



Birth Control Pills: Profile of Acceptors at University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria

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Authors' contributions

This work was carried out in collaboration between both authors. Author OJD designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author OEO managed the analysis of the study and the literature searches. Both authors read and approved the final manuscript

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ABSTRACT

Background: Oral contraceptives are among the earliest, safest, and most common method of fertility control especially in the developed countries. However, there is paucity of data on birth control pills in Sub-Saharan Africa including Nigeria.

Objectives: To determine the uptake rate of oral contraceptive pills and review the profile of the acceptors at the University of Port Harcourt Teaching Hospital, Port Harcourt, (UPTH) Southern Nigeria.

Methods: A retrospective study was conducted of all clients who accepted and used the oral contraceptive pills at the family planning clinic of the University of Port Harcourt Teaching Hospital (UPTH), Port Harcourt, between 1st January, 2006 to 31st December, 2015.

Results: During the study period, 6341 clients accepted modern contraceptive methods in the UPTH, out of which 124 chose the oral contraceptive pills, giving an uptake rate of 1.96%. The majority (64.5%) of the clients were in the age range of 20-29 years, were Christians (93.5%),

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parous (91.9%) and 66.1% had tertiary education. One hundred and fourteen (91.9%) used the pills for child spacing, while 10 (8.1%) used them for terminal contraception. No unintended pregnancy occurred during the observation period, giving a Pearl pregnancy Index of zero.

Conclusion: Birth control pills are very effective and safe contraceptive method but with very low uptake rate and rapidly diminishing patronage in Port Harcourt, Southern Nigeria. Clients who accept this method in our centre are young, parous, well educated women who want to space their pregnancies.

Keywords: Birth control pills; acceptors; profile; Port Harcourt; Nigeria.

1. INTRODUCTION

Oral birth control pills (OBC) are one of the earliest contraceptives and also the most commonly used hormonal method of fertility control which have reportedly been used by over 200 million women globally [1,2]. OBC are more commonly used in the developed than developing countries [3,4]. They are used by over 12million women in the United states, while one quarter of reproductive age women in the United Kingdom and over 40% of sexually active women in the Netherland use the pills [4,5]. However in Africa and Asia, only about 7% of all women use the pills with wide regional differences in prevalence [6].

There are basically two types of oral contraceptive pills; those that contains only a progestogen or those that contain a combination of a progestogen and an estrogen. The progestogen only pill (POP) sometimes called minipill contains only progestin while the combined oral contraceptive pills(COCP) contains both a synthetic estrogen and a progestogen in varying combinations and all provide very effective, reliable and reversible family planning [7].

The COCP are the most commonly used and the most studied class of drug since its introduction in 1960 [8]. They could be monophasic, biphasic or triphasic depending on the concentrations of the estrogen and progestogen in a given preparation. In the monophasic formulation, the estrogen and progestogen have fixed concentrations for 21 days in a cycle, while the multiphasic ones have varying concentrations of the active ingredients also for 21 days in a cycle. The multiphasic formulations were introduced to reduce the steroid content in attempt to simulate the hormonal peak and trough levels within the physiological menstrual cycle [9]. The varying concentrations were also an effort to reduce the metabolic side effects and eliminate the associated menstrual complications including

breakthrough bleeding and amenorrhea [9,10]. No studies to date has demonstrated any advantage of multiphasic over monophasic preparations [9,10]. Both formulations have a 7day pill free or placebo period, to allow users take drug every day, enabling them to maintain the daily habit of contraceptive use. Withdrawal bleeding occurs in the pill free days and is thought to be re-assuring to the acceptors of being non- pregnant.

Though safe and reliable, the COCPs are sometimes associated with increased risk of venous and arterial thrombosis and therefore contraindicated in patients with a history of thromboembolism and in women over 35 years who continue to smoke [11,12].

Apart from being a very effective contraceptive, OBC also provides non - contraceptive benefits which include reduction of menstrual bleeding and pain [13], and protection against ovarian and endometrial cancers [14,15].

Conversely The progestogen only-pill is taken continuously with no placebo or pill free interval. It is also very effective and can be used by breastfeeding mothers, women with a history of sickle cell disease, or thrombosis as they are not associated with increased risk of blood clots [11,16].

At the family planning clinic of the UPTH the available birth control pills are the monophasic COCP and the POP. The COCP include Microgynon (levonorgestrel 0.15 mg and ethinyl estradiol 0.03 mg) Lo-femina (norgestrel 0.3 mg, and ethinyl estradiol 0.03 mg) and Locon-F (levonorgestrel 0.1 mg and ethinyl estradiol 0.02 mg) each containing fixed amount of estrogen and progestogen throughout the cycle, while the minipills include Exluton (lynestrenol 500 mcg), and microlut (levonorgestrel 30 mcg).

OBC is usually prescribed after counselling when clients are guided to make an appropriate choice of OBC pills suitable for them.

Since the commencement of family planning services at the UPTH, users of birth control pills have not been comprehensively reviewed. It is also not known which class or category of women use or prefer to use oral contraceptive pills for pregnancy prevention in the UPTH environment. Evaluating the profile of the acceptors will therefore help to identify the type of women who use oral contraceptive pills in Port Harcourt. This will enable us to direct counselling to this group of women in order to increase the uptake of this contraceptive method and thereby enhance utilization to levels observed in developed countries. The study was undertaken to determine the prevalence of OBC usage and to determine the socio-demographic characteristics of acceptors of POP and COCP in Port Harcourt, Rivers state south-south Nigeria.

2. MATERIALS AND METHODS

This was a retrospective study conducted at the family planning clinic of the UPTH, Alakahia, Port Harcourt, Nigeria.

The clinic draws its clients from within and without the hospital including the catchment states. At presentation, the clients are counselled by trained family planning nurses and physicians and guided to make informed choice based on their need and available contraceptive methods suitable for them. A comprehensive medical history is taken and clinical examination performed. A urine analysis and pregnancy test (for those not menstruating) are then administered.

The oral contraceptives are usually given within the first 5 days of menstruation and as soon as possible after abortion or miscarriage. The POPs are commenced at least 3 weeks postpartum for breastfeeding mothers while the COCP are contraindicated for these women.

Those who are pregnant, diabetic or severely hypertensive are counselled against using the oral contraceptive pills.

The family planning unit has its own records section separate from the main hospital records, which allows clients' case notes to be retrieved easily from the clinic.

The case files of all the new clients who accepted and used oral birth control pills - the combined oral contraceptive pills and progestin-only pills for contraception between 1st January 2006 and 31st December 2015 were retrieved and studied.

Data extracted from their case notes included clients' age, marital status, parity, religion, level of education, side effects, source of information, method change and reasons for discontinuation. The data were entered into Excel spread sheet and analysed using frequency counts and percentages.

3. RESULTS

During the study period, there were 6341 new acceptors of modern contraceptives in the UPTH, out of this, 124 clients chose oral contraceptive pills giving an uptake rate of 2%. Fifty seven (46%) used the POP, while 67 (54%) used the COCP. One hundred and fourteen (91.9%) acceptors used it spacing, while 10 clients used it for "permanent contraception".

3.1 Socio-demographic Characteristics

The age range of the acceptors was 17-38 years with a mean age of 28.2 ± 7.5 years. The modal age range was 25-29 years. Four (3.2%) were teenagers while 3 (2.4%) were aged 35 years and above.

Majority (91.9%) of the clients were married while 10 (8.1%) were single. Similarly, 116 (93.5%) were Christians, 4 (3.2%) Muslims, while religion was not documented in 4 (3.2%) clients.

Eighty two (66.1%) had tertiary education, 30 (24.2%) had secondary education while 12 (9.7%) had primary education.

The parity range was 0-5 with a mean parity of 1.9 ± 0.6 , and a modal parity of 2-4. Ten (8.1%) were nulliparous while 3 (2.4%) were grandmultiparous.

The occupations of the clients were not classified and not consistently documented and therefore could not be analysed.

The sociodemographic characteristics are shown in Table 1.

Table 2 shows the duration of use of oral contraceptives pills. Sixty three (50.8%) clients used them for 3 months, 21 (16.9) used them for 6 months, while 12 (9.8%) used the contraceptives for between 24 to 36 months.

There was a gradual decline in the acceptance of the oral contraceptives during the period of observation. While 49 (39.5%) clients used the pills in the year 2006, 28 (22.6%) accepted them

in 2007, reducing to 2 (1.6%) each in 2014 and 2015 at the end of the study period as shown in Table 3.

The most frequent side effect was secondary amenorrhea occurring in 22 (71%) users followed remotely by hypomenorrhea in 3 (9.7%) clients and secondary dysmenorrhea in one (3.2%) woman.

Non menstrual side effects included headache in one (3.2%) acceptor and abdominal pain in another one (3.2%). There were no reported cases of unintended pregnancy among users of the contraceptive pills during the study period, giving a Pearl index of 0.

Table 4 shows the side effects associated with the use of birth control pills.

Twenty (16.1%) clients changed to other contraceptive methods. Nine (7.3%) each changed to injectable contraceptives and implants while 2 (1.6%) changed to intra uterine devices.

Table 1. Sociodemographic characteristics of acceptors

Parameter	No.	Percentage
Age (years)		
≤19	4	3.2%
20-24	20	16.1%
25-29	60	48.4%
30-34	37	29.9%
35-39	3	2.4%
≥40	0	0.0%
Marital status		
Single	10	8.1%
Married	114	91.9%
Parity		
0	10	8.1%
1	56	45.2%
2-4	55	44.3%
≥5	3	2.4%
Educational level		
Primary	12	9.7%
Secondary	30	24.2%
Tertiary	82	66.1%
Religion		
Christianity	116	93.6%
Moslems	4	3.2%
Not stated	4	3.2%
Total	124	100.0%

Table 2. Duration of use of oral contraceptive pills

Length of time	No	Percentage
3 months	63	50.8%
6 months	21	17.0%
9months	18	14.5%
12 months	9	7.3%
18 months	1	0.8%
24 months	6	4.8%
36 months	6	4.8%
Total	124	100.0%

Table 3. Yearly distribution of acceptors of oral contraceptives

Year	No	Percentage
2006	49	39.6%
2007	28	22.6%
2008	23	18.6%
2009	6	4.8%
2010	7	5.6%
2011	2	1.6%
2012	2	1.6%
2013	3	2.4%
2014	2	1.6%
2015	2	1.6%
Total	124	100.0%

Table 4. Complications

Side effect	Frequency	Percentage
Amenorrhea	22	71.0%
Hypomenorrhea	3	9.8%
Dysmenorrhea	1	3.2%
spotting	1	3.2%
Headache	1	3.2%
Abdominal pain	1	3.2%
Cervical erosion	1	3.2%
Blurring of vision	1	3.2%
Total	31	100.0%

4. DISCUSSION

Despite the global popularity and widespread use of birth control pills by women especially in developed countries[17], and the reportedly rising acceptance in the developing countries [18,19], the oral contraceptive uptake in Port Harcourt is rapidly declining as evidenced by the 2% prevalence rate in this study.

This is lower than the 8.7% acceptance rate reported in an earlier study in our centre [20], and much lower than the 11.5% reported in Kano [21], North-Western Nigeria and 15.9% reported

in Calabar [22], South-South Nigeria. The reason for the declining acceptance and low patronage of oral contraceptive pills in Port Harcourt may be due to the introduction and availability of implant contraceptives in our centre and its increasing acceptance by our clients, from 1.8% in 2006 at its introduction to 53% in 2008 [23]. These implants which have been demonstrated to also be very effective, requiring less follow up visits [23], compared to the oral contraceptives. Also concerns about the side effects of the pills viz: nausea, vomiting, headache and menstrual disturbances [24,25], and the erroneous believe that the pills increases womens' risk of infertility [26], may also have contributed to the very low utilization rate in Port Harcourt.

The profile of acceptors of oral birth control pills in this study is similar to the sociodemographic characteristics of acceptors of modern contraceptives in Nigeria and elsewhere [19]. The 17-38 years age range of acceptors in Port Harcourt is consistent with findings of other researchers [19].

The majority of the women in this study were in the age group (17-29 years) of those who are mostly at the risk of unplanned pregnancies and unsafe abortions following unprotected sexual intercourse [27,28]. This is consistent with reports from other Nigerian studies and findings elsewhere [29,30]. The contraceptive uptake by this group of women would drastically reduce the burden of unwanted pregnancies and criminal abortions and its sequelae.

Most of the acceptors of the pills in this study were young, married, multiparous women who want to space their pregnancies. This is similar to findings by other workers [18,19]. The various governments in Nigeria often target their family planning services at women in the reproductive age group who are in the midst of their reproductive career and who want to space their pregnancies [31].

It is surprising but not unexpected that some women in this study opted for the oral contraceptive pills for permanent contraception despite the fact that they have to be taken on a daily basis and for a long time before menopause in view of their young age. This is very worrisome given the availability of effective long acting contraceptives requiring less frequent hospital visits and some are even hormone free and therefore with no associated steroid related side effects. Aversion to sterilization is widespread in

this environment due to socio-cultural and religious beliefs. Further studies may be required to explain reasons why the women studied prefer oral contraceptives to long acting reversible contraceptives for terminal contraception.

Only very few clients over 35 years of age and non above 38 years accepted oral contraceptive pills in keeping with earlier findings [20,30]. This is due to the associated cardiovascular risk in women 35 years and above taking oral contraceptives, especially the combined formulations containing estrogen [20]. The few women above 35 years who were given these pills in this study were not smokers and were not hypertensive, diabetic or obese which are contraindications to pill use [20,32]. They would have also been counselled appropriately to opt for other contraceptive method suitable for them.

All the clients had at least a primary education with the majority having a tertiary education. This may be due to the fact that oral contraceptive selection may be related to higher education as demonstrated by a Canadian study [31]. Formal education may be associated with better compliance with daily pill ingestion requirements in contrast to women who may not have formal education.

Over 50% of the clients used the pills for only 3 months while less than 10% used them for 2-3 years. This is not surprising because birth control pills are short term contraceptives and most acceptors use them for child spacing. Some also changed contraceptive methods in this study.

OBC are cheap, self-administered, very easy to use and readily available as non-prescription and over the counter drugs in Nigeria. Therefore some clients would have resorted to sourcing this contraceptive commodity in their neighbourhood instead of returning to our family planning clinic for their subsequent doses and may have not ultimately discontinued OBC pill usage.

Also the easy dislocation and relocation of accommodation caused by heavy human traffic in and outside Port Harcourt metropolis with the clients receiving their next due dose wherever they find themselves. This may have contributed to the high discontinuation rate.

Menstrual anomalies had remained the most common complications of hormonal contraceptives [20], and therefore it is not surprising that amenorrhoea and dysmenorrhoea

accounted for over 80% of the adverse effects recorded in this study, and this has been attributed to endogenous steroid production and endometrial angiogenesis [33,34]. The other non-menstrual side effects like headache, abdominal pain, blurring of vision observed have also been reported in previous studies [20].

There were no cases of accidental pregnancy in users of oral contraceptive pills throughout the period of observation, giving a Pearl pregnancy index of zero, similar to earlier reports [34], therefore confirming the high effectiveness of oral contraceptive pills.

5. CONCLUSION

In conclusion, oral contraceptive pills are a very effective, safe and reliable method of fertility control used by young, well educated multiparous women in Port Harcourt, who want to space their pregnancies. The rapidly declining patronage may likely be sustained due to the introduction and availability of the highly effective long acting reversible contraceptive implants characterised by almost immediate return of fertility at discontinuation.

CONSENT

It is not applicable.

ETHICAL APPROVAL

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

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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