**Demand For Long and Short Acting Modern Contraceptives Among Women Accessing Family Planning Services at a Cottage Hospital in Niger Delta, Nigeria – a Retrospective Review.**

**Abstract**

**Background:** The use of modern contraceptive devices is a proven cost-effective method for Family planning (FP) and for preventing pregnancy. This study examines the demands for Short-acting Reversible contraceptives (SARC) and Long-Acting Reversible Contraceptive (LARC) at the Obio Cottage Hospital, Port Harcourt, South-South, Nigeria

**Method**: This was a cross-sectional review of the records of 2499 clients who accessed family planning services at Obio Cottage Hospital between June 2021 and May 2023. A proforma was developed and used to extract the required information from the family planning records. The data obtained were analysed using SPSS Windows Version 25. Descriptive analysis was done for relevant variables and Chi-Square was used to test for associations. The level of significance was set at p < 0.05

**Result:** The mean age of FP uptake was 34.21+5.7. Most of the clients were multiparous women who preferred LARC (67.5%). Two fifth of the clients (1013) demanded for the hormonal implants, while 675 (27%) preferred IUCD, 259 (10.4%) Sayana Press, 187(7.5%) male condoms, 164 (6.6%) combine oral contraceptives, 133 (5.3%) and Depo Provera and 64 (2.6%) Noristerat. Only 7 (0.3%) adolescents accessed the FP services while just 48 (1.98%) of the clients had a postpartum family planning service. There was a statistically significant association between the parity of the clients and preference for SARC or LARC (X2 =25.36, p=0.001).

**Conclusion/ Recommendation**: The LARCs- hormonal implants and IUCD were the most preferred FP method, and mainly utilized by multiparous women. There were low adolescent and post-partum FP services. There is a need to increase access to these services at this cottage Hospital.

**Key words-** LARC, SARC, Implant, IUCD, Contraceptive, Obio cottage Hospital

**Introduction**

The use of modern contraceptive devices is a proven cost -effective method for child spacing and Family planning.1 This reliable public health measures are quintessential especially in middle to low- income countries with limited resources. 2. There are many different types of contraception, but not all types are appropriate for all situations. The most appropriate method of family planning depends on an individual's overall health, age, frequency of sexual activity, number of sexual partners, desire to have children in the future, and family history of certain diseases such as hypertension, diabetes, venous thromboembolism, cerebrovascular accidents including smokers and those above the age of 35 years.3

Long-acting reversible contraceptives (LARCs) are a type of modern contraceptive devices that provide effective and convenient contraception for an extended period of time. Unlike short-acting methods like pills, patches, or condoms, while some LARCs can last 3-10 years, there are LARCs products that can last up to 12 years depending on the individual client factors. They have a Long-term convenience depending on the type, eliminating the need for daily or weekly contraception This has made the demand for the LARCs to be popular choice among women of reproductive age group seeking an efficient, long acting and reliable contraception. 4

There are two main types of LARCs: intrauterine devices (IUDs) and implants. IUDs are small, T-shaped devices inserted into the uterus by a trained healthcare provider. Some IUDs have additional hormonal component and together with the inflammatory effect exerted by the copper, effectively prevent ovulation and consequently pregnancy.4, 5 Implants, on the other hand, are thin, flexible rods inserted under the skin of the upper arm, releasing a steady dose of hormone to prevent ovulation. LARCs are highly cost effective. They offer more than 99% effectiveness in preventing pregnancy, making them one of the most reliable forms of contraception. 6. They are also reversible and easy to maintain. 7 As access and awareness continue to grow, LARCs are likely to become an increasingly popular choice for contraception. 8

Another modern contraceptive device are the short-acting Reversible contraceptives (SARCs). As the name implies these are ideal for individuals who want to control their fertility for a short duration. SARC are highly flexible, reversible easy to use and cost-effective. 9

But they have very limited duration, user dependent and offer limited protection against sexually transmitted infections (STIs). 10 The devices used for SARC include barrier method such as the male and female condoms, contraceptive diaphragm, sponges, cervical caps, oral contraceptive pills (OCPs), vaginal rings or use of Hormonal injections given every few months to prevent ovulation. 11 These devices have varying ranges of effectiveness. Some SARC such as the progestin only pills (POPs) are taken daily and the contraceptive effectiveness is as long as the pills is taken, condoms are effective during sexual intercourse if they are used appropriately. 12 The cervical caps and female diaphragm effectiveness can last between 6-48 hours depending the kind of spermicide content of these devices. The demand for both LARCs and SARCs exists in developing countries, driven by multi-dimensional factors including government support, convenience and accessibility. 12

The Nigeria National Demographic and Health survey conducted in 2024 revealed that the unmet need for family planning among the women of reproductive age group has remained stagnant (21-22%) for more than three decades (1990-2024). 13 The country also has a low contraceptive prevalence rate (CPR) of 20% among currently married women, while just half of the sexually active unmarried women would use a contraceptive device. This high-risk sexual practice has exposed these sexually active young women to the danger of unwanted pregnancy, sexually transmitted infections, unsafe abortions and the attendant complications of severe sepsis, multiorgan damage, uterine perforation, severe haemorrhage and death. It is also known that poor family planning practice can have grave socioeconomic implications including poverty, maternal and child malnutrition, increased dependency ratio, increased social inequality and strain on social and public health services 14

This study therefore, reviews the family planning data at Obio cottage Hospital, Port Harcourt a Shell- Petroleum Development Company- Joint Venture supported facility with the view to determine the pattern and determinants of family planning uptake among the clients accessing the FP services at the facility. The understanding of the contraceptive uptake and the influencing factors at this level of health care service delivery will help to plan for the appropriate programme interventions to improve both the quality and uptake of FP services at the facility. These contraceptive options can help meet the unmet need for family planning and improve the reproductive health outcomes.

**Methodology**

This study was a retrospective, cross-sectional review of the records of 2499 clients who accessed family planning services at the Obio Cottage Hospital, Port Harcourt, between June 2021and May 2023. The Obio Cottage Hospital started as a Primary Health Centre in 1978. It is one of the eighteen Shell Petroleum Development Company (SPDC) supported, government -owned health facilities. Shell, through its community health department successfully established a community-based health insurance scheme in the facility that has been self-sustaining for over ten years. The hospital is a 49 -bedded facility serving communities in the Obio-Akpor Local Government Area (LGA), Rivers State, Nigeria. 15,16 The projected population of the LGA in 2020 was 742,238, where children 0-9 years constituted 22.7% of the population, depicting the high fertility rate in the LGA.17,18 The study population were women of reproductive age group (15-49 years) who accessed FP services at the facility. The inclusion criteria were the clients whose FP information such as the socio- demographic profile, parity, type facility and type of contraception were available in the family planning record. The study excluded those with incomplete or missing relevant data.

A proforma was developed and used to extract the required information about the clients from the family planning records, data of 2499 clients were used for the study and this were initially collated into an excel file. The data were later exported into the IBM SPSS Statistics for Windows, Version 25.0. (Armonk, NY: IBM Corp) and the StataCorp STATA/SE 14 (StataCorp.2011; Stata Statistical Software: Release 12, College Station, TX; StataCorp LP) for data analysis. The frequencies and the percentages of the socio- demographic and clinical profiles of the patients were computed. For the bivariate analysis, chi-square was used to determine the factors associated with the uptake of the FP methods. The level of statistical significance was set at p < 0.05. The Ethical approval to conduct the study was obtained from the Health Ethics Research Committee of the Rivers State Ministry of Health

**Result**

The result showed that majority of the clients at the FP clinic were aged 30-39 years, with a mean age of 34.21±5.7. They were predominantly from the urban settlements. Most of the clients were multiparous women who presented routinely for family planning at the hospital. Majority, 1688 (67.5%) preferred the LARC method of contraception. A total of 1013 (40.5%) preferred hormonal implants, while 675 (27%) opted for intrauterine contraceptive device (IUCD), only 259 (10.4%) had Sayana Press, while 187(7.5%) demanded for the male condoms for their spouse/sexual partners 164 (6.6%) took the combine oral contraceptives, 133 (5.3%) requested for the Depo Provera, 64 (2.6%) had Noristerat, only 4 clients (0.2) preferred to use the female condom. The total uptake for SARC was 32.6%. (Table 1).

The study showed in Table 2 that there was a statistically significant association between parity and demand for either a LARC or SARC (X2 =25.36, p=0.001). More multiparous women 1559 (68.9%) demanded for LARC compared to SARC 702 (31.1%) TABLE 2

There was no statistically significant association between the age group ( X2=0.28, p=0.6), place of residence ( X2=2.17, p=0.14), , being a new contraceptive acceptor or coming for a revisit ( X2=2.13, p=0.15), routine FP uptake or as post-partum Family planning (PPFP) ( X2=1.26, p=0.26),, levels of blood pressure, ( X2=0.36, p=0.55), body mass index (X2=1.14, p=0.78), and preference for SARC OR LARC .

Table 3 further revealed that the major users of combined oral contraceptives (84.8%), hormonal implants (90.6%), Depo provera, Sayana Press (91.5%), female condom (100%) and IUCD (95%) were the multiparous women. This was also statistically significant (*X*2= 113.3, p=0.001).

**Discussion**

Most of the women in this study had the hormonal implant and IUCD, which are LARC compared to the SARC. Intrauterine devices (IUDs) and hormonal implants have been shown to be the most effective reversible methods of contraception. Previous studies showed that they were approximately 20 times as effective as SARC like the contraceptive pills, patches, and rings.19 This implies that the clients who attended the FP clinics at the Obio Cottage Hospital were adequately counseled and informed about the superior effectiveness of long-acting reversible contraception (LARC) methods. The LARCs (IUDs and hormonal implants) are safe for women, including adolescents and those who are in the postpartum or postabortion period.20 The LARCs are also easy to use, and they can last up to 3-5 years. They have also been described as *forgettable contraceptives; 20* these are devices that once inserted the user enjoys the contraceptive effects and can forget about them until the expiry date, no need for any scheduled therapy or clinic revisits.

This study also revealed that most of the women who accessed the FP services for LARCs or SARCs were the older women in the age group 34-39 years. They were mostly multiparous women who wanted the contraception for birth-spacing rather than for child limiting. 21 There was no record of the use of a permanent method of contraception. This is consistent with previous findings in Africa where women would not accept this method of contraception due to the sociocultural desire for many children. 22-23

Very few adolescents accessed the FP clinic for either SARC or LARC. Previous studies have also highlighted the barriers to uptake of a family planning method by adolescents in developing countries. 24 The barriers to accessing the LARC (IUDs and hormonal implants) in poor resource settings are those related to education, provider training, cost, and logistics.24 Successful interventions have been shown to minimize these barriers. Adolescents and adult women should be counseled about contraception and should have access to the full range of contraceptive methods, including LARC methods 25

Some women were afraid of side effects of IUDs and hormonal implants such as change bleeding patterns. Anticipatory counselling by FP health workers about expected changes when on a modern contraceptive device will increase the uptake of the FP devices. 26

Postpartum Family planning (PPFP) service utilization was very low in this study; less than 2% of the clients had a PPFP service. There is a need for the health workers in the maternity unit of this cottage hospital to ensure that women had counselling session on PPFP

post- delivery. 26 Blood pressure (BP) checks and Body mass index (BMI) as done for FP clients in this cottage hospital were very appropriate as these might guide the attending health workers on the appropriate choices of contraceptives during the FP counselling sessions, although the findings of this study did not demonstrate any statistically significant difference in the use of SARC or LARC for different levels of BP or BMI. 27

This study is not without limitations. The limitations in this study are that associated with the use of secondary data; the routine FP data collected were limited in the number of explanatory variables and there were some missing and incomplete data. This study findings are also limited

**COMPETING INTERESTS DISCLAIMER:**

Authors have declared that they have no known competing financial interests OR non-financial interests OR personal relationships that could have appeared to influence the work reported in this paper.

**References**

1. Enden MR, Tolla MT, Norheim OF. Providing universal access to modern contraceptive methods: An extended cost-effectiveness analysis of meeting the demand for modern contraception in Ethiopia. Social Science & Medicine. 2021 Jul

1; 281:114076.

1. Krug C, Neuman M, Rosen JE, Weinberger M, Wallach S, Lagaay M, Punton M, Prakash A, Nsanya MK, Ayieko P, Kapiga S. Effect and cost-effectiveness of human-centred design-based approaches to increase adolescent uptake of modern contraceptives in Nigeria, Ethiopia and Tanzania: population-based, quasi-experimental studies. PLOS Global Public Health. 2023 Oct 18;3(10):e0002347.
2. Serfaty D. Update on the contraceptive contraindications. Journal of gynecology obstetrics and human reproduction. 2019 May 1;48(5):297-307.
3. Winner B, Peipert JF, Zhao Q, Buckel C, Madden T, Allsworth JE, Secura GM. Effectiveness of long-acting reversible contraception. New England Journal of Medicine. 2012 May 24;366(21):1998-2007.
4. Jumbo CH, Muhammad RB, Adewole ND, Isah DA, Offiong RA, Abdullahi HI. Uptake of long-acting reversible contraceptives in north central Nigeria: a five-year review. International Journal of Research in Medical Sciences. 2021 May;9(5):1335.
5. Aduloju OP, Akintayo AA, Adefisan AS, Aduloju T. Utilization of long-acting reversible contraceptive (LARC) methods in a tertiary hospital in southwestern Nigeria: A mixed methods study. The Journal of Obstetrics and Gynecology of India. 2021 Apr; 71:173-80.
6. Shrestha S, Hannah F. Improving Access to Long-Acting Reversible Contraception in the Primary Care Setting. The Journal for Nurse Practitioners. 2024 May 1;20(5):104988.
7. Menon S, Alderman EM, Chung RJ, Grubb LK, Lee J, Powers ME, Upadhya KK, Wallace SB. Long-acting reversible contraception: specific issues for adolescents. Pediatrics. 2020 Aug 1;146(2).
8. Saldanha N. Use of short acting reversible contraception in adolescents: the pill, patch, ring and emergency contraception. Current problems in pediatric and adolescent health care. 2018 Dec 1;48(12):333-44.
9. Derefinko KJ, Ashby S, Hayes T, Kaplan C, Bursac Z, García FI, Madjlesi A, Tonkin L, Bowden M, Popescu F, Waters T. Sexually transmitted infections and contraceptive use in adolescents. American journal of preventive medicine. 2020 Apr 1;58(4):536-46.
10. Colquitt CW, Martin TS. Contraceptive methods: A review of nonbarrier and barrier products. Journal of pharmacy practice. 2017 Feb;30(1):130-5.
11. Hubacher D, Spector H, Monteith C, Chen PL, Hart C. Long-acting reversible contraceptive acceptability and unintended pregnancy among women presenting for short-acting methods: a randomized patient preference trial. American journal of obstetrics and gynecology. 2017 Feb 1;216(2):101-9.
12. National Population Commission (NPC) [Nigeria] and ICF International: Nigeria Demographic and Health Survey. In*.* Abuja, Nigeria and Rockville, Maryland, USA: NPC and ICF International.; 2023-2024
13. Götmark F, Andersson M. Human fertility in relation to education, economy, religion, contraception, and family planning programs. BMC Public Health. 2020 Dec; 20:1-7.
14. Okonta PI, Fajola A, Umejiego C. An Analysis of Caesarean Sections in a Community Cottage Hospital in Nigeria's Niger Delta Using the Robson Classification. Niger Med J. 2022 Sep 11;63(2):91-97. PMID: 38803701; PMCID: PMC11128161.
15. Fajola AO, et al. Immunization CompletionRates in a Cottage Hospital in the Niger Delta Area of Nigeria. Ann Med Health Sci Res. 2018; 8:51-53
16. River State Primary Health Care Management Board. Obiakor; Background information. <https://rsphcmb.rv.gov.ng/health_facilities_cl/obio-akpor/>
17. Obio/Akpor Local Government Area in Nigeria; content information <https://citypopulation.de/en/nigeria/admin/rivers/NGA033015__obio_akpor/>
18. Curtis KM, Peipert JF. Long-acting reversible contraception. New England Journal of Medicine. 2017 Feb 2;376(5):461-8.
19. Bahamondes L, Fernandes A, Monteiro I, Bahamondes MV. Long-acting reversible contraceptive (LARCs) methods. Best Practice & Research Clinical Obstetrics & Gynaecology. 2020 Jul 1;66:28-40.
20. Oyefabi A, Adelekan B, Nmadu AG, Abdullahi KM. Determinants of desire for child spacing among women attending a family planning clinic in Kaduna, north western Nigeria. Journal of Community Medicine and Primary Health Care. 2019 Mar 28;31(1):48-56.
21. Abdi B, Okal J, Serour G, Temmerman M. “Children are a blessing from God”–a qualitative study exploring the socio-cultural factors influencing contraceptive use in two Muslim communities in Kenya. Reproductive Health. 2020 Apr 3;17(1):44.
22. Bhatt N, Bhatt B, Neupane B, Karki A, Bhatta T, Thapa J, Basnet LB, Budhathoki SS. Perceptions of family planning services and its key barriers among adolescents and young people in Eastern Nepal: A qualitative study. PloS one. 2021 May 26;16(5):e0252184.
23. Nmadu AG, Mohamed S, Usman NO. Barriers to adolescents’ access and utilisation of reproductive health services in a community in north-western Nigeria: A qualitative exploratory study in primary care. African Journal of Primary Health Care and Family Medicine. 2020 Jan 1;12(1):1-8.
24. Folayan MO, Sam-Agudu NA, Harrison A. Exploring the why: risk factors for HIV and barriers to sexual and reproductive health service access among adolescents in Nigeria. BMC health services research. 2022 Sep 23;22(1):1198.
25. Mruts KB, Tessema GA, Gebremedhin AT, Scott J, Pereira G. The effect of family planning counselling on postpartum modern contraceptive uptake in sub-Saharan Africa: a systematic review. Public Health. 2022 May 1; 206:46-56.
26. Rehman AU, Karim FH, Khizar SH, Hassan J, Mariyum S, Shah FU. Combined Oral Contraceptives and Their Impact on Lipids, Blood Pressure, and Body Mass Index in Pregnant Women. International journal of health sciences.;7(S1):250-9.

**Table 1: Socio demographic and reproductive health profile of the clients** (n=2499)

|  |  |  |
| --- | --- | --- |
| Sociodemographic | Frequency | percentage |
| Age (Mean=34.21+5.70)  10-19  20-29  30-39  40-49  >50 | 07  495  1579  404  14 | 0.3  19.8  63.2  16.2  0.6 |
| **Residence**  Urban  Rural | 2354  145 | 94.2  5.8 |
| Nulliparous  Primipara  Multipara | 29  209  2261 | 1.2  8.4  90.4 |
| **Type of clients**  Routine  \*PPFP | 2453  46 | 98.2  1.8 |
| **\*LARC (1688)**  Hormonal implant  \*IUCD  **\*SARC (811)**  Sayana press  Male condom  Combined oral contraceptives  Depo Provera  Noristerat  Female Condom | 1013  675  259  187  164  133  64  04 | 40.5  27.0  10.4  7.5  6.6  5.3  2.6  0.2 |
| **Type of uptake**  New acceptor  Revisit | 314  2185 | 12.6  87.4 |
| Blood pressure  Normal BP (<140/90)  High BP. (>140/90) | 252  2247 | 10.1  89.9 |
| **\*BMI (kg/m2) n=2255**  Underweight (<18.5)  Normal weight (18.5-24.9)  Overweight (25.0-29.9)  Obesity ( >30) | 57  658  1012  528 | 2.5  29.2  44.9  23.4 |

**PPFP- Post Partum Family Planning, LARC- Long-Acting Reversible Contraceptives,**

**SARC- Short Acting Reversible contraceptives, BMI- Body Mass Index**

TABLE 2: **Bivariate analysis of the socio-demographic and health factors associated with demand for LARC/SARC (n=2499)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | LARC | SARC | CHI(X2) | p |
| **Age**  <30  >30 | 344  1344 | 158  653 | 0.28 | 0.60 |
| **Residence**  Rural  Urban | 106  1582 | 39  772 | 2.17 | 0.14 |
| **Parity**  Nulliparous  Primipara  Multipara | 11  118  1559 (68.9) | 18  91  702 (31.1) | 25.36 | 0.001 |
| **Type of uptake**  New acceptor  Revisit | 24  113 | 221  1,446 | 2.13 | 0.15 |
| **Type of FP services (N= 1824**  **Routine**  **\*PPFP** | 1651  36 | 136  1 | 1.26 | 0.26 |
| **Blood pressure**  Normal  High | 1522  166 | 86  725 | 0.36 | 0.55 |
| **\*BMI (kg/m2) n=2255**  Underweight (<18.5)  Normal weight (18.5-24.9)  Overweight (25.0-29.9)  Obesity ( >30) | 41  440  692  352 | 16  218  320  176 | 1.14 | 0.78 |
|  |  |  |  |  |

**Table 3: Association between Parity and specific types of contraceptives (n=2499)**

|  |  |  |  |
| --- | --- | --- | --- |
| Parity/  Types of Contraceptives | Nulliparous  Frequency (%) | Primipara  Frequency (%) | Multiparous  Frequency (%) |
| Combined Oral Contraceptives | 2 (1.2) | 23 (14.0) | 139(84.8) |
| Hormonal implant | 8(0.8) | 87(8.6) | 918(90.6) |
| Depo Provera | 0(0) | 13(0.5) | 120(4.8) |
| Noristerat | 0(0) | 13 (20.3) | 51(79.7) |
| Male condom | 15(8.0) | 21(11.3) | 151(80.7) |
| Sayana | 1(0.4) | 21 (8.1) | 237(91.5) |
| Female condom | 0(0) | 0(0) | 4(100.0) |
| IUCD | 3(0.4) | 31(4.6) | 641(95.0) |
| *X*2= 113.3, p=0.001  *NB- The tables were collapsed to remove the zeros before the chi square was calculated* | | | |