


Fig 1: Distribution of type of contraceptive accepted by the clients

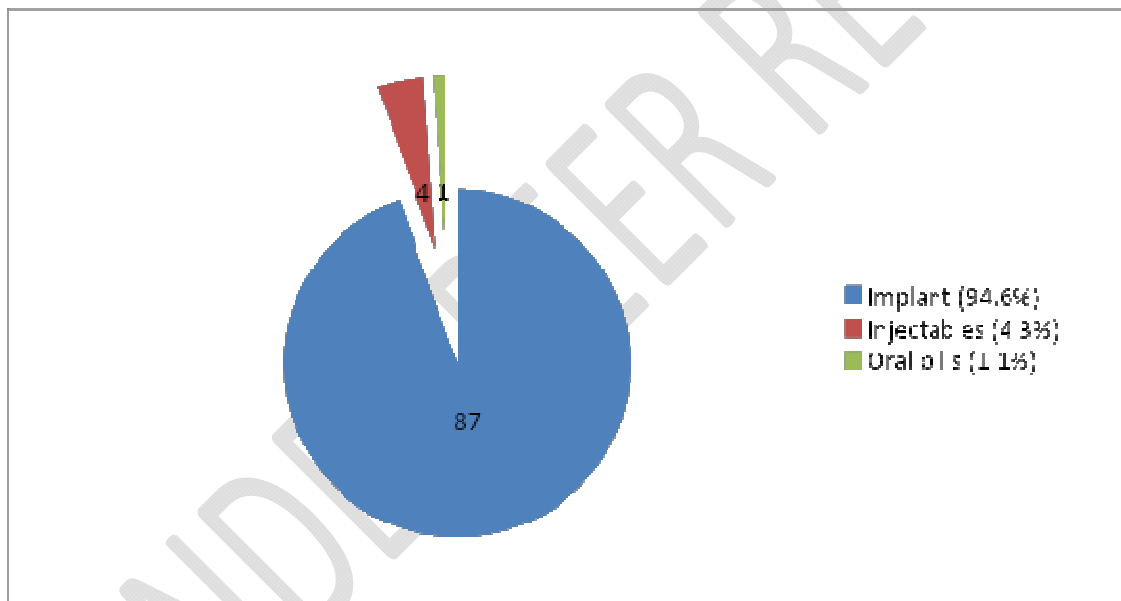


Fig 2: Distribution of hormonal contraceptive accepted by the clients

Table 1 shows the socio-demographic profile of clients, majority of whom had secondary education & above (90.3%); were married (93.4%) and had parity of 3 & above (71.8%). Majority of the clients (55.7%) also had completed family size as their reason for contraception. Bivariate analysis of socio-demographic factors and hormonal uptake among the acceptors was statistically significant ($p < 0.25$) for marital status, educational level and reason for contraception; however these were not statistically significant ($p < 0.05$) on multivariate analysis as shown in Table 2.

Table 1: Socio-demographic characteristics and uptake of hormonal contraceptive (Bivariate Analysis):

Hormonal uptake

Variables	Yes n (%)	No n (%)	Total n (%)
Age category			
≤ 34 years	51 (72.9)	19 (27.1)	70 (100.0)
> 34 years	41 (75.9)	13 (24.1)	54 (100.0)
	<i>Chi-Square = 0.150; P = .699</i>		
Educational level			
Below secondary	9 (75.0)	3 (25.0)	12 (100.0)
Secondary & higher	83 (74.1)	29 (25.9)	112 (100.0)
	<i>Fisher's exact P = 1.000</i>		
Marital status			
Married	85 (72.6)	32 (27.4)	117 (100.0)
Single	7 (100.0)	0 (0.0)	7 (100.0)
	<i>Fisher's exact P = .189*</i>		
Parity			
Para ≤ 2	29 (82.9)	6 (17.1)	35 (100.0)
Para > 2	63 (70.8)	26 (29.2)	89 (100.0)
	<i>Chi-Square = 1.912; P = .167*</i>		
Completed family size			
Yes	48 (69.6)	21 (30.4)	69 (100.0)
No	44 (80.0)	11 (20.0)	55 (100.0)
	<i>Chi-Square = 1.740; P = .187*</i>		
Child spacing			
Yes	42 (79.2)	11 (20.8)	53 (100.0)
No	50 (70.4)	421 (29.6)	471 (100.0)
	<i>Chi-Square = 1.234; P = .267</i>		

*Statistically significant $P < 0.25$

Table 2: Socio-demographic characteristics and uptake of hormonal contraceptive (Multivariate Analysis)

Multivariate analysis of socio-demographic variables ($P < 0.25$ on bivariate analysis) and hormonal uptake among family planning acceptors

Variables*	Coefficient(B)	Odds ratio (OR)	95% CI	p value
Parity				

Para > 2	0.477	1.61	0.45 – 5.83	0.467
----------	-------	------	-------------	-------

Para ≤ 2 ^R		1	1	
-----------------------	--	---	---	--

Completed family size

Yes	0.287	1.33	0.45 – 3.96	0.605
-----	-------	------	-------------	-------

No ^R		1	1	
-----------------	--	---	---	--

**Marital status not included in the multivariate analysis model due to the presence of zero in one of cross tabulation cells R-Reference category; CI-Confidence interval (Finding not statistically significant @, P<0.05).*

Discussion:

Our study shows that the uptake of hormonal contraceptives at our Centre as a percentage of all acceptors was high (74.2%). This is similar to the findings by Abaasa A. et al [18] of 51.1% and Balkus J. et al [19] of 72%. Of the new hormonal contraceptive users, a huge majority, 87 (94.6%) accepted the subdermal implantable methods above the rest. This is contrary to the findings of the above studies where a majority of their acceptors chose the injectable, followed by the contraceptive pills, above the implants. Other studies [17][22] also recorded a low uptake of implants.

The high uptake of the implants in our study may be attributed to the fact that it is readily available in our Centre; there is no lack of medical personnel skilled at insertion and the reason for contraception, which is mainly, completed family size, demanding long-acting methods. The non-availability of the commodity at the time of counseling and sometimes lack of medical personnel that is skilled at implant insertion when needed makes its need to be unmet in some Centers [17].

Uptake of hormonal contraceptive was higher among the younger age group just like in other studies [18]; however, this was not statistically significant when compared to the non-acceptors. Majority of our clients were highly educated with 90.3% haven attained secondary education and above. Both younger age group and lower educational status have been associated with lower contraceptive use in Uganda [23].

Bivariate analysis of socio-demographic factors and hormonal uptake among the acceptors was statistically significant (p<0.25) for marital status, educational level and reason for contraception; however these were not statistically significant (p<0.05) on multivariate analysis. Like this study, marital status was associated with hormonal contraceptive use in the study by Balkus J. et al [19].

Conclusion:

We found a substantial uptake of hormonal contraceptives, mainly implants, among women attending our family planning clinic. The uptake was particularly pronounced among married women with higher educational level and whose reason for contraception was completed family size. Promotion and provision of hormonal contraception greatly increases the proportion of women using a reliable method of contraception.

References:

1. Kenya Demographic and Health Survey. 2003. Available at: <http://www.cbs.go.ke>
2. WHO. Medical Eligibility Criteria for Contraceptive use. 3rd ed. Geneva. World Health Organization; 2004.
3. National Population Commission, NDHS (2008) National Population Commission. ORC Marco, Calverton.
4. Engender Health (2011) SEED Assessment Guide for Family Planning Programming. Engender Health, New York. <http://www.engenderhealth.org/pubs/family-planning/seed-assessment-guide-for-family-planning.php>
5. Hubacher D; Olawo A; Manduka C; Kiare J; (2011). Factors associated with uptake of Subdermal Contraceptive Implants in a young Kenyan Population. *Contraception*, 84, 413-417. <http://dx.doi.org/10.1016/j.contraception.2011.02.007>
6. Ladipo OA; Akinso SA; (2005) Contraceptive Implants. *African Journal of Reproductive Health*, 9, 16-30. <http://dx.doi.org/10.2307/3583156>
7. Ali MM; Cleland J; Shah IH; (2012) Causes and Consequences of Contraceptive Discontinuation: Evidence from 60 Demographic and Health Surveys. World Health Organization, Geneva.
8. Darney PD; (1994) Hormonal Implants: Contraception for a New Century. *American Journal of Obstetrics and Gynecology*, 170, 1536. [http://dx.doi.org/10.1016/s0002-9378\(94\)05016-7](http://dx.doi.org/10.1016/s0002-9378(94)05016-7)
9. (1993) Bangladesh Institute of Research for Promotion of Essential & Reproductive Health and Technologies, Dhaka, 47, 569-582.
10. Jacobstein R; (2009) Fostering Change in Medical Settings: Some Considerations for Family Planning Programmes. *IPPF Medical Bulletin*, 43, 3-4.
11. Wickstrom J; Jacobstein R; (2011) Contraceptive Security: Incomplete without Long-Acting and Permanent Methods of Family Planning. *Studies in Family Planning*, 42, 291-298. <http://dx.doi.org/10.1111/j.1728-4465.2011.00292.x>
12. Oghenekaro AV. Contraceptive choice amongst women in Warri, Nigeria. *Int. J Life Sci Pharma Res* 2012; 2: 35-9.
13. Chigbu B, Onwere S, Aluka C, Kamanu C, Okoro O, Feyi-Waboso P. Contraceptive choices of women in rural South-Eastern Nigeria. *Niger. J Clin Pract.* 2010; 13: 195-9.
14. Yakasai IA, Yusuf AM. Contraceptive choices amongst women in Kano, Nigeria: A five year review. *J Med Trop* 2013; 15: 113-6.
15. Adekunle DA, Afolabi AF, Adeyemi AS. Terminal fertility control: Clients own reason for the choice of the contraceptive method. *Open J Obstet Gynecol* 2013; 3: 706-9.
16. Adeyemi AS, Adekule DA, Komolafe JO. Pattern of contraceptives choice among the married women attending the family planning clinic of a tertiary health institution. *Niger J Med* 2008; 17: 67-70.
17. Madugu NH; Abdul MA; Bawa U; Kolawole B; (2015) Uptake of Hormonal Implants Contraceptive in Zaria, Northern Nigeria. *Open Journal of Obstetrics and Gynecology*, 5, 268-273. <http://dx.doi.org/10.4236/ojog.2015.55039>

18. Abaasa A; Gafos M; Anywaine Z; Nunn A; Crook A; et al. Uptake of Hormonal Contraceptives and correlates in a phase III clinical trial in rural South Western Uganda. *Reproductive Health* (2017) 14:36. <http://dx.doi.org/10.1186/s12978-017-0296-3>
19. Balkus J; Bosire R; John-Stewart G; Mbori-Ngacha D; Schiff MA; et al. High Uptake of Postpartum Hormonal Contraception Among HIV-1-Seropositive Women in Kenya. *Sex Transm Dis.* 2017; 34(1): 25-29. <http://dx.doi.org/10.1097/01.olq.0000218880.88179.36>.
20. Kirkwood BR, Sterne JAC. Sample size determination. *Essential Medical Statistics 2nd Edition.* Blackwell Publishers, United Kingdom. p.155
21. Maryland, USA; 2014. National Population Commission (NPC) Nigeria and ICF International. Nigeria Demographic and Health Survey 2013. Abuja, Nigeria, and Rockville
22. Hubacher D; Mavranezouli I; McGinn E; (2008) Unintended Pregnancy in Sub-Saharan Africa: Magnitude of the problem and Potential Role of Contraceptive Implants to alleviate it. *Contraception*, 78, 73-78
23. Uganda Bureau of Statistics. Uganda Demographic and Health Survey 2011