

Choice and Factors Associated With Contraceptive Use Among Perimenopausal Women Attending a Tertiary Hospital in Western Kenya.

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Research Article

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Abstract

Background

Women aged ≥ 40 years old are perimenopausal as they are in a transition phase marked with hormonal fluctuations that signal the end of fertility. Although their fertility is reduced, they are still at risk of pregnancy that is associated with adverse maternal-fetal compared to their younger counterparts. Pregnancies among women older than forty years are often complicated by comorbidities such as cardiovascular disease and malignancies; a situation that necessitates contraceptive use until menopause.

Objective

To determine the proportion of contraception use, choice, as well as factors influencing contraception utilization among women aged forty years or more at Moi Teaching and Referral Hospital (MTRH).

Materials and methods

A cross-sectional study among women aged 40–55 years attending specialist outpatient clinics at MTRH between January to December 2020. The clinics were stratified into 5 major clinical departments (Internal Medicine, Surgery, Obstetrics and Gynecology, General Oncology and Psychiatry) and proportionately sampled systematic ($k = 10$). Their sociodemographic and clinical characteristics as well as reproductive history, contraception use, or choice were collected using an interviewer-administered questionnaire. Descriptive statistical techniques were used to describe the study participants, while Pearson Chi Square and Fisher's exact tests were used to test the association between predictor variables and contraceptive use. Logistic regression was used to control for confounders and adjusted odds ratios computed at 95% confidence interval.

Results

We enrolled 359 women with a mean age of 44.8 (± 3.7) years, majority (94.4%) of whom attained at least a primary level of education and 352 (98.1%) had previously given birth. The overall proportion of contraception use was 44.6% ($n = 160$), with nearly equal proportions using modern hormonal (45.6%) and non-hormonal (46.9%) contraception methods. The leading contraceptives used were Depot Medroxy Progesterone Acetate (DMPA) at 23.1% and bilateral tubal ligation (22.5%). There was a significant increased likelihood between being aged 40–44 years ($p = 0.003$), multiparous ($p = 0.003$) and married ($p = 0.005$) and contraception use. Women who professed the catholic faith ($p = 0.013$), desired to conceive ($p = 0.003$) and experienced premenopausal symptoms ($p < 0.001$) had a significantly

reduced likelihood of using any form of contraception. Those diagnosed with hypertension ($p = 0.013$) and cardiac disease ($p = 0.008$) were significantly more likely to use non-hormonal contraceptives.

Conclusion

Less than half of the perimenopausal women enrolled used contraceptives. Majority of them opted for DMPA and bilateral tubal ligation. Being 40–44 years, married and multiparous were significantly associated with contraceptive use. Significant barriers to contraception were being catholic, desiring to conceive and having premenopausal symptoms. Women with heart disease and hypertension significantly used modern non-hormonal contraceptives.

INTRODUCTION

Contraception is the deliberate prevention of occurrence of a pregnancy by use of modern or traditional methods¹. Modern contraceptive methods can be further sub-classified either as hormonal or non-hormonal². The use of contraception until menopause allows women to properly plan for optimal family size. Contraceptive needs for women at different reproductive ages vary, with the ideal method changing over time³. The perimenopausal period is the transition phase from normal ovulation to permanent cessation of ovarian function, beginning around 40 years of age and lasts about two to eight years⁴. It is characterized by irregular menses, anovulatory cycles and later followed by twelve months of amenorrhea^{5,6}. Other common perimenopausal symptoms include mood instability, hot flashes, vaginal dryness and insomnia⁷.

Due to a decrease in ovarian function and quality of oocytes in women over 40 years, fertility reduces but does not disappear. Women can still spontaneously conceive even if they are aged fifty years². The fertility rate of women aged 40–44 years is 8.4 births per 1000 women declining to 0.2 per 1000 women in those aged 45 years or more. Therefore, effective contraception is required until menopause to prevent unintended pregnancies⁸. There has been an increase in the uptake of contraceptives worldwide over the past fifty years, however, this uptake has been lowest in Sub Saharan Africa⁹.

Globally, the overall contraceptive use among women of reproductive age is 48.5%. In countries with developed economies, there is higher contraceptive uptake among women of reproductive age with prevalence in Europe at 58.2%, Latin America at 58%, while Sub Saharan Africa has the lowest utilization rates at 28.5%¹⁰. In Kenya, the proportion of modern contraception use among married women of reproductive age increased from 32% in 2008 to 58% in 2014¹¹. When compared to countries such as United States of America (USA), 73.7% of women age 40–49 years in 2015–2017 were using a contraception method¹². In contrast, the contraceptive prevalence in Kenya is at 43.4% between ages 40–44 years and 31% in those aged 45–49 years (KDHS, 2014). Uganda reported similar findings of contraceptive use at 38.9% in women aged 40–44 years and 23.3% in those 45–49 years¹⁴.

Perimenopausal women are in different situations regarding their fertility. Some have achieved the desired family size, others have no children, and yet still, others have just begun childbearing^{15,16}. In addition, there is an increasing number of women globally, deferring childbearing to later reproductive years in pursuit of financial security, which raises the age at first birth or marriage¹⁷. Despite the deferment, many pregnancies in older women are unintended, either mistimed or unwanted occasioned by unmet need for contraception¹⁸. In the United States of America (USA), 48% of pregnancies in women aged 40 years or more were unintended¹⁹ while in Kenya, 20% of pregnancies in women aged 40 to 44 years were unintended¹¹.

Further, the resulting pregnancies in advanced maternal age are at higher risk of adverse fetal and maternal outcomes²⁰. Age is an independent risk factor for both chromosomal and non-chromosomal fetal anomalies as found by a Danish study where pregnant women aged 40 years or older had 44% risk of chromosomal abnormality as compared to those aged 20–34 years²¹. The odds of chromosomal anomalies such as trisomy 21 and 18 increase by 1.160 times as the maternal age increases by a year²². Other adverse pregnancy outcomes include caesarean section, postpartum haemorrhage, gestational diabetes mellitus and gestational hypertension, placenta previa and fetal malpresentation. The risk of maternal mortality in these women increases fivefold compared to women in their 20s^{4,23}. The risk of abortion is higher (50%) in those aged 45 years or more compared to 10–20% in those below 39 years²⁴. Therefore, it is vital to discuss the risks of pregnancy with older women and especially those with medical co-morbidities³.

On choice of contraception, none is contraindicated based on age alone²⁵. There are several safe and effective methods for women over 40 years, which also offer non contraceptive benefits, however, pre-existing medical conditions such as stroke can restrict the use of some methods.^{26,27} The suitable choice for an individual woman should be based on a complete history and physical examination by the health provider²⁸.

Women over the age of 40 years are perimenopausal (transitioning to menopause) and experience a myriad of reproductive health challenges and are at risk of developing adverse medical conditions. Despite a decline in fertility among women in this age group, there is a likelihood of unplanned conception among those who are still sexually active, and this necessitates adoption of effective contraception methods until menopause. These unintended pregnancies although disruptive to women irrespective of their age group are more detrimental in older women who have higher rates of adverse maternal and fetal outcomes because of their advanced age and comorbidities such as hypertension and diabetes. Anecdotal data indicates that more than half (62.8%) of women aged 40 to 49 years in Kenya are not using any form of contraception¹¹. This creates a huge group with unmet contraceptive need despite additional non-contraceptive benefits such as alleviation of perimenopausal symptoms, reduced risk of gynaecological malignancies and sexually transmitted diseases.

Most documented studies on contraception uptake have examined individual, institution, and community determinants of contraceptive use among women of reproductive age. However, there are limited studies focusing on the contraception choice and factors affecting their utilization among perimenopausal women. Therefore, this study analysed contraception use, choices and the factors affecting contraceptive utilization in this special group of women at Moi Teaching and Referral Hospital in Western Kenya.

MATERIALS AND METHODS

The cross-sectional descriptive study was carried out at Moi Teaching and Referral Hospital (MTRH) which is the largest hospital in Western Kenya. It is the second largest tertiary referral hospital in Kenya, located in Eldoret town - Uasin Gishu County. We enrolled women aged 40 to 55 years attending consultant outpatient clinics (Internal Medicine, Surgery, Obstetrics and Gynaecology, General Oncology and Psychiatry) at MTRH. The women had to be experiencing menstrual periods or have less than one year since their last menstrual period. Women with surgical menopause (following hysterectomy or oophorectomy), medical menopause (following a recent history of pelvic irradiation or chemotherapy) or were very ill were excluded. The sample size was calculated using the Cochran formula and a random systematic sampling (k = 12) conducted (Supplementary Material 1). The outcome of interest was current use or non-use of contraception. The contraceptives were grouped as either modern, traditional or other method. Modern contraceptives were re-classified into hormonal methods and the non-hormonal methods. Women using rhythm and withdrawal methods were grouped as using traditional contraception. Reasons for contraceptive non-use were also documented. Women who were currently using more than one method were classified by the method that was most effective in preventing pregnancy. The identified associated factors were sociodemographic (age, marital status, partnership status, level of education, occupation, area of residence, religion), clinical (chronic and other comorbid diseases namely cancer, cardiovascular disease, diabetes mellitus and hypertension in pregnancy) and reproductive (parity, age at first birth, fertility desire, births or miscarriage after the age of forty years and perimenopausal symptoms). Parity was grouped into four: none (no children), low parity (one to two children), multiparous (three to four children) and grand multiparous (five or more children) characteristics. Data was collected using interviewer administered questionnaire and review of medical records. The Statistical computation of descriptive statistics such as frequencies and the corresponding percentages were used to summarize categorical variables such as level of education and marital status. Continuous variables such as age, duration of relationship and number of children were summarized using mean and the corresponding standard deviation if the normality assumptions hold else the median and corresponding inter quartile range were used. Inferential statistical techniques such as Pearson chi-square tests and Fischer's exact tests (Critical Value ≤ 0.05) and Odds ratios (95% Confidence Interval) were used to compare the level of significance between independent variables and contraceptive use. Multivariate logistic regression was used to adjust for confounders of contraceptive use. Results was presented using tables and graphs. Written informed consent was obtained from all participants prior to enrolment and ethical approval obtained Moi Teaching and Referral Hospital/Moi

University School of Medicine Institutional Research and Ethics Committee (IREC). Amendments were also done through IREC. IREC number IREC/2017/237.

RESULTS

This study enrolled 359 perimenopausal women with a mean age of 44.8 (\pm 3.7) years. Majority (72.1%; n = 259) were married, lived in rural settings (65.2%; n = 234) with their partners (60.7%; n = 218), had at least primary level education (50.1%; n = 180) and 282 (78.6%) professed the protestant Christian faith. 45.4% had a parity between 3–4 while 86.6% still had a fertility desire (Table 1),

Table 1
Sociodemographic Characteristics (N = 140)

Sociodemographic Characteristic		n (%)
Maternal age	40–44	193 (53.8)
	45–49	120 (33.4)
	≥ 50	46 (12.8)
Residence	Rural	234 (65.2)
	Urban/Town	125 (34.8)
Marital status	Married	259 (72.1)
	Single	48 (13.4)
	Separated.	35 (9.7)
	Widow	17 (4.7)
Level of education	None	20 (5.6)
	Primary	180 (50.1)
	Secondary	110 (30.6)
	Tertiary	49 (13.7)
Formal Employment	Yes	43 (12.0)
	No	316 (88.0)
Religion	Protestant	296 (82.5)
	Roman Catholic	60 (16.7)
	Others	3 (0.8)
Age at 1st birth	None	7(1.9)
	≤ 19	118(32.9)
	20–34	226(63.0)
	≥ 35	8(2.2)
Parity	0	7(1.9)
	1–2	62(17.3)
	3–4	163(45.4)
	≥ 5	127(35.4)
Fertility desire	Yes	48(13.4)

Sociodemographic Characteristic		n (%)
	No	311(86.6)
Births after 40 years	None	283(78.8)
	Planned	24(6.7)
	Unplanned	52(14.5)
Miscarriage after 40 years	Yes	25(7)
	No	334(93)
Premenopausal symptoms	Yes	149(41.5%)
	No	210(58.5%)

This study reports that less than half 160 (44.6%) of all the participants enrolled were using contraceptives. The most common contraceptive methods were Depot medroxyprogesterone acetate (DMPA) at 23.1%, followed closely by bilateral tubal ligation (22.5%), implants 19.4%, Jadelle (12.5%), Implanon (6.9%), copper intrauterine device (17.5%) and condoms at 6%. The least frequent contraception methods were emergency pills, combined oral contraceptives and withdrawal. One participant (1%) used a Chinese monthly pill for contraception (Fig. 1).

The most used category of contraceptives was modern (non-hormonal) contraceptives followed by the hormonal ones. Modern hormonal contraceptives were used by half of the women aged 40–44 years. However, those aged 45–49 years and 50 years, or more were mainly using non-hormonal contraceptives. Traditional contraception methods were the less utilized by women older than forty years. We report a statistically significant association between being aged 40–44 years, primary level of education, higher (multiparous and grand-multiparous) parity and the use of contraception. Women aged 40–44 years were more likely to use contraceptives compared to those > 50 years (AOR = 1.767; 95% CI: 0.846, 3.689; p = 0.003) as shown on Table 2.

Table 2
Socio demographic and Reproductive factors Promoting Contraception Use

Socio demographic and Reproductive Factor (N = 160)		n (%)	COR (95% CI)	AOR (95% CI)	p-value
Maternal age	40–44 years	99 (61.9)	1.289 (0.995, 1.669)	1.243 (0.900,1.718)	0.047
	45–49 years	48 (30.0)	Reference	Reference	
	40–44 years	99 (61.9)	1.885 (1.161, 3.060)	1.767 (0.846,3.689)	0.003
	≥ 50 years	13 (8.1)	Reference	Reference	
Formally Employed	Yes	21 (13.1)	Reference	Reference	0.054
	No	139 (86.9)	1.110 (0.798, 1.545)	0.656 (0.223,1.934)	
Marital Status	Married	99 (61.9)	1.515 (1.107, 2.074)	1.361 (0.969,1.913)	0.005
	Not Married	61 (38.1)	Reference	Reference	
Parity	Low Parity	19 (11.9)	Reference	Reference	0.003
	Multiparous	85 (53.1)	1.469 (1.168, 1.848)	1.381 (1.103,1.729)	
	Low parity	19 (11.9)	Reference	Reference	0.094
	Grand-multiparous	55 (34.4)	1.223 (0.997, 1.532)	0.713 (0.422,1.203)	
Age at First Birth	< 35 years	157 (98.1)	1.819 (0.545, 6.075)	0.475 (0.404,0.559)	0.250
	≥ 35 years	2 (1.3)	Reference	Reference	
Births after age 40 years	Planned (N = 24)	14 (58.3)	1.264 (0.808, 1.978)	1.203 (0.585,0.476)	0.324
	Unplanned (N = 52)	24(46.2)	Reference	Reference	

Those professing the Catholic faith were significantly ($p = 0.013$) more likely (AOR = 1.333; 95% CI: 1.094, 1.624) not to use contraception compared to those professing other faith. Those with primary education or less had an increased likelihood of contraception non-use compared to those with secondary or tertiary education (AOR = 1.035; 95% CI: 0.484, 2.213; $p = 0.017$). Similar findings were reported among those with a fertility desire ($p = 0.003$) and premenopausal symptoms ($p < 0.001$) as shown on Table 3.

Table 3

Test of Association between the participants' characteristics and barriers to contraceptive use

Participant Characteristic		n (%) <i>Not using</i>	COR (95% CI)	AOR (95% CI)	p-value
Religion	Catholic (N = 60)	42 (70.0)	1.333 (1.094, 1.624)	1.135(0.815,1.581)	0.013
	Non-Catholics (N = 299)	157(52.5)	Reference		
Level of Education	≤Primary (N = 200)	122 (61.0)	1.260 (1.036, 1.531)	1.035(0.484,2.213)	0.017
	≥Secondary (N = 159)	77 (48.4)	Reference		
Fertility Desire	Yes (N = 48)	36 (75.0)	1.431 (1.178, 1.738)	1.385(1.031,1.859)	0.003
	No (N = 311)	163(52.4)	Reference		
Miscarriage (> 40 years)	Yes (N = 25)	16 (64.0)	1.168 (0.857, 1.592)	1.285(0.753,2.191)	0.547
	No (N = 334)	183(54.8)	Reference		
Pre-menopausal Symptoms	(Yes = 149)	99 (66.4)	1.395 (1.163, 1.674)	1.143(0.829,1.575)	< 0.001
	No (N = 210)	100(47.6)	Reference		

This study reports that some perimenopausal women (≥ 40 years) in this study were diagnosed with chronic diseases, however, this study focused on cardiovascular diseases and cancer as they are prevalent with advancement in age. The proportion of perimenopausal women using contraceptives with hypertension were (12.8%; n = 46), diabetes mellitus (13.4%; n = 48), heart diseases (11.7%; n = 48) and cancer (12.8%; n = 46). The most common method used by hypertensive women on contraceptives was modern contraception 92.3% (n = 24) with the rest on traditional contraception. Most (70.8%; n = 17) women on modern contraception opted for non-hormonal contraceptives with more than one-quarter (29.2%) using hormonal contraceptives. Hypertensive women were significantly ($p = 0.013$) more likely (OR = 1.621; 96% CI: 1.190, 2.208) to use modern non-hormonal contraceptives compared to hormonal contraceptives. Women with heart disease were significantly ($p = 0.008$) more likely (OR = 1.758; 95% CI: 1.304, 2.370) to use non-hormonal contraceptives compared to hormonal methods (Table 4).

Table 4
Test of association between chronic disease and type of contraception

Chronic Disease	Hormonal	Non-Hormonal	p-value	Odds Ratio (95% CI)
Hypertension	7 (29.2%)	17 (70.8%)	0.013	1.621 (1.190, 2.208)
Diabetes	13 (65%)	7 (35%)	> 0.05	-
Heart Disease	4 (23.5%)	13 (76.5%)	0.008	1.758 (1.304, 2.370)
Cancer	6 (42.9%)	8 (57.1%)	> 0.05	-

Hypertension and cardiac disease were significantly associated with non-hormonal contraceptives and but on multivariate logistic regression, they were not significantly affected by sociodemographic (religion, age group and marital status) and reproductive (parity) characteristics as confounders (Table 5).

Table 5
Logistic Regression model between clinical characteristics and non-hormonal contraceptives use.

Clinical Characteristic (confounders)	AOR (95% CI)	p-value
Hypertension		
Religion (Catholic)	1.621(1.190, 2.208)	0.022
Age (40–44 years)	2.080 (1.506, 2.654)	0.032
Marital Status (Married)	1.938 (1.446, 2.430)	0.001
Parity (Multiparous)	2.113 (1.608, 2.618)	0.007
Cardiac Disease		
Religion (Not Catholic)	1.791 (1.346, 2.382)	0.009
Age (45–49 years)	2.111 (1.510, 2.952)	0.012
Marital Status (Married)	1.867 (1.353, 2.576)	0.031
Parity (Multiparous)	2.769 (2.037, 3.765)	0.001

DISCUSSION

This study enrolled 359 participant's majority (53.8%) of whom were aged 40–44 years. This age group is lower than the mean age of 51 (4.1) years reported in a Turkish study²⁹. Nearly two thirds (65.2%) of the study participants lived in the rural settings, a finding similar to that of a Kenyan³⁰ study at 62.6% and two Nigerian^{31,32} studies where more than two-thirds (68.6%) and 63.2% respectively lived in the rural settings. This finding contrasts with that reported in Malawi³³ and Ghana³⁴. In Malawi³³ than two-thirds

(80.2%) of the women enrolled lived in the rural settings while in the Ghanaian study³⁴ more than two-thirds live in the urban settings. Furthermore, most (72.1%) of the participants enrolled were married just like that reported in a previous study conducted in Nigeria³² where 71.8% were married. This is contrast with Kenya³⁰ at 51.6% and Botswana³⁵ (32.9%) was lower than that in the current study. Most (63%) of the women enrolled got their first child when aged between 20–34 years. This finding matches that from Nigeria³¹ at 53.8%. Furthermore, 45.4% of this study's participants were multiparous, a finding higher than Malawi³³ at 34.1%. Parity is a major predictor for contraception use. The higher the number of children, the greater the likelihood for contraception. Parity assessment also goes in line with the fact that more than half (54.7%) of this study participants did not have fertility desire. A finding that contrasts what was reported in Malawi³³ and the United States of America³⁶ where 58.8% of the participants still had a fertility desire.

Secondly, this study reports that less than half 160 (44.6%) of all the perimenopausal women enrolled were using contraceptives. Although this figure was higher than the contraceptive rate reported by KDHS at 37.1% in women aged 40–49 years, it is still unacceptably low.¹¹ This low uptake rate could be attributed to the fact that many participants had a chronic or comorbid disease which could cause adverse pregnancy outcomes. Studies in countries with developed economies showed a high prevalence of rate contraception use despite a chronic disease with a prevalence of 89.3% in Iran³⁷ and 73.7% in USA³⁸ This is because these countries with developed economies have better health policies, economic status and behavioural factors that promote contraceptive use. The overall proportion of contraception reported in this study matches that reported in Canada where the overall proportion of contraception use among women aged 40 years or more was 40.3%.³⁹ The rate of contraception uptake was stratified by age brackets, with the highest proportion (62.5%; n = 100) being among those aged 40–44 years. This proportion of contraception among those aged 40 to 44 years of age is higher than that reported in a previous Kenya Demographic Health Survey (KDHS) of 2014¹¹ at 48.4%. This difference could be attributed to temporal changes in trends. As the population rises, economic circumstances change and more women get sensitized, so does the proportion of contraception use. However, the KDHS study was national, and this could influence the overall proportions compared to the current study which was conducted in a single centre in a public national hospital. Additionally, the proportion of contraception among women aged 40–44 years reported in this study is higher than that in Malawi³³ where 37.5% of women in this age group were on contraceptives. Higher proportions of contraception among women aged 40-44years were reported in the United States of America at 75%³⁸ and in a systematic review sanctioned by the European Society of Human Reproduction and Embryology (ESHRE) between 66–90%.⁴⁰ (Baird et al., 2009). This difference could be attributed to socioeconomic differences, affordability and accessibility to contraceptives in the countries under review.

Third, among all participants on contraceptives, 92.5% of them were using modern contraceptives; a finding that compares to a Turkish demographic health survey of 2013 at 90.9%.⁴¹ A previous study⁴² proposed that women who have contraindications for using combined hormonal contraceptives can use

progestin-only contraceptives such as pills, implants and injectables. This study reports that DMPA was the most commonly (23.1%) used contraceptive by women older than 40 years. The high DMPA use reported in this study could be attributed to its rising popularity Sub-Saharan Africa in comparison to global rates⁴³. Furthermore, its high effectiveness, convenience, relatively long duration of action and secrecy especially in women whose spouses oppose the use of contraceptives could contribute to the high usage⁴³. The low adoption of DMPA in countries with developed economies could be because progestin injectables, pills and implants have unwanted side effects such as heavy, irregular, prolonged uterine bleeding⁴⁴. For late reproductive age women with a desire for conception, DMPA causes fertility delay which is ruinous when it co-exists with advanced maternal age.⁴⁵ (FSRH, 2017). The risks of DMPA use could also outweigh its benefits in patients with uncontrolled blood pressure ($\geq 160/95$ mmHg), stroke, ischemic heart disease, vascular disease, diabetes with vascular disease and in those with multiple risk factors for cardiovascular disease.⁴⁵ Therefore, premenopausal women with chronic diseases and other comorbidities could use progestin implants as they are safer compared to DMPA until menopause.⁴⁴

This study reports a low (1.25%) utilization rate of combined oral contraception (COCs) among women aged 40–44 and more than 50 years while none of those aged 45–49 years used COCs. These findings are consistent with findings from other demographic health surveys conducted in Ethiopia⁴⁶ and Nigeria⁴⁷ where low rates of COC use of 2.1% and 1.4% respectively. The clinical decision to recommend the use COC in women over > 40 years is based on health risks and non-contraceptive benefits of this form of contraception.⁴⁸ These COCs are contraindicated for women with risk for cardiovascular disease attributed to smoking, obesity, uncontrolled hypertension, or diabetes.⁴⁸ Male or female sterilization is a popular method in the Western countries with 68.9% of women older than 40 years in the United States of America reporting their sterilization or that of their partners.⁴⁹ Particularly, male sterilization (vasectomy) is very common in developed countries with approximately 28% of women aged 40–44 and 30% of those aged 45–49 years reporting that their male partners had undergone vasectomy in the United Kingdom.⁵⁰ However, in demographic health surveys conducted in Kenya,¹¹ Nigeria⁴⁷ and Ethiopia⁴⁶, none of the perimenopausal women interviewed reported that their male spouses had undergone vasectomy. This is because many African women have a negative perception on vasectomy as it causes impotence to their partners, it is not culturally acceptable and increases the likelihood of marital infidelity.⁵¹ On the other hand, this study reports that Bilateral tubal ligation (BTL) was the second most popular contraceptive method used by 12.5% of women aged 40–44 years with a declining probability of use as the age groups advanced. This could be attributed to the fact that majority of the women older than 40 years had achieved their desired family size and had chronic illnesses making BTL an optimal contraceptive option. This explains the reason why the hospital data obtained from this study was almost double that previously reported average of 7.1% in Kenya's demographic health survey¹¹. Despite this increasing popularity of BTL, sterilization does not confer non-contraceptive benefits of treating vasomotor symptoms and regulating menstrual cycles that have been reported⁴⁸ with other forms of oral contraceptives.

Lastly, the study reviewed participants characteristics that promoted or impeded contraception uptake. Women aged between 40–44 years were significantly more likely to use contraception compared to those aged 45–49 years ($p = 0.047$) and older than 50 years ($p = 0.003$). This finding is similar to previous studies in Malawi³³, Canada³⁹, Congo⁵² and Ghana.³⁴ Older women have reduced likelihood of pregnancy and coital frequency limiting their desire for contraception.³⁶ This contrasts findings from countries with developed economies such as the United Kingdom where there was a higher uptake of contraceptives among perimenopausal women.⁵⁰ In a study conducted in Rochester in New York, women in their forties had a low perception of being pregnant despite presenting with unplanned pregnancy.³⁶ This matches with the current study's finding where 14.5% of the women enrolled reported having had unplanned pregnancy in their forties. It is recommended that women in their forties use contraception to prevent unintended pregnancies due to the increased likelihood of fetal-maternal morbidity and mortality and advanced risk of chronic comorbidities further worsening pregnancy outcomes.⁵³

Married women were more likely ($p = 0.005$) to be on contraceptives than the non-married similar to a study in Ethiopia⁵⁴ ($p = 0.002$). In Malawi³³, it was reported that the use of contraceptives among married women increases with the advancement in age (peaking between 40–44 years). Couples who are married might opt to postpone conception using contraceptives, or they might be content with the number of children already born, increasing their desire for contraception.^{33,55} Married women have a higher coital frequency compared to single women further increasing their need for contraception to either space or postpone childbirth.⁵⁶ Furthermore, multiparous women had a significantly greater likelihood ($p = 0.003$) of using contraceptives compared to women with low parity. This is similar to findings in Nigeria³¹ Vanga-Congo⁵² where multiparous women were significantly ($p < 0.001$) more likely to use contraceptives compared to women with a low parity. Women with many children have a lower desire for children, further increasing contraception uptake compared to low parity women who might still desire to conceive.⁵⁷

Those professing the catholic faith were significantly ($p = 0.013$) more not to use contraception compared to those professing other faith in this study. This study found 70% of Catholics did not use contraceptives which was even higher than another study conducted in Kenya⁵⁸ where Catholics were less likely to use a contraceptive method than those with a different religious background. The Roman Catholic Church discourages its faithful's from using modern contraceptives as birth control measures as it promotes marriage promiscuity.⁵⁸ (Agata, 2020). In countries which are predominantly catholic, the church influences the government policies, limiting contraceptive use. Despite these measures, Catholics are still using modern contraceptives such as women of reproductive in Zambia⁵⁹ at 47.6 percent (Lasong, 2019),

Women diagnosed with hypertension were significantly ($p = 0.013$) more likely to use modern non-hormonal contraceptives compared to hormonal contraceptives. The most common contraceptive methods used by the hypertensive women were bilateral tubal ligation and copper intra uterine device at

30.8% each. This is similar to a study in Iran³⁷ where 37.8% of women over 40 years used sterilization, while the second popular method used was withdrawal (35.4%) as most of these women reverted to natural methods after the diagnosis of hypertension. Previous studies have reported that the incidence of hypertension in non-pregnant women increases with the advancement of age, making perimenopausal women at an increased risk.⁶⁰ For women on hormonal contraceptives, such as combined oral contraceptives, there is need for a complete evaluation for obesity, hypertension, diabetes or migraine and smoking history to evaluate for suitability of use.⁶¹ This is because women using progestin-only pills and have pre-existing hypertension have been noted to have an increased risk of stroke compared to hypertensive women not on this form of hormonal contraception.⁶¹

Cardiac conditions such as rheumatic heart disease, ischemic heart disease, cardiomyopathy, pulmonary hypertension, arrhythmias and congenital heart disease are also at risk.⁶² This study observed that 42 (11.7%) of the women enrolled had a history of heart disease with less than half of them 17 (40.5%) were on contraceptives. A mixed study in Uganda found a low prevalence of 14% in women aged 15–55 years with rheumatic heart disease.⁶³ Cardiac diseases could lead to life threatening events and maternal-fetal complications thus contraceptive use is extremely vital to protect against unintended pregnancies⁶⁴ Pregnancy is contraindicated in some cardiac diseases such as severe mitral stenosis, severe ventricular systemic dysfunction and severe coarctation.⁶⁴ The likelihood of thrombotic stroke occurrence was demonstrated to vary based on the estrogen-ethinylestradiol dose and progesterone.^{20,65,66} However, the transdermal patch may confer greater likelihood for stroke compared to combined oral contraceptives^{65,66}. The use of combined oral contraceptives among women with heart disease increases the risk of arterial, venous and cardiac thrombosis.⁶⁵ non-hormonal contraceptives such as barrier methods are considered to be safer for cardiac patients although they carry a higher likelihood (five-fold) of contraception failure.⁶⁷

This was a hospital-based study and its findings cannot be generalized to the entire community as most of the women enrolled had comorbidities that made them visit the hospital. There is need for future studies conducted in communities and adopting mixed methods to assess the influence of probable contraception use confounders such as cultural and geographic factors.

CONCLUSIONS AND RECOMMENDATIONS

This study contributes to the knowledge on the dynamics of contraception use among women of advanced age which is under studied. Previous studies have focused on the fetal and maternal outcomes among women of advanced maternal age without addressing the prevention options for unwanted pregnancies which is key in tackling the probability of adverse pregnancy outcomes.

Less than half (44.6%) of the perimenopausal women enrolled in this study used contraception. Majority of them opted for modern non-hormonal followed by modern hormonal contraceptives. Specifically, Depot Medroxy Progesterone Acetate (DMPA) was the most commonly used contraceptive. For those

with hypertension and heart disease, there was a significantly increased likelihood of using non-hormonal contraceptives. Furthermore, perimenopausal women aged (40–44 years), married and multiparous were more likely to use contraceptives. However, the significant barriers to contraception were being catholic, desire for children, premenopausal symptoms and low level of education. Women not on contraceptives cited health concern as a major reason for non-use.

The findings of this study create the need to address the sociodemographic, reproductive and health barriers to contraceptives uptake by perimenopausal women. Contraception choice advice should factor in the reproductive, socio demographic characteristics as well as comorbidities since no contraception method is contraindicated on the basis of age alone. Future community-based studies adopting mixed methods should be conducted to further explore the barriers and promoters of contraceptive utilization among perimenopausal women.

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Figures

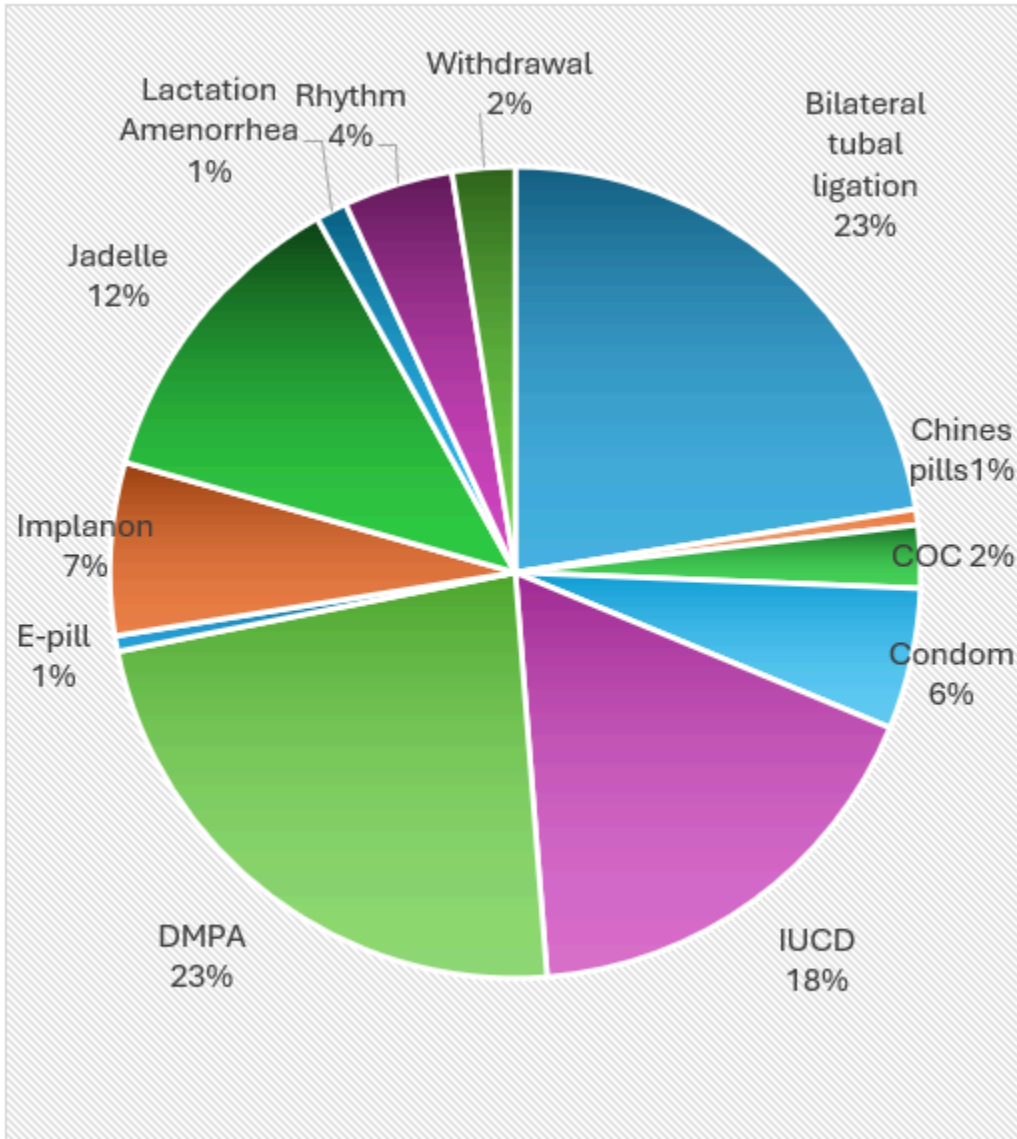


Figure 1

Types of Contraceptives Used

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