Prevalence and Pattern of Modern Contraceptive Choices among Women of Reproductive Age 15-49 Years in a Community Health Facility: An Eight Year Retrospective Study

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Short Research Article

ABSTRACT

Aims: Utilization of modern contraception to prevent pregnancies is a unique health intervention as unplanned pregnancies expose women to additional health risks and lifetime risk of maternal mortality by increasing the number of lifetime pregnancies and deliveries. This study therefore aims at evaluating the prevalence and pattern of modern contraceptive choices among women of reproductive age and to identify the most commonly used modern contraceptives.
Study Design: Retrospective study carried out at family planning clinic of Community Health Centre, Osun State University Teaching Hospital, Osogbo, Osun State, South-West Nigeria between January 2013 to December 2020.
Methodology: The clients who had attended family planning clinic for modern contraceptive services during the period of eight (8) years were identified from clinic register. Their case files were retrieved and relevant data extracted with the use of standardized pro forma. Two hundred and twenty-two (222) case notes were available and suitable for analysis. Data were analysed using descriptive statistics and inferential statistics of chi square and ANOVA.

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Results: The result revealed highest prevalence of modern contraceptive utilization among young women with slight increase in rate of utilization as the age increases and decreases with older age. The most commonly utilized methods of contraception were Injectables: Noristerat and Depo-Provera; and IUCD. Result further showed significant relationship between age, number of children alive, breastfeeding status and desire to have more children and choice of modern contraceptive (P- value < 0.000).

Conclusion: Utilization of modern contraceptives can be improved through adequate public health education, thus, this study recommended that health education should be intensified at antenatal clinic, infant welfare clinic, religious places, market places and any place of public gathering.

1. INTRODUCTION

Unplanned pregnancy is a significant public health issue for women of reproductive age especially in low-income countries [1]. Contraception describes prevention of pregnancy by inhibiting the normal process of ovulation, fertilization and implantation [2]. Utilization of modern contraception to prevent pregnancies is a unique health intervention as unplanned pregnancies expose women to additional health risks and lifetime risk of maternal mortality by increasing the number of lifetime pregnancies and deliveries [2]. Ambivalence toward pregnancy also is associated with less early and continuous prenatal care and lower use of professional delivery care while many women who have unintended pregnancies turn to induced abortion, both in countries where abortion is legal and safe and in those where it is illegal and too often unsafe [3].

Modern contraceptive services are a cost-effective strategy for preventing more than 20% of maternal mortality and 17% of neonatal mortality by preventing risky and unwanted pregnancy [4]. Use of modern contraceptive methods is especially important to decrease maternal mortality at the two extremes of reproductive age (< 20 years and > 40 years). However, the use of modern contraceptive methods among late reproductive age women is low [4]. In spite of progress on increasing modern contraceptive service utilization in recent years, contraceptive services remain out of reach for many women of reproductive age worldwide, resulting in millions of unwanted pregnancies and unsafe abortions each year [5]. In addition to limiting the number of children, modern contraceptive is essential to promoting the well-being and autonomy of women, their families and their communities [4]. Evidence reported that in 2015 only 57% of married women of reproductive age used a modern method of family planning worldwide, with female sterilization (19%) and Intra-Uterine Contraceptive Device (14%) being the most commonly used methods [6].

According to Ethiopian Demographic Health Survey, 35% of currently married women used a modern contraceptive, 23% used an injectable contraceptive and 8% used implant [7]. Moreso, about 70% of women of reproductive age in US are at risk of unintended pregnancy and more than 99% of women aged 15-44 years who have ever had sexual intercourse have used at least one contraceptive method [7].However, study conducted on contraceptive use in United State showed that approximately 60% of all women of reproductive age are currently using a contraceptive method [8]. Ten percent of women at risk of unintended pregnancy are not currently using any contraceptive method and the proportion of women at risk of unintended pregnancy who are not using a method is highest among those aged 15–19 (18%) and lowest among those aged 40–44 (9%) [9]. Eighty-three percent of black women at risk of unintended pregnancy are currently using a contraceptive method compared with 91% of their Hispanic and white peers, and 90% of their Asian peers [9].

According to United Nation, the need for contraception evolve over the life-course, depending on personal circumstances and changing childbearing preferences on the number of children and the timing and spacing of births [10]. At the population level, contraceptive prevalence and method mix will change with changes in childbearing desires, fertility trends, marriage and union formation patterns and the age structure of women of reproductive age [11]. Women who are sexually active and want to delay pregnancy for a few months or a couple of years, may prefer a short-acting method that can be commenced and stopped at will, over an IUD or an implant, both of which usually require a visit to a service provider to obtain and remove the

device [12]. The experience or awareness of side effects and inconveniences of using specific contraceptive methods as well as their effectiveness at preventing pregnancy play a role in the choice of the method used [13]. However, the range of choices available to women and their partners depends on the local availability and accessibility of different methods [13].

The prevalence of specific contraceptive methods varies widely across the world [14]. Method mix has shifted over time due to changes in related policies, changes in health-care system, development of new technologies, and changes in access to the various methods. Governments at all levels have played a strong and visible role in promoting and legitimizing the provision and use of family planning and reproductive health-care services and the use of specific methods [14]. United Nations reported that among the 1.9 billion women of reproductive age (15-49 years) living in the world in 2019, 1.1 billion have a need for family planning, that is, they are either current users of contraceptives or have an unmet need for family planning [15].

Nevertheless, female sterilization is the most common contraceptive methods used globally which account for approximately 24%, three other methods accounts for more than 100 million users globally, 21% used male condom, 17% used injection and 16% used oral pills [16]. Overall, 45.2% of contraceptive users rely on permanents or long-acting methods such as female and male sterilization, IUD and Implant, 41.6% on short acting methods such as male condom, pills, injectable and other modern methods while 8.7% on traditional methods [5]. Modern contraceptive prevalence among Married women of reproductive age increased worldwide between 2000 and 2019 by 2.1 percentage points from 55.0% to 57.1% [5]. Reasons for this slow increase include: limited choice of methods; limited access to services, particularly among young, poorer and unmarried people, fear or experience of side-effects; cultural or religious opposition; poor quality of available services; users' and providers' bias against some methods; and gender-based barriers to accessing services [5].

Furthermore state-level estimate of contraceptive use in United State showed that 25.3% of women at risk of unintended pregnancy used oral pills, 21.8% tubal ligation, 14.6% male condom, 11.8% IUCD, 6.5% vasectomy and 3.9% used injectable, 2.6% implants [16]. However,

seventy-two percent of women who practice contraception currently use non-permanent methods and primarily hormonal methods such as pill, patch, implant, injectable and vaginal ring, IUDs and condoms while the rest rely on female (22%) or male (7%) sterilization [16]. Evidence showed that oral pills and female sterilization have been the two most commonly used methods since 1982, four out of five sexually experienced women have used the pill [17]. The use of hormonal methods other than the pill has increased with the advent of new options. The proportion of women who have ever used the injectable increased from 5% in 1995 to 23% in 2006–2010 [17].

Report also revealed that about 14% of women using a contraceptive relied on a Long-Acting Reversible Contraceptive (LARC) method, such as IUD (12%) and implant (3%) [17]. Among contraceptive users, the groups of women who most commonly use an IUD or implant are 25–34-year-olds [17]. More so, about 5.5 million women rely on the male condom. Condom use is most common at least 25% greater than the national average of 15% among 15–19-year-olds while ever-use of male condom increased from 52% to 93% in 2006-2010 [18]. Dual method use offers protection against both pregnancy and STIs. Some 8% of women of reproductive age simultaneously use multiple contraceptive methods, most often the condom combined with another method [18]. Measuring progress in meeting the need for contraception requires not only an assessment of overall levels and trends in contraceptive prevalence and the unmet need for family planning, but also an assessment of the range and types of contraceptive methods used [19].

The Programme of Action of the International Conference on Population and Development (ICPD) includes a clear commitment to ensure that women and men have access to the widest possible range of safe and effective family planning methods in order to enable them to exercise free and informed choice, while recognizing that appropriate methods for couples and individuals vary according to their age, parity, family-size preference and other factors [20]. Ensuring access for all people to their preferred contraceptive methods advances several human rights including the right to life and liberty, freedom of opinion and expression and the right to work and education, as well as bringing significant health and other benefits [21]. This study aims at examining the prevalence and

pattern of modern contraceptive choices among women of reproductive age in community health centre of Community Health Department Osun State University Teaching Hospital, Osogbo, Osun State, Southwest Nigeria.

1.1 Objective of the Study

1. Determine the prevalence of modern contraceptive methods among women of reproductive age;
2. Examine the pattern of modern contraceptive choices among women of reproductive age;
3. Examine the most commonly used modern contraceptives among women of reproductive age.

1.2 Hypothesis

1. There is no significant relationship between age and choices of modern contraceptives.
2. There is no relationship between number of children and choices of modern contraceptive.
3. There is no relationship between breastfeeding and choices of modern contraceptive.
4. There is no relationship between desire to have more children and choices of modern contraceptive.

2. METHODOLOGY

2.1 Research Design

This study was a retrospective descriptive study of all women of reproductive age 15-49 years receiving contraceptive services at the family planning clinic of Community Health Centre, UNIOSUN Teaching Hospital, Osogbo, Osun State, South West Nigeria between January 2013 to December 2020. The family planning clinics of Department of Community Medicine, Osun State University Teaching Hospital operates from 8:00 am to 4: 00 pm on weekdays. The clinic is run by trained clinic service providers (CSP) which include nurses and midwives.

2.2 Population

The population were 222 women of reproductive age attending family planning clinic at UNIOSUN Teaching Hospital, Osogbo between year 2018 and 2020.

2.2.1 Inclusion criteria

Reproductive age women attending family planning clinic regularly with complete history as documented on the clinic cards.

2.2.2 Exclusion criteria

Incomplete clinic cards were excluded from the study.

2.3 Instrumentation

The instrument used to collect data was a proforma, a checklist to extract relevant information from the clients' clinic cards and register. Data extracted includes, socio-demographic and reproductive history.

2.3.1 Data collection

The clients who had attended family planning clinic for modern contraceptive services during the period of eight (8) years were identified from clinic register. Their case files were retrieved and relevant data extracted with the use of standardized pro forma. Two hundred and twenty-two (222) case notes were available and suitable for analysis.

2.3.2 Data analysis

Data were analysed using EPI Info statistical package for social sciences version 23 and the result was presented in frequencies and percentages using tables. Descriptive statistics and inferential statistics of chi square and ANOVA for testing hypothesis.

3. RESULTS PRESENTATION

Table 1 shows that the mean age of current contraceptive users was 37.18 years and standard deviation was 6.5. Majority (32.9%) of the clients were young adult aged 31-35years, 26-30years were 22%. While 36-40 years and 21-25years were 38%. More than half 147(66.2%) of the clients had secondary school education and slightly above average 12(50.5%) were Muslims. Contraceptive use is common among women of reproductive age 31-35years. Therefore, about one-third of the current contraceptive users were between age 31-35yearrs with mean age of 37.18 years $\pm$ 6.5 years.

Table 2 shows that majority 129(58.1%) had 3-4 children, 114 (51.4%) were not currently

breastfeeding while 140(63.1%) have desire to bear more children.

Table 3. shows that slightly above half 114(51.4%) of the clients had previously used modern contraceptive and the most widely used methods were Injectables (Noristerat 31(14.0%); Depo-Provera 16(7.2%) followed by IUCD 43(19.4%), oral pill 11(5.0%), implants 9(4.1%) and condom 4(1.8%). In general, Injectables were more prevalent among the users of modern contraceptives 47(21.2%). Similarly, majority 103(46.5%) were using Injectables (Noristerat, Depo-Provera, and Sayana-press) and the most commonly used Injectables was Noristerat 57(25.7%) and more so, 96(43.2%) of current users were using IUCD. The result further shows that the source of referral for modern contraceptive services was health professional through health education as the almost 186(83.7%) indicate health professional as their source of referral for MC.

Table 4. shows that majority 72(32.4%) of the current users of modern contraceptives weighed between 60 and 69kg, above one fourth weighed between 50 and 59kg while 39(17.6%) weighed between 41 and 49kg, 24(10.8%) weighed between 70 and 80kg while 3(1.4%) weighed less than 40kg. Moreso, almost two-third of the client have blood pressure of 100/60 – 120/90 mmHg while 6(2.8%) had Blood pressure greater than 140/90 Hg.

Table 5. shows the relationship between age and choices of modern contraceptive. Contraceptive use was common among women of reproductive age 31-35years and the most commonly used types of modern contraceptives were IUCD followed by Noristerat. In general Injectables (Depo-Provera, Noristerat and Sayana-press) were commonly used by women of reproductive age followed by IUCD 96(43.2%). The most commonly used injectable was Noristerat which is commonly used among age group 26-30yrs. However IUCD is common among age group 31-35years. The least used methods of modern contraceptive were condom and oral pills.

Table 6. ANOVA shows that there is a significant relationship between age and choices of modern contraceptive with p-value 0.000. This indicates that regression model predict the dependent variable significantly well (p=0.000) which is less than 0.05. Therefore the regression model significant predicts (Age) the outcome variable (choice of contraceptives).

Table 7. shows the relationship between the number of children alive and choices of modern contraceptives. IUCD was observed to be commonly used by women of reproductive age with 3-4 children followed by Noristerat. More than half of women that utilized modern contraceptive have 3-4 children out of which 56 (43.4%) used IUCD, 58 (45.0%) used Injectables (Depo-Provera, nonstarter and Sayana press) Noristerat was widely used among Para 3-4 women while Depo-Provera was commonly used among Para 1-2 women. Para 5-6 women utilized only IUCD.

Table 8. ANOVA table shows that regression model predicts (number of children alive) dependent variables (choice of contraceptive) with P value less than 0.05 level of significance. Therefore, there is a significant relationship between number of children alive and choice of contraceptive methods.

Table 9. shows the relationship between breastfeeding status and choice of modern contraceptives. The result shows that there is a statistical significant relationship between breastfeeding status of women and choice of modern contraceptive use. However, IUCD is widely used by women that were not breastfeeding while Noristerat were mostly used by breastfeeding women.

Table 10. ANOVA table indicates that breast feeding (predictors) influence the choices of modern contraceptives (dependent variables with P-value of 0.000 which is less than 0.05 level of significance).

Table 11. shows a statistical significance relationship between women desire to have more children and choice of contraceptive use. (X^2 = 223.693, df = 6, P-value = 0.001). IUCD was commonly used by women who desired to have more children. However, Noristerat and Depo-Provera were indicated to be commonly used among women who have no desire to have more children and those that desire more children respectively. ANOVA table also indicates that number of children predicts the choices of modern contraceptives.

4. DISCUSSION OF FINDINGS

The finding from the study shows the mean age (37.18 ± 6.5) of women of reproductive age currently utilizing modern contraceptive. Majority of the current users of modern contraceptives

were aged 31-35 years. Cross-sectional study conducted in Zambia reported highest contraceptive use among women aged 25-34 years with mean age of 31.9 $\pm$ 8.6 years [2]. The result from the study shows decrease in contraceptive use with increase in age which is supported by[4]modern contraceptive use increases with young age (15-39 years) and decrease with older age 40-49 years. High prevalence of modern contraceptive use was also reported among women aged 25-34 years with a conclusion that women in age group 25-34 years used contraceptives considerably more than that of younger and older counterpart [21].

These findings may be due to the fact that some women might have not had their desired number of children at this younger age and the same time older women in their menopausal age might not show interest in contraceptive use due to reduced libido and infrequent sex. This is supported by [21] that women of reproductive age in their late twenties and early thirties would not have achieved their desired number of children and also due to onset of menopause and lack of interest in sexual activities, older women might not likely to utilize modern contraceptives. The finding further shows a statistical significant relationship between age and contraceptive choice among women of reproductive age. The finding corroborate with the study conducted in Ethopia that showed a positive association between the age of women and contraceptive prevalence [22].

Table 1. Demographic Characteristics of contraceptive users

Age	Frequency	Percentage
Less than 20 years	1	.5
21 - 25 years	38	17.1
26 - 30 years	49	22.1
31-35 years	73	32.9
36-40 years	38	17.1
41-45 years	15	6.8
46-50 years	8	3.6
Total	222	100.0
Educational Level		
Primary School	36	16.2
Secondary School	147	66.2
Tertiary Institution	31	14.0
No Formal Education	8	3.6
Total	222	100.0
Religion		
Christianity	106	47.7
Muslim	112	50.5
Traditional	4	1.8
Total	222	100.0

Table 2. Reproductive history of contraceptive users

Number of children	Frequency	Percentage
1-2	65	29.3
3-4	129	58.1
5-6	28	12.6
Total	222	100.0
Desire to have more children		
Yes	140	63.1
No	82	36.9
Total	222	100.0
Breastfeeding		
Yes	108	48.6
No	114	51.4
Total	222	100.0

Table 3. Previous and current contraceptive history of contraceptive users

Previous contraceptive use	Frequency	Percentage
Yes	114	51.4
No	108	48.6
Total	222	100.0
Types of contraceptive use previously		
Condom	4	1.8
Oral Pills	11	5.0
Depo-Provera	16	7.2
Implants	9	4.1
Noristerat	31	14.0
IUCD	42	18.9
No	109	49.1
Total	222	100.0
Current contraceptive use		
Condom	1	.5
Oral Pills	6	2.7
Depo Provera	33	14.9
Implants	16	7.2
Noristerat	57	25.7
Sayana Press	13	5.9
Intrauterine Device	96	43.2
Total	222	100.0
Sources of referral		
Health Professionals	186	83.8
Friends	21	9.5
Media	15	6.8
Total	222	100

The finding shows that majority of contraceptives user had secondary school certificate and were Muslims. This study is in contrast with the report that women of reproductive age using modern contraceptives were primary school leavers [2]. However, women with higher level of education were found 2 times more willing to use contraception compared with their illiterate counterparts [21]. This study corroborates previous evidence that women with secondary education were more likely to use contraceptive methods than uneducated women [23].

The result further shows that majority of women of reproductive age using modern contraceptives have three to four children, still breast feeding and indicated desire to have more children. There is also a significant relationship between number of children, breastfeeding status and desire to have more children and choice of modern contraceptives. This result is in tandem previous study that maximum contraceptive use was observed among women who had more than 2 children [21]. More so, number of children alive was likely to play a significant role in

contraceptive use since women with 1-3 children and who had more than two children were more likely to use contraceptive compared to those who have no children [21].

Previous study revealed that women with higher number of children alive were more likely to use contraceptives [23]. This denotes that there exist a significance between number of children alive and contraceptive use. Women with more living children will prefer to control child birth relative to their counterpart with fewer living children. Report on demographic and health survey showed that women with higher number of children alive were more likely to use contraceptives [24]. This denotes that there exist significant relationships between number of children alive and contraceptive use. Women with more living children will prefer to control child birth relative to their counterpart with fewer living children [24]. Similarly, evidence showed that women who have three and above children had more demand for Family Planning than those having less than three children [23]. However, result from focus group discussion

found out that women who had more than 4 children were utilizing modern contraceptive to limit their number of children. Therefore, increased parity was highly associated with contraceptive use compare with women who had no children [24].

Furthermore, women who indicated no desire to have more children were more likely to use contraceptive than those who desired more children [25]. There is a strong negative relationship between breastfeeding and contraceptive use, women who are less than four months postpartum were less likely to use contraceptives [26]. This might be due to lactation amenorrhea associated with delay in return of fertility during breastfeeding. Therefore, it is possible that women in their immediate postpartum period, especially those who are lactating and having amenorrhea are not as highly motivated to use contraception as expected [2]. More so, breast feeding is associated with delay in fertility return postpartum hence reducing the rate of contraceptive used by lactating mothers as lactation serve as a means of natural family planning methods [27].

Table 4. Relationship between age and choices of modern contraceptives

Age	Choices of contraceptive							Total
	Condom	Oral pills	Depo Provera	implants	Noristerat	Sayana press	IUCD	
Less than 20 years	0 (0)	0(0)	0(0)	0(0)	0(0)	0(0)	1	1(0.5)
21 - 25 years	1(2.6)	6(15.7)	18(47.4)	0(0)	3(7.4)	0(0)	10(26.3)	38(17.1)
26 - 30 years	0(0)	0(0)	15(31.0)	1(2.0)	30(61.0)	0(0)	3(6.0)	49(22.1)
31-35 years	0(0)	0(0)	0(0)	6(8)	24(32.9)	13(17.8)	30(41.1)	73(32.9)
36-40 years	0(0)	0(0)	0(0)	9(23.7)	0(0)	0(0)	29(76.3)	38(17.1)
41-45 years	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	15(100)	15(6.8)
46-50 years	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	8(100)	8(3.6)
Total	1(0.5)	6(2.7)	33(14.9)	16(7.2)	57(25.7)	13(5.9)	96(43.2)	222(100)

Table 5. ANOVA showing the relationship between age and choices of modern contraceptives ANOVA[a]

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	192.502	1	192.502	112.470	.000[b]
	Residual	376.548	220	1.712		
	Total	569.050	221			

a. Dependent Variable: Choices of contraceptives; b. Predictors: (Constant), Age

Table 6. Relationship between number of children and choices of modern contraceptive

Age	Choices of contraceptive							Total
	Condom	Oral pills	Depo provera	Implants	Noristerat	Sayana press	IUCD	
1-2	1(1.5)	6(9.2)	27(41.5)	0(0)	19(29.2)	0(0)	12(18.5)	65(29.3)
3-4	0(0)	0(0)	6(4.6)	16(12.4)	38(29.5)	13(10.1)	56(43.5)	129(58.1)
5-6	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	28(100)	28(12.6)
Total	1(0.5)	6(2.7)	33(14.9)	16(7.2)	57(25.7)	13(5.9)	96(43.2)	222 (100)

Table 7. ANOVA showing relationship between number of children and choices of contraceptives ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	179.463	1	179.463	101.343	.000[b]
	Residual	389.587	220	1.771		
	Total	569.050	221			

Dependent Variable: Choices of modern contraceptives
Predictors: (Constant), Number of children

Table 8. Relationship between breastfeeding and choices of modern contraceptive

	Breastfeeding		Total			
Choice of contraceptives	Yes	No		X^2	df	P-value
Condom	1(0.9)	0(0)	1(0.5)			
oral pills	6(5.6)	0(0)	6(2.7)			
Depo-Provera	33(30.0)	0(0)	33(14.9)			
Implants	4(3.7)	12(10.5)	16(7.2)			
Noristerat	34(31.5)	23(20.2)	57(25.7)			
Sayana press	3(2.8)	10(8.7)	13(5.9)			
IUCD	27(25.0)	69(60.5)	96(43.2)			
Total	108(48.6)	114(51.4)	222(100)	68.155	6	0.000

Table 9. ANOVA showing relationship between breastfeeding and choices of contraceptive ANOVA[a]

Model		Sum of squares	DF	Mean Square	F	Sig.
	Regression	127.638	1	127.638	63.615	.000[b]
1	Residual	441.412	220	2.006		
	Total	569.050	221			

a. Dependent Variable: Choices of modern contraceptive; b. Predictors: (Constant), Breastfeeding

Table 10. Relationship between desire to have more children and choices of modern contraceptive

Modern contraceptive methods	Desired to have more children					
	Yes	No	Total	X^2	df	P-value
Condom	1(0.7)	0(0)	1(0.5)			
oral pills	6(4.2)	0(0)	6(2.7)			
Depo-Provera	29(20.7)	4(4.8)	33(14.9)			
Implants	12(8.5)	4(4.8)	16(7.2)			
Noristerat	28(20.0)	29(35.4)	57(25.7)			
Sayana press	11(7.8)	2(2.4)	13(5.9)			
IUCD	53(37.9)	43(52.4)	96(43.2)			
Total	140(63.1)	82(36.9)	222(100)	223.693	6	0.001

Table 11. ANOVA showing relationship between desire to have more children and choices of modern contraceptive ANOVA[a]

Model		Sum of squares	DF	Mean Square	F	Sig.
	Regression	28.953	1	28.953	11.793	.001[b]
1	Residual	540.097	220	2.455		
	Total	569.050	221			

Dependent Variable: Choices of modern contraceptive; Predictors: (Constant), Desired to have more children

The findings from the study further shows that majority of clients that were currently using modern contraceptives had previously used one or more methods of modern contraceptives and the most prevalent methods previously used were Injectables: Noristerat and Depo-Provera followed by Intra uterine contraceptive device (IUCD). However, Noristerat is the type of Injectables commonly used. Similarly, the most commonly used method by the current users were Injectables and IUCD, Noristerat being the most commonly used Injectables followed by Depo-Provera and Sayana press. This finding is supported by study conducted in rural north-west Tanzania that Injectables were the most preferred method used by contraceptive users followed by oral pills and implants [28]. This corroborates the report that injections, implants and pills were the most common contraceptive methods used by women of reproductive age [29].

Similarly, previous study concluded that Injections were preferred method of contraceptives among contraceptive users followed by oral pills while the least utilized methods were IUCD [2]. Despite IUCD being proven safe and highly effective in preventing pregnancies as well as provided for free in the government health clinics, women were still hesitant about using them [30]. This indicates a lack of knowledge about IUCD among women, which may be attributed to a bias among the health care providers reluctant to offer IUCD and hesitant to insert IUCD for their clients [1].

Moreover, finding reveals that sources of referral for contraceptives were health care professional. This might be due to regular public health education during antenatal and infant welfare clinics at government health institution. Information communicate messages to affect the behaviour, decision-making and outcome of any interventions, therefore information about family planning if conveyed to women plays a major pole in contraceptive use [2]. Evidence suggested that women who visit health facilities and are sensitized on family planning methods are more likely to use contraceptive methods than women without relevant information [31]. Women with relevant information on modern contraceptives from health facilities positively correlate with contraceptive use.

The result from the study revealed that current users of modern contraceptives have mean weight of 60.6 $\pm$ 11.7 kg which showed that the weight is appropriate with the Injectables (hormonal) being used by current contraceptive users in the study area. Obesity may affect the efficacy of hormonal contraceptives by altering how these drugs are absorbed, distributed, metabolized or eliminated [32]. Highly effective, long-acting, reversible contraceptive methods provide the most reliable contraception for all women, regardless of weight which should be considered first-line methods for obese and overweight women and can be offered to all appropriate candidates [32]. Nevertheless, blood pressure recorded among the current users of modern contraceptives were with 100/60 and 120/90 mmHg.

5. CONCLUSION

This study examined the prevalence and pattern of modern contraceptive utilization among women of reproductive age attending family planning clinic at primary level of health facility. The study investigated the relationship between age and choices of modern contraceptive, reproductive history and its influence on modern contraceptive choices among women of reproductive age. The result from the study suggested that modern contraceptive use increases with age and decrease with older age. Finding also suggested that the most prevalent methods of contraceptives were Injectables such as Noristerat and Depo-Provera and intrauterine contraceptive device (IUCD). Normal blood pressure and moderate body mass (weight) were observed among the women of reproductive age utilizing modern contraceptives. More so, age, number of children alive, breastfeeding and desired to have more children significantly influence choices of modern contraceptives. Therefore, there is need for Health care providers to increase public health education promotion of other methods of modern contraceptives such as male condoms, which prevent sexually transmitted diseases, and intrauterine devices, which are long-acting, reversible contraceptives with insignificant effects on weight. Women who are using hormonal contraceptive methods like implants oral pills and Injectables should be advised on weight management through healthy nutritional intake and regular physical activity to reduce the risk of weight gain, a risk factor for non-communicable diseases.

CONSENT

It is not applicable.

ETHICAL APPROVAL

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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