Original Article

Contraceptive Preferences and Trends Among New Acceptors in a Southern Nigerian Tertiary Hospital

Abah M G[*], Bassey EB[1], Ekwere TA[2], Motilewa OO[3], Edu BE[1]   Abah I G[4], Ocheche US[5]

[1]Department of Obstetrics and Gynaecology,
University of Uyo/University of Uyo Teaching Hospital, Uyo
[2]Department of Haematology, University of Uyo/
University of Uyo Teaching Hospital, Uyo
[3]Department of Community Medicine, University of Uyo/
University of Uyo Teaching Hospital, Uyo
[4]Department of Radiology, University of Uyo/
University of Uyo Teaching Hospital, Uyo
[5]Department of Obstetrics and Gynaecology,
PAMO University of Health Sciences, Port Harcourt.

ABSTRACT

Correspondence:

Dr. Abah M, G,
Department of
Obstetrics and Gynaecology,
University of Uyo Teaching
Hospital
P.M.B 1136, Uyo,
Nigeria
gabriel.abah@rocketmail.com
+2348067121704

Introduction: The high total fertility and low contraceptive prevalence rates in Nigeria call for studies on the choice and pattern of acceptance of available methods of contraception. The main objective was to evaluate contraceptive choices, preference patterns and trends among new acceptors in the University of Uyo Teaching Hospital, Nigeria. **Methodology:** This was an eight-year (Jan 2013 to Dec 2020) review of secondary data of the demographic and obstetric characteristics and the contraceptive method administered to all new clients who presented in the family planning clinic. **Results:** There were 1240 new clients with an age range of 14-46years (mean 31.6 years ± 5.4SD). The majority were between 26 and 35years(66.8%), had Secondary education(57.0%), and with a parity of 4 and above(40.3%). Subdermal Implants was the most preferred method (50.6%) followed by intrauterine contraceptive devices (IUCD) (21.4%), while the hormonal injectable was least preferred (13.4%). There was a significant association between age (X^2 =42.9265, P value=0.001), level of education (X^2 =38.5583;P value<0.0001), parity(X^2 =76.8644, P value<0.0001) and choice of contraceptive method. The yearly trends fluctuate among methods with implants or IUCD predominating most years before oral contraceptive pills and injectables. **Conclusions:** Subdermal Implants was the most preferred contraceptive method followed by IUCDs among new acceptors. The predilection for long-acting reversible contraceptives among new clients is important for manufacturers and procurement officers to guide stock, while the clients constitute a population for further studies on the methods.

Keywords: Family planning, Contraceptives

INTRODUCTION

Concern over population growth by the international community led to the conference on population growth and development, the millennium, and sustainable development goals with indicators including total fertility rate, contraceptive prevalence rate, and unmet need for family planning amongst others.[1-3] A major index for measuring contraception is the total fertility rate which refers to the total number of children that would be born to each woman during her reproductive years under the prevailing age-specific fertility rates and is highly variable among countries as those with higher values tend to have lower median age (TFR) and higher population growth rate.[4] The Total fertility rate is highest in Africa with values up to 6.7 in Niger and lowest in Europe, North America, and Korea in Asia where TFR is 1.1.[5, 6] The TFR is indirectly proportional to the contraceptive prevalence rate and is mostly associated with poor secondary or higher education, low use of contraception, and high unmet need for family planning, although exceptions existed.[7] In Nigeria, the National fertility rate is high and varies between regions and has failed to meet set targets for contraceptive prevalence.[6] From the NDHS records, the TFR in Nigeria is 5.3 children per woman while the CPR was abysmally low at 17% for all methods and 12% for modern methods among married women.[8]

Family planning through contraception is a method of reducing the total fertility rate. The contraceptive prevalence varies from very high in developed nations to low in less developed nations and among regions and institutions depending on sociodemographic variables. With low contraceptive practice in low-middle-income countries (LMICs), especially in sub-Saharan Africa, fertility rate, population growth, and unmet need for family planning remain high.[9]

Generally, Contraceptives are available as short, ultrashort, and long-acting methods which may be reversible or irreversible, and include long-acting reversible contraceptives(LARC), Hormonal methods, Barrier methods, Emergency contraception and Sterilization.[10, 11] Of these, the methods available in the University of Uyo Teaching hospital family planning clinic include the barrier methods like male and female condoms, intrauterine contraceptive devices (IUCD), hormonal contraceptives: oral progesterone only and combined contraceptive pills; and injectables including both noristherat and medroxyprogesterone acetate(MPA). Other available contraceptive methods are implants (which included Implanon, Norplant, and Jadelle and bilateral tubal ligation (BTL).

The pattern of acceptability and choices depends on the available methods and local preferences may be influenced by client characteristics. Some factors found to be associated with contraceptive choices from different study designs include socio-demographic factors of age, level of education, wealth status, religious belief and parity.[12-14] A study among secondary school students where more than 50% had attempted pregnancy termination, showed that 61.4% had used some form of contraceptive with male condoms being the commonest.[15]

The contraceptive preferences and trend of choices among new clients/method acceptors have not been extensively studied at the University of Uyo Teaching Hospital since the commencement of a dedicated Family planning clinic. The knowledge of these may assist not only in the in-depth study and understanding of those methods but help our facility managers, method providers and manufacturers on demand, procurement, and supply relationship based on the contraceptive needs of acceptors in the area. Our main objective was to evaluate trends in contraceptive demands, preferences and determine any factor(s) related to these choices in the University of Uyo Teaching Hospital, Uyo Nigeria.

MATERIALS AND METHODS

Study area

The University of Uyo Teaching Hospital is a referral hospital that offers specialized care for people within and around Akwa Ibom State in South-South, Nigeria. The hospital runs four antenatal clinic sessions, an antenatal booking clinic, four post-natal clinics, and four Gynaecological clinic sessions weekly.
The Family Planning Clinic is a specialized unit with dedicated nursing staff and a resident Doctor

assigned to it. It is operational all weekdays and open to all women. The women come voluntarily, or by referral from the postnatal clinic and other health centres. The clients are counseled generally on the various methods of contraception available and subsequently allowed to make informed choices. They are then offered method-specific counseling and assessed for their eligibility for their method of choice and advised accordingly. Every woman on contraception is followed up in this clinic. All cases that require surgical treatment are referred to the Gynaecological clinic for adequate investigations and treatment.

Data collection and Analysis

An 8-year retrospective observational study of all clients who presented in the family planning clinic of the University of Uyo Teaching Hospital, Uyo was carried out. The primary source of data was the family planning clinic attendance register of the unit at the University of Uyo Teaching hospital. Surgical contraceptive procedures such as sterilization are usually carried out in the general Gynaecological or Obstetric theatre electively as an interval procedure or during caesarean section and the records are not captured in the family planning register. Information extracted from the register includes include the date of presentation, clients` sex, age, educational status, Parity, weight, blood pressure, whether or not they were new clients, and the contraceptive method chosen/administered.

The data obtained were entered into an Excel spreadsheet and analysed with the STATA pack version 13. Continuous data were summarized using measures of central tendency and measures of dispersion, categorical variable was summarized using frequency proportions. Chi-square was used to determine any relationship between variables. A P-value of less than 0.05 was termed significance. Results were presented using tables and charts.

Limitations of the study

The record in the family planning unit did not capture surgical contraception which is provided either as elective interval procedures or as emergencies especially following uterine rupture. The research is a product of secondary data analysis and errors of transfers are possible

RESULTS

There were 1240 new contraceptive acceptors during the 8-year period (January 2013 to December 2020). The age range of new clients/Acceptors is 14-46 years (mean 31.6 years, SD 5.4). The majority were between 26 years and 35 years (66.8%), and had Secondary education (57.0%) while 31.8 and 11.2% had tertiary and primary levels of education respectively. Thirty-five (2.8%) women were nulliparous while 8.2% and 40.3% were primiparous and Para 4 and above respectively. (Table 1)

Table 1: Social and obstetric Characteristics of New users of family planning methods (2013-2020)

Variables	Frequency	Percentage
Age (years)		
20 and below	23	1.8
21-25	119	9.6
26-30	416	33.6
31-35	412	33.2
36-40	214	17.3
41-45	46	3.7
46-50	10	0.8
Mean (SD) = 31.6 years. SD=5.4)		
Level of education		
Primary	139	11.2
Secondary	707	57.0
Tertiary	394	31.8
Parity		
0	35	2.8
1	102	8.2
2	221	17.8
3	383	30.9
4	285	23.0
5 and above	214	17.3

Table 2: Summary of contraceptive preferences of New Contraceptive Acceptors in UUTH from 2013 - 2020

Methods	New Users N/F	Percentage %
IUCD	266	21.4
Implant	627	50.6
Short acting agent (Depo/Noristerat)	166	13.4
Ultra sort action (OCPs)	181	14.6
Total	1240	100

The subdermal implant was chosen by over half, 627(50.6%) of the women as the preferred contraceptive among the new clients/acceptors during the period under review. This was followed

by intrauterine contraceptive devices, oral contraceptive pills, and injectable hormonal contraceptives utilized by 21.4, 14.6, and 13.4 percent respectively. (Table 2)

Table 3: Yearly distribution of contraceptive choices of New Acceptors/users in UUTH from 2013 to 2020

Methods	2013	2014	2017	2018	2019	2020
IUCD	48 (27.0)	46 (18.8)	17 (37.0)	35 (10.7)	29 (13.7)	91 (39.1)
Implant	59 (33.1)	150 (61.2)	12 (26.1)	235 (71.9)	138 (65.4)	33 (14.2)
Short acting (Injectables)	26 (14.6)	8 (3.3)	5 (10.9)	36 (11.0)	21 (10.0)	70 (30.0)
Ultra-short (OCPs)	45 (25.3)	41 (16.7)	12 (26.1)	21 (6.4)	23 (10.9)	39 (16.7)

A yearly prevalence showed that Implants were used predominantly in 2013, 2014, 2018 and 2019, followed by IUCD which was the most preferred in 2017 and 2020, while there were no new clients in 2015 and 2016. (Table 3)

Table 4: The Relationship Between Age, Level of Education, Parity and Choice of Contraception by New Acceptors Who Visited Family Planning Clinic in UUTH From 2013-2020

Socio demographic	Methods of Contraception Used n (%)				Statistical indices
	IUCD (n=266)	Implant (n=627)	Injectables (n=166)	OCPs (n=181)	
Age (years)					
20 and below	4 (17.4)	10 (43.5)	2 (8.7)	7 (30.4)	
21-25	15 (12.6)	60 (50.4)	23 (19.3)	21 (17.7)	Df=18
26-30	85 (20.4)	194 (46.6)	56 (13.5)	81 (19.5)	X^2=42.9265
31-35	100 (24.3)	214 (51.9)	48 (11.6)	50 (12.1)	P value =0.001
36-40	45 (21.0)	116 (54.2)	32 (15.0)	21 (9.8)	
41-45	12 (26.1)	29 (63.0)	4 (8.7)	1 (2.2)	Df=3
46-50	5 (50.0)	4 (40.0)	1 (10.0)	0 (0.0)	F=10.81
Mean (SD)	**31.2 (5.3)**	**32.6 (5.4)**	**31.9 (5.4)**	**29.8 (4.9)+**	P value<0.0001
Level of education					Df=6
Primary	27 (19.4)	68 (48.9)	30 (21.6)	14 (10.1)	X^2=38.5583
Secondary	161 (22.8)	328 (46.4)	113 (16.0)	105 (14.8)	P value<0.0001
Tertiary	78 (19.8)	231 (58.6)	23 (5.8)	62 (15.7)	
Parity					
0	5 (14.3)	12 (34.3)	2 (5.7)	16 (45.7)	Df= 15
1	11 (10.8)	49 (48.0)	13 (12.7)	29 (28.4)	X^2=76.8644
2	45 (20.4)	116 (52.5)	30 (13.6)	30 (13.6)	P value<0.0001
3	76 (19.8)	213 (55.6)	36 (9.4)	58 (15.1)	
4	80 (28.1)	136 (47.7)	42 (14.7)	27 (9.5)	
5 and above	49 (22.9)	101 (47.2)	43 (20.1)	21 (11.6)	

+ significant difference between those on OCPs and those on injectables and Implant

There was a very significant relationship between their age (Df=18, X^2 =42.9265, P value =0.001; Df=3, F=10.81, P value<0.0001) and methods of contraception chosen. Those on oral contraceptive pills (OCPs) were significantly younger than those on Implants and those on Injectables, while implants had the highest proportion in the age group 41-45years. Women who were above 45years were more likely to use IUCDs while OCPs was the choice among the younger age groups (below 40 years). Women with a tertiary level of education were more likely to use implants (Df=6, X^2 =38.5583, P value<0.0001), while women who had
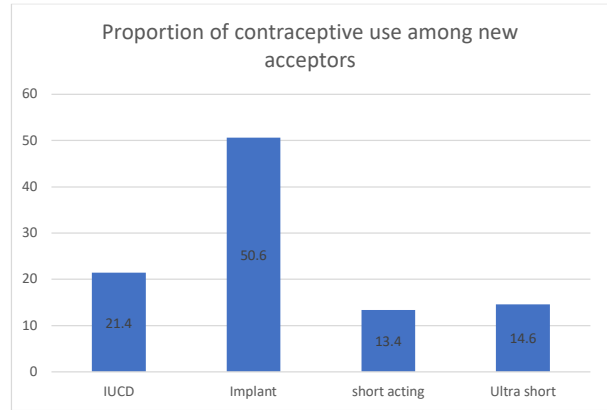

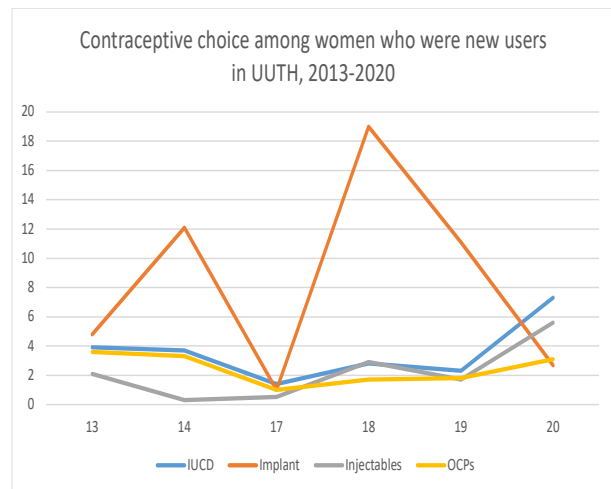Figure 1: Bar Chart of Contraceptive choices among New Acceptors in the UUTH, 2013 – 2020

Figure 2: Trends of Contraceptive choices among new clients of the Family Planning clinic, UUTH 2013 – 2020

not delivered before (nulliparous) were more likely to use OCPs, the use of implant increased with parity from 1 to 3 (Df= 15, X^2 =76.8644, P value<0.0001). (Table 4)

Trends in contraceptive use among new clients showed that although implant was most preferred but dropped significantly in 2017 and 2020. The choice of IUCD and injectables were similar over the years, while the use of OCP began to rise slowly from 2017 to 2020. (Figures 1 & 2)

DISCUSSIONS

Contraceptives` use and family planning services` utilization are useful for preventing complications from unwanted pregnancy and inadequate child spacing and thereby reducing maternal mortality

and promoting a country`s economic growth by limiting its population.

The peak age range for utilization of contraceptives of 26-35 years in our study coincides with the age when many women set out to start a family and will want to use contraceptives for child spacing and to limit family size. A study in Ilorin, North central Nigeria showed a similar peak age range for contraceptives` demand and utilisation.[16] Women in the age groups of less than 20 years and 46-50 years were fewer among the new contraceptive acceptors in our study possibly due to ignorance among teenagers and declining fertility with menopause respectively. While the findings from our studies are similar to those in Northcentral Nigeria and other studies,[16-18] another study showed a much lower age range of 15-24years for peak utilization of contraceptives.[19] Contraceptive utilization was highest among women with secondary and tertiary level of education and lowest in women with only a primary level of education. This finding was corroborated by similar earlier studies.[17,18,20] Education possibly improves a woman's awareness of contraceptives and helps to dispense the myths associated with them. Contraceptives were predominantly used in our study by multiparous women and least by nulliparous women. These findings were supported by a similar study.[17] Contraceptives are used predominantly for child spacing in developing countries and in unmarried and nulliparous women there is a reluctance in its usage as the society erroneously associates its usage with sexual promiscuity.

Subdermal implants were the predominant choice among the new contraceptive acceptors, followed by the intrauterine contraceptive device. While a retrospective study among family planning clients in Makurdi, Northcentral Nigeria had similar finding where 57% chose implants,[17] earlier studies in Ilorin, Enugu and Jos showed Intrauterine contraceptive devices was the preferred method.[16,21-23] The injectable was the most preferred in studies in Zaria[22], but the second most preferred among our new clients as also found in Jos,[23] while IUCD was chosen by the majority in Ilorin, Nigeria.[16] The combined oral contraceptive was the least preferred option in our study. These findings were corroborated by some other studies.[17, 24] The declining preference for combined oral contraceptive pills may be due to its user-dependent effectiveness thereby complicating its usage. Also, a lot of clients in our study may not fit into the medical eligibility criteria for oral contraceptive usage.

Our study revealed an increasing trend toward the utilization of long-acting reversible contraceptives like implants and intrauterine devices and declining utilization of the short-acting combined oral contraceptive pill. This trend was also noticed in another study.[17] On the other hand, a study in Northern Nigeria showed a trend indicating poor utilization of long-acting reversible contraceptives like intrauterine device and subdermal implants but rather increase utilization of Injectable contraceptives.[25]

The study also revealed an association between contraceptive choice and age. The combined oral contraceptive pill was preferred more in younger people and its usage declined with advancing age. This was also noticed in other studies which revealed an increased usage in the younger age group.[18, 26] The World Health Organization's medical eligibility criteria limit the use of the combined oral contraceptive pill in vasculopathy, and this is seen in much older women with chronic medical conditions. Our study also showed an increased preference for use of the intrauterine device with advancing age. This may likely be due to completed family size and a desire for a long-acting contraceptive. Furthermore, our study also showed a decreased preference for combined oral contraceptive pills with increasing parity and a rather increase preference for intrauterine devices. This may be because increasing age with parity limits the usage of combined oral contraceptive pills in favour of the intrauterine device which is preferred when desired family size is completed being long-acting. Our observation was also noticed in a similar study.

Education influences the usage of contraceptives as women who are educated are more informed, hence more likely to use contraceptives. Our study revealed an increased tendency to use combined oral contraceptive pills with an advanced level of education. This may be because of better knowledge of these contraceptives which helps to dispel the fear of presumed side effects. A study in Kenya corroborated our study by showing a preference for short-acting

contraceptives with increasing educational levels and a shift to long-acting contraceptives with lower educational level.[28] On the contrary, another study revealed increased use of long-acting contraceptives like the intrauterine device with an advanced level of education.[29] Women with a lower level of education will likely be more disposed to non-user-dependent contraceptives like long-acting contraceptives in lieu of user-dependent contraceptives like the pill as they do not need so much guidance on its effective use.

In conclusion, implants followed by IUCD were the preferred contraceptive method among both new acceptors with variation in trend across the years which implied satisfaction with long-acting reversible contraceptives. There is the need for an upgrade in the family planning clinic register to include surgical and barrier contraception, as well as further studies on the effects and discontinuation pattern of LARC even as manufacturers and procurement offices should be aware of this trend in preference to guide stock.

Disclosure

The Authors have no disclosures to make.

REFERENCES

1. Population Challenges and Development Goals. Available at: https://www.un.org/en/development/desa/population/publications/pdf/mdg/populationchallenges.pdf. Accessed 22/07/2022

2. WHO, The Millennium development goals (MDGs). Available at: https://www.who.int/news-room/fact-sheets/detail/millennium-development-goals-(mdgs)

3. Starbird E, Norton M, Marcus R. Investing in family planning: the key to achieving the sustainable development goals. Glob Health Sci Pract. 2016;4(2): 191- 210. http://dx.doi.org/10.9745/GHSP-D-15-00374

4. Nargund G. Declining birth rate in Developed Countries: A radical policy re-think is required. Facts Views Vis Obgyn. 2009;1(3):191-3. PMID: 25489464; PMCID: PMC4255510.

5. Fertility rate, total(births per woman) 2020 Available at: http://www.worldbank.org/en/access-to-information Accessed 22/07/2022

6. World population Dashboard 2022 list by the United Nations Population Fund. Available at: https://www.unfpa.org/data/world-population-dashboard

7. Pezzulo C, Nilsen K, Carioli A, Tejedor-Garavito N, Hanspal SE, Hilber T. et al. Geographical distribution of fertility rates in 70 low-income, lower-middle-income, and upper-middle-income countries, 2010–16: a subnational analysis of cross-sectional surveys. Lancet Glob Health 2021; 9: e802–12. Available at: www.thelancet.com/lancetgh

8. National Population Commission (NPC) [Nigeria] and ICF. 2019. Nigeria Demographic and Health Survey 2018. Abuja, Nigeria, and Rockville, Maryland, USA: NPC and ICF.

9. Cleland J, Bernstein S, Ezeh A, Faundes A, Glasier A, Innis J. Family planning: the unfinished agenda. Lancet. 2006;368(9549):1810–27.

10. What are the different types of contraception? Available at: https://www.nichd.nih.gov/health/topics/contraception/conditioninfo/types#citationscontent. Accessed 03/08/2022

11. Birth control methods and options. Planned Parenthood Federation of America, Inc. Available at: https://www.plannedparenthood.org/learn/birth-control. Accessed 03/08/2022

12. Dambo ND, Jeremiah I, Wallymahmed A. Determinants of contraceptive use by women in the central senatorial zone of Bayelsa State, Nigeria: A cross-sectional survey. Niger Med J. 2017 Jan-Feb;58(1):26-31. doi:10.4103/0300-1652.218409. PMID: 29238125; PMCID: PMC5715563.

13. Wuni C., Turpin CA, Dassah ET. Determinants of contraceptive use and future contraceptive intentions of women attending child welfare clinics in urban Ghana. BMC Public Health (2018) 18:79 DOI 10.1186/s12889-017-4641-9

14. Kungu W, Agwanda A and Khasakhala A. Trends and determinants of contraceptive method choice among women aged 15-24 years in Kenya [version 1; peer review: 2 approved with reservations]. F1000Research 2020, 9:197 Available at: https://doi.org/10.12688/f1000research.22481.1

15. Abah, M.G., Bassey, E.A, Edu, E.B, Ovie, O.D.Unsafe abortion among secondary school girls in a local authority in South-south Nigeria. International Journal of Reproduction, Contraception, Obstetrics and Gynaecology.2020; 9:3547-56.

16. Adebara IO, Ijaiya MA. Recent trends in pattern of contraceptive usage at a Nigerian tertiary hospital. J Clin Med Res.2010; 2: 180-184.

17. Hembah-Hilekaan SK, Augustine OO, Onyemocho A, Onche PE, Maanongun MT et al.. Trends in contraceptive choices among women attending the family planning clinic in a Nigeriam Tertiary Hospital in Makurdi, Nigeria. J Contracept Stud. 2018; (3); 2:11.

18. Ezire O, Idogho O, Theophillus A, Kani S, Oluigbo O. Study on the patterns and trends in contraceptive use in South-south and North-western zones of Nigeria. Open access journal of contraception; 2014.

19. Ukaegbu AU, Onyeonoron UU, Nwokeukwu HI, Okafor GOC. Contraceptive method preferences, use and satisfaction among women of Reproductive Age(15-45years) in Umuahia, Abia State, Nigeria. J Contracept stud 2018; (3)3:16.

20. Adeyemi AS et al. Contraceptive prevalence and determinants among women of reproductive age group in Ogbomoso, Oyo State, Nigeria. Open access journal of contraception.2016.

21. Udealor, PC, Ezeome IV, Ugwu EO. Contraceptive acceptance, pattern and trend in a Tertiary hospital in Nigeria. Int`l Journal of Med and Health Development. 2017;22(2):113-118

22. Ameh N, Sule ST. Contraceptive choices among women in Zaria, Nigeria. Nigeria J Clin Practice. 2007; 10: 205-207.

23. Mutihir J, Pam VC. Overview of contraceptive use in Jos University Teaching Hospital, North-central, Nigeria. Nigeria J Clin Practice. 2008;11:139-143.

24. Tolefac PN, Nana TN, Yeika EV et al. Trends and patterns of family planning methods used among women attending family planning clinic in a rural setting in Subsaharan Africa: the case of Mbalmayo District Hospital, Cameroun. Bmc Res Notes 2018; 11541.

25. Muhammad Z, Maimuna DG. Contraceptive trends in a tertiary facility in North-western Nigeria: A 10 year review. Niger J Basic Clin Sci 2014; 11:99-103.

26. Firman N, Palmer MJ, Timaeus IM et al. Contraceptive method use among women and its association with age, relationship status and duration: findings from the third British National Survey of Sexual Attitudes and Lifestyle. BMJ Sex Reprod Health 2018; 44: 165-174.

27. Emuveyan EE, Oshinyemi H, Durojaiye G, Dixon RA. Contraceptive choice in Lagos, Nigeria. West Africa Journal of Medicine.1990; 9(2): 129-134.

28. Kungu W, Agwanda A, Khasakhala A. Trends and determinants of contraceptive method choice among women aged 15-24 years in Kenya. F1000 Research 2020; 9:197.

29. Baksu A, Gunes G, Aki G, Tuysuz F. Change in contraceptive choice and the effect of education on use of

contraception at the family planning clinic of Silsli Elfal Training and Research Hospital, Istanbul, Turkey. Eur J Contracep Repr. 2005; 10(2): 98-104.