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Modern contraceptives use and associated factors among perimenopausal women in Ethiopia

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Abstract

Introduction: *many women think they can stop using contraceptives once they are in their 40s, as they are aware that their fertility declines. Nevertheless, women do still get pregnant in their late 40s and even into their 50s, which necessitates the continuation of contraceptive use if pregnancy is to be avoided. However, no study has evaluated the magnitude and factors associated with contraceptive use of perimenopausal women in Ethiopia. Thus, this study aimed to estimate the prevalence of contraceptive use and associated factors among perimenopausal women in Ethiopia.* ***Methods:*** *a secondary data analysis from 2016 Ethiopian Demographic Health Survey (EDHS) was performed. The EDHS were a population-based*

cross-sectional study which was undertaken from January 18, 2016 to June 27, 2016. A total of 2,263 women aged between 35-49 years were included. Multivariable logistic regression analysis was carried out to identify determinants of contraceptive use. Variables with a p-value <0.05 were defined as statistically significant. ***Results:*** *the prevalence of modern contraceptive use among perimenopausal women in Ethiopia was 18.9% (95% CI: 17.3, 20.6). Women aged between 35-39 years (AOR = 2.21, 95% C.I: 1.53, 3.20), living with husband currently (AOR = 2.80, 95% C.I: 1.59, 4.95), and women who received counseling about contraceptive side effects (AOR = 3.72, 95% C.I: 2.22, 6.25) were factors associated with increased odds of using modern contraceptive whereas women having less than five living children (AOR = 0.43, 95% C.I: 0.29, 0.89) and wanting more children (AOR = 0.58, 95% C.I: 0.47, 0.86) were associated with decreased odds among perimenopausal women.* ***Conclusion:*** *this study has shown that modern contraceptive use among perimenopausal women in Ethiopia was low and multiple factors determined likelihood of use. Thus, implementation of consistently effective family planning policies and programmes among older women is needed in Ethiopia. Moreover, public health interventions that consider age of woman, current marital status, number of living children, women fertility preference, and counseling about contraceptive side effects should be designed and implemented to increase modern contraceptive use in perimenopausal women in Ethiopia.*

Introduction

Midlife is the phase in the aging process that marks a phase of declining fertility as women approach and complete the change to menopause [1,2]. The perimenopause is a period preceding the menopause in which biological, endocrinological, and clinical features of impending menopause begin, and the first year after the final menstrual period [3-5]. The menopause is a phase of permanent cessation of menstruation resulting from loss of ovarian follicular activity [5,6]. During the reproductive life span, there is a steady reduction in the number of ovarian primordial follicles, and the rate of follicular loss starts to accelerate after approximately 40 years of age [7]. Although natural fertility declines during the premenopausal, ovulation can continue up to 98% of women over the age of 40 who have regular menstrual cycles [8]. With reproductive aging, the possibility of pregnancy continues until women reach the time of the final menstrual period [9]. During the midlife phases, menstrual cycles tend to become irregular, which emphasizes the necessity for the continued use of contraceptives to void risk of unplanned pregnancies [10].

Pregnancy in the midlife of women is often associated with an increased number of complications such as hypertension, diabetes mellitus and miscarriage which leads to a higher maternal as well as perinatal death, and greater incidence of fetal malformation [11]. Various gynecological disorders such as dysfunctional uterine bleeding, uterine fibroids, endometrial hyperplasia and carcinoma are also more frequently encountered in premenopausal women [12,13]. Many women think they can stop using contraceptives once they are in their 40s, as they are aware that their fertility declines [14]. Nevertheless, women do still get pregnant in their late 40s and even into their 50s, which necessitates the continuation of contraceptive use if pregnancy is to be avoided [15]. Evidence from the United States of America (USA) emphasized the importance of contraception for the older woman, as the highest percentages of unplanned pregnancies have been in women older than 35 years [11]. Literature also suggests that contraceptive use should be continued for a period of one year after the last natural menstrual period [16,17].

Though the provision of effective contraception remains equally important, older women often have contraceptive requirements which differ from those of younger women as all methods may no longer be suitable on medical grounds [18,19].

Consequently, women become less likely to use contraceptives after the age of 40 [20]. Previous studies revealed that the rate of contraceptive utilization varies across women age group with prevalence of 37% among 15-19, 52% in 20-24 and 18% in 45-49 years due to several factors [21]. In Ethiopia, much attention has been paid in recent years to modern contraceptives use and its associated factors among reproductive-age women, no study has evaluated the magnitude and factors associated with contraceptive use of midlife women. A greater understanding of contraceptive use of midlife women will inform policy-makers, programmers, implementers and other stakeholders to strengthen family planning services provision by considering the needs of midlife women. Thus, this study was aimed to assess the magnitude of modern contraceptive use and associated factors among midlife women in Ethiopia, using the 2016 Ethiopian Demographic and Health Survey (EDHS 2016) dataset.

Methods

Data source: this study used data extracted from EDHS 2016. The 2016 EDHS data was collected through a community-based cross-sectional survey from January 18, 2016 to June 27, 2016. The data extraction and cleaning process was conducted from April 24 to May 02, 2021. A two-stage stratified sampling technique was done to select a representative sample. At first, overall 645 enumeration clusters were randomly selected proportional to the household size; of which 202 were in urban and 443 were in rural. Enumeration clusters are geographic areas covering on average 181 households. Second, 28 households per cluster from the newly formed household list were selected using a systematic random sampling technique. A nationally representative sample of 16,650 households were identified and interviewed from 18,008 selected households, yielding a response rate of 92.5%. Lastly, a total of 15,683 reproductive-age women were interviewed as they were identified as eligible (women aged 15-49 years). A detailed description of methodological approaches used in the EDHS has been explained elsewhere [22]. The extracted data used in this analysis were weighted to adjust variations in probability of selection and non-response. This analysis included all premenopausal women between 35-49 years of age, and who were married/in sexual union and non-pregnant. Accordingly, a total of 2263 women were included in the final analysis.

Study variables

Dependent variable: the data on utilization of contraceptives were taken from the woman´s questionnaire. The main outcome variable of this study was contraceptive use, which was categorized into two outcome categories (yes/no). It was defined as use of modern contraceptive at the time of the survey based on the woman´s self-report. Modern contraceptive methods computed in this study include; oral contraceptives, female sterilization, implant, injectable, Intrauterine Device (IUD), emergency contraceptive and condom [22].

Independent variables: based on the literature, independent variables included in the analysis were age (35-39, 40-44, 45-49), marital status (married/living together, married but not together), religion (Orthodox, Muslim, Protestant and Catholic), educational level (no formal education, primary school, secondary school, and higher education), current working status (yes, no), wealth status/quantile (poorest, poorer, middle, richer, richest), residence (urban, rural), number of children alive (categorized as less than 5, 5 and more), woman´s fertility preference (wants to have more children, wants no more children), husband´s fertility desire (yes, no), decision-maker on contraceptive use (mainly respondent, mainly husband/partner, and joint decision), history of visiting a health facility (yes, no), whether had a discussion with healthcare provider on contraception (yes, no), and counseling about side effects of contraceptives (yes, no).

Statistical analysis: the data for this analysis were accessed from the MEASURE DHS database. After getting permission from MEASURE DHS, the data sets were downloaded in SPSS format for extraction. Study weights were accounted in the regression analysis. Sampling weight was applied to an individual interview unit to produce the appropriate representation of family planning information and related factors as well as to adjust for differences in the probability of selection and interview that could occur due to design, coincidence, or corrections for differential response rates. The data analysis was executed using Statistical Package for Social Science (SPSS) version 20. The variance inflation factor (VIF) and the likelihood ratio test were used to check multicollinearity between covariates and the goodness of fit, respectively. Finally, variables with a p-value of less than 0.05 in the multivariable analysis were considered statistically significant. Descriptive statistics including frequency count and proportions were used to summarize the descriptive data. Initially, candidate variables for multivariable logistic regression were selected using bivariate logistic regression models. Then, variables with $p<0.2$ in the bivariate logistic analysis were fitted in the multivariate logistic regression analysis. Adjusted Odds Ratios (AOR) with corresponding 95% Confidence Interval (CI) were calculated to determine the strength of association between predictors and contraceptive use.

Ethics approval and consent to participate: the Ethiopian Health and Nutrition Research Institute (EHNRI) Review Board, the National Research Ethics Review Committee (NRERC) at the Federal Democratic Republic of Ethiopia Ministry of Science and Technology, the ICF Macro Institutional Review Board, and the Centers for Disease Control and Prevention (CDC) has approved the protocol developed for the use of the EDHS data. Written consent for participation was obtained from each respondent (as indicated in the EDHS 2016 publications). After developing the protocol, the author requested the data by registration on the MEASURE DHS website at: as the dataset of the EDHS is not available as a public domain survey dataset. Finally, demographic and health survey program team granted to access and use the data for this research.

Results

Socio-demographic and economic characteristics of participants: out of the 2,263 midlife women included in this study, 48.1% were in the age group of 35-39 years and 39.8% were aged 40-45. More than three-fourths, (78.4%) were married and currently living together with their husband, and 72.6% were from rural areas. Nearly two-thirds, (65.4%) were Orthodox followed by 28.0% who were of Muslim religion. More than two-fifths, (45.3%) of the women had no formal education, and only 31.4% had a primary education. Regarding wealth status, one-thirds (33.4%) of the women were categorized as being in the poorest wealth quintile, whereas only 16.5% were categorized as being in the richest wealth quintile. Concerning regional distributions, 11.6% were from Addis Ababa administrative city, followed by 11.2% from the Oromia region (Table 1).

Reproductive and obstetric characteristics of participants: more than half, 54.2% of these perimenopausal women had less than five living children. More than three-fifths, 12.2% of the women in midlife, had a history of terminated pregnancy. Concerning the desire to have children, 62.0% of women reported that their husbands wanted to have additional children. Almost three-fifths, (59.7%) of perimenopausal women wanted to have additional children. Regarding decision-making on contraceptive use, about 19.5% made a joint decision about using a contraceptive method, while decisions on contraceptive use were mostly made by the husband/partner alone by (63.1%) of couples. More than one-third, (34.6%) of the women, had visited a health facility in the last 12 months. Of women who had visited the health facility, 35.4%

had discussed family planning with healthcare workers, and 30.2% had been counseled by healthcare workers regarding the side effects of contraceptives (Table 2).

Prevalence of modern contraceptive use: the prevalence of modern contraceptive utilization among premenopausal women in Ethiopia was 18.9% (95% CI: 17.3, 20.6), while the overall prevalence of any contraceptive method utilization was 19.8%. There was a disparity in modern contraceptive utilization by socio-demographic and socio-economic characteristics of participants. Only 26.4% of women aged 35-39 years utilized modern contraceptive method, whereas 11.1% of women aged 40-44 years utilized modern contraceptive methods. A higher proportion of 20.2% of modern contraceptive utilization was observed among women who were married and living together, whereas 14.3% of women who were married and not living together currently utilized modern contraceptive methods. Only 15.9% of rural residents utilized modern contraceptive, whereas 27.0% urban residents utilized modern contraceptive. Modern contraceptive utilization also varied highly based on respondents´ wealth index; only 11.5% of premenopausal women from the poorest households utilized a modern contraceptive, whereas 18.2% of women from the richest households utilized a modern contraceptive method. A great disparity in modern contraceptive utilization was also observed by regions of Ethiopia; the highest modern contraceptive utilization (32.0%) was observed in Addis Ababa administrative city, whereas the lowest modern contraceptive utilization (4.5%) was observed in Somalia region. The most preferred modern contraceptive method for women in midlife was injectable (10.8%) followed by implants (5.3%), whereas condom/barrier method (0.1%) was the least preferred contraceptive method (Figure 1).

Factors associated with modern contraceptive use in midlife women: in the bivariate analysis, age of respondents, place of residence, current marital status, respondent´s current working status, number of living children, history of terminated pregnancy, husband desire for more children, women fertility preference, decision-making on contraceptive use, discussed family planning (FP) with healthcare worker and counseling about contraceptive side effects were the factors associated significantly with modern contraceptive among midlife women. In multivariable logistic regressions' analysis, age of respondents, current marital status, number of living children, women´s fertility preference, and whether she received counseling about contraceptive side effects remained associated significantly with modern contraceptive use among premenopausal women. Study participants whose age was between 35-39 years were 2.21 times more likely to use modern contraceptive (AOR = 2.21, 95% C.I: 1.53, 3.20) compared to those women whose age was between 45-49 years. The odd of modern contraceptive use was 2.8 times (AOR = 2.80, 95% C.I: 1.59, 4.95) higher among married women who were living together with their husband compared to women who were married but not living together currently. Study participants who had less than five living children were 67% less likely to use modern contraception (AOR = 0.43, 95% C.I: 0.29, 0.89) compared to those women who had five and more living children. In addition, women who reported that they wanted more children were 42% less likely to use modern contraceptive (AOR = 0.58, 95% C.I: 0.47, 0.86) than those who wanted no more children. Furthermore, women who received counseling by healthcare workers about contraceptive side effects were about 3.72 times more likely to use modern contraceptive (AOR = 3.72, 95% C.I: 2.22, 6.25) as compared to those women who didn´t get counseling about contraceptive side effects (Table 3).

Discussion

This study was conducted to determine the magnitude of modern contraceptive use and its associated factors among women aged 35-49 years in Ethiopia. This study contributes to the

literature on modern contraceptive use by focusing on older women, who have a high unmet need for family planning [23]. Investigating modern contraceptive use in perimenopausal women provides information on a wider range of factors to be targeted by family planning policymakers as a nation. This study revealed that more than three-fourth of perimenopausal women in Ethiopia didn´t use modern contraceptive methods. This finding may indicate that a substantial proportion of older women are at higher risk of unintended pregnancy. This may infer the need to evaluate and strengthen community health education and behavioral change communication (BCC) to avert informational barriers and misconceptions towards modern contraceptive use in midlife women. This study revealed that 18.9% (95% CI: 17.3, 20.6) of perimenopausal women in Ethiopia used modern contraceptive methods. The result is very low as compared to the national 2016 EDHS report [22]. This discrepancy could be due to differences in studied populations; as the previous study conducted in Ethiopia included women in reproductive age (15-49) whereas the current study focused on older women who are less likely to use contraceptives. The result is also lower than studies conducted among midlife women in Canada 65.2% [24], Uganda 29% [25], and Kenya 42.6% [26]. The result is slightly higher than the study finding in the Gambia, 17% [27]. This discrepancy could be explained by differences in socio-demographic, belief, norm and background characteristics among study participants. Moreover, the variations could be due to difference in the provision of reproductive health service including information, counseling and education on family planning [28].

The result of this study is lower than a study conducted among adolescent girls in Ethiopia, which reported that 39.6% of adolescent girls utilized contraceptive methods [29]. This could be attributed by differences in fertility intention, that adolescent girl intends to delay or space births which might enforce them to use contraceptives. Moreover, an age-related side effect of hormonal contraceptives noticeably affects the perception of women against the contraceptive use. In such situation, women of premenopausal stage preferred to restrained from contraceptive use [30]. The most preferred modern contraceptive method for women in midlife was injectable. This may be attributed to the provision of effective counseling on the option of contraceptives, as injectable contraceptives are an option that can safely be used in premenopausal women, principally in women where oestrogen is contraindicated. Literature indicated that injectable contraceptives are commonly recommended by health care workers as they are suitable methods that can safely be used up until the age of 55 [31]. Furthermore, injectable contraceptive is the most common method used in Ethiopia across all ages. In this study, participants whose age was between 35-39 years were more likely to use modern contraceptive as compared to those women whose age was between 45-49 years. This finding is supported by similar findings in a study conducted in Uganda [32]. It is possible that midlife women near to menopause may perceive themselves as low risk for pregnancy. Older women already have greater numbers of children.

Current marital status is another important variable associated with modern contraceptive use of midlife women. The likelihood of modern contraceptive use was higher among married women who were living together compared to those married but not together currently, possibly because the likelihood of practicing sexual intercourse is higher in midlife married women who were living together with their husband. This study also revealed that midlife women who had less than five living children were less likely to use modern contraceptives compared to those women who had five or more living children. Women with many children may want to either delay the birth of their next child or be more likely to want to limit births. Midlife women who reported that they wanted more children were less likely to use

modern contraceptive than those who wanted no more children. This is attributable to women´s need to attain a desired number of children; which can limit women´s need to use contraceptives [33]. Furthermore, midlife women who received counseling by a healthcare worker about contraceptive side effects were more likely to use modern contraceptive as compared to those women who didn´t get counseling about contraceptive side effects. This could be due to the reason that counseling can help women to understand the health benefits of family planning, like reducing maternal and child morbidity and mortality. Other studies have reported that women who received counseling on healthcare services were more likely to use contraceptives than women who did not receive counseling [34]. This may imply the need to assess risks of contraceptives use according to the WHO Medical Eligibility Criteria (MEC) in midlife women who desire to prevent pregnancy [35].

Strengths and limitations: this study used large population-based data, which are representative of the entire midlife women and the whole regions of Ethiopia. Moreover, using large sample size allows to more precisely estimate the magnitude of modern contraceptive use in premenopausal women and the effect size for associated risk factors. Notwithstanding the study´s strengths, it has limitations. The temporal relationship between independent variables and outcome variable could not be measured because of the cross-sectional nature of the EDHS data. Additionally, it was not possible to incorporate some essential factors such as fear of side effects, knowledge and attitude of family planning methods, and health worker training on family planning in the analysis as they were not available in the EDHS.

Conclusion

This study has shown that modern contraceptive use among premenopausal women in Ethiopia was low. Age of woman, current marital status, number of living children, women fertility preference, and received counseling about contraceptive side effects were significantly associated with modern contraceptive use among premenopausal women. Thus, there is the need to implement consistently effective family planning policies and programs among older women in Ethiopia. Moreover, public health interventions that will consider age of woman, current marital status, number of living children, women fertility preference, and counseling about contraceptive side effects should be designed and implemented to increase modern contraceptive use in premenopausal women in Ethiopia.

What is known about this topic

- *Pregnancy in the midlife women is often associated with hypertension, diabetes mellitus and miscarriage which leads to a higher maternal as well as perinatal death;*
- *Women in midlife often have contraceptive requirements which differ from those of younger women.*

What this study adds

- *This study has shown that modern contraceptive use among premenopausal women in Ethiopia was low.*
- *This study identified determinants of contraceptive use such as age of woman, current marital status, number of living children, women fertility preference, and received counseling about contraceptive side effects.*
- *It identifies that the most preferred method for women in midlife is modern contraceptive method.*

Competing interests

The authors declare no competing interests.

Authors' contributions

BDM conceptualized, designed and wrote the proposal. BDM and BMT made revisions on proposal, participated in data analysis and drafted the manuscript, and report writing. Finally, both authors reviewed and revised the manuscript for publication. They read and agreed to the final manuscript.

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Tables and figure

Table 1: socio-demographic characteristics of midlife women (35-49) in Ethiopia, EDHS 2016

Table 2: reproductive and obstetric characteristics of midlife women (35-49) in Ethiopia, EDHS 2016

Table 3: crude (COR) and adjusted odds ratios (AOR) for contraceptive use among perimenopause women in Ethiopia, EDHS 2016

Figure 1: modern contraceptive use by method among perimenopause women in Ethiopia, EDHS 2016

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Table 1: socio-demographic characteristics of midlife women (35-49) in Ethiopia, EDHS 2016				
Variables	**Category**	**N (%)**	**Contraceptive use**	
			Percent using any contraception	**Percent using modern contraception**
Age	35-39	1089 (48.1)	305 (28.0)	288 (26.4)
	40-44	901 (39.8)	101 (11.2)	100 (11.1)
	45-49	273 (12.1)	42 (17.7)	40 (14.7)
Current marital status	Married/living together	1774 (78.4)	359 (20.2)	358 (20.2)
	Married but not together	489 (21.6)	89 (18.2)	70 (14.3)
Religion	Orthodox	1480 (65.4)	276 (18.6)	267 (18.0)
	Muslim	634 (28.0)	128 (20.2)	121 (19.1)
	Protestant	103 (4.6)	35 (34.0)	32 (31.1)
	Catholic	46 (2.0)	9 (19.6)	8 (17.4)
Place of residence	Urban	619 (27.4)	176 (28.4)	167 (27.0)
	Rural	1644 (72.6)	272 (16.5)	261 (15.9)
Educational level	No formal education	1025 (45.3)	101 (9.9)	86 (8.4)
	Primary school	711 (31.4)	140 (19.7)	137 (19.3)
	Secondary school	338 (14.9)	104 (30.8)	103 (30.5)
	Higher education	189 (8.4)	103 (54.5)	102 (54.0)
Respondents working status	Yes	826 (36.5)	247 (29.9)	236 (28.6)
	No	1437 (63.5)	201 (14.0)	192 (13.4)
Wealth status	Poorest	755 (33.4)	97 (12.8)	87 (11.5)
	Poorer	408 (18.0)	94 (23.0)	93 (22.8)
	Middle	387 (17.1)	97 (25.1)	96 (24.8)
	Richer	340 (15.0)	86 (25.3)	84 (24.7)
	Richest	373 (16.5)	74 (19.8)	68 (18.2)
Region	Tigray	205 (9.1)	58 (28.3)	54 (26.3)
	Afar	207 (9.1)	16 (7.7)	14 (6.8)
	Amhara	199 (8.8)	58 (29.1)	56 (28.1)
	Oromia	253 (11.2)	42 (16.6)	41 (16.2)
	Somalia	246 (10.9)	12 (4.9)	11 (4.5)
	Benishangul	159 (7.0)	27 (17.0)	25 (15.7)
	SNNPR	241 (10.6)	52 (21.6)	50 (20.7)
	Gambela	168 (7.4)	42 (25.0)	41 (24.4)
	Harari	149 (6.6)	26 (17.5)	25 (16.8)
	Dire Dawa	173 (7.6)	29 (16.8)	27 (15.6)
	Addis Ababa	263 (11.6)	86 (32.7)	84 (32.0)

Table 2: reproductive and obstetric characteristics of midlife women (35-49) in Ethiopia, EDHS 2016				
Variables	**Category**	**N (%)**	**Contraceptive use**	
			Percent Using any contraception	Percent using modern contraception
Number of living children (parity)	<5	1227 (54.2)	190 (15.5)	183 (14.9)
	5 and more	1036 (45.8)	258 (24.9)	245 (23.6)
Husband wants to have an additional child?	Yes	1403 (62.0)	177 (12.6)	172 (12.3)
	No	860 (38.0)	271 (31.5)	256 (29.8)
History of terminated pregnancy	Yes	275 (12.2)	192 (69.8)	163 (59.3)
	No	1988 (87.8)	256 (12.9)	265 (13.3)
Women fertility preference	Wants to have children	1352 (59.7)	101 (7.5)	83 (6.1)
	Wants no more children	911 (40.3)	347 (38.1)	345 (37.9)
Decision maker for using contraception	Mainly respondent	393 (17.4)	187 (47.6)	176 (44.8)
	Mainly husband	1429 (63.1)	105 (7.3)	102 (7.1)
	Joint decision	441 (19.5)	156 (35.4)	150 (34.0)
Visited health facility in the last 12 months	Yes	782 (34.6)	351 (44.9)	335 (42.8)
	No	1481 (65.4)	97 (6.6)	93 (6.3)
Discussed about FP with healthcare worker (n=782)	Yes	277 (35.4)	221 (79.8)	220 (79.4)
	No	505 (64.6)	140 (27.7)	136 (26.9)
Counseled by healthcare worker regarding the side effects (n=782)	Yes	236 (30.2)	218 (92.4)	216 (91.5)
	No	546 (69.8)	143 (26.2)	140 (25.6)

Table 3: crude (COR) and adjusted odds ratios (AOR) for contraceptive use among perimenopause women in Ethiopia, EDHS 2016

Variables	Category	Contraceptive use			
		COR (95% CI)	p-value	AOR (95% CI)	p-value
Age	35-39	3.04(2.45, 3.78)	0.000	2.21(1.53, 3.20)	0.000
	40-44	1.08(0.92, 2.12)	0.181	1.12(0.98, 1.97)	0.162
	45-49	1		1	
Current marital status	Married/ living together	1.12(0.87, 1.43)	0.396	2.80(1.59, 4.95)	0.000
	Married but not together	1		1	
Residence	Urban	1.96(1.57, 2.44)	0.001	1.20(0.83, 1.73)	0.330
	Rural	1		1	
Respondents current working status	Yes	1.51(1.22, 1.86)	0.000	1.08(0.76, 1.54)	0.674
	No	1		1	
Number of living children	< 5	0.61(0.26, 0.88)	0.001	0.43(0.29, 0.89)	0.000
	5 and more	1		1	
History of terminated pregnancy	Yes	1.49(1.04, 2.13)	0.029	0.94(0.54, 1.62)	0.815
	No	1		1	
Women fertility preference	Wants have children	0.62(0.71, 0.92)	0.003	0.58(0.47, 0.86)	0.000
	Wants no more children	1		1	
Husband wants to have an additional child?	Yes	0.91(0.74, 1.90)	0.421	0.43(0.29, 1.48)	0.398
	No	1		1	
Decision maker for using contraception	Mainly respondent	3.85(3.06, 4.85)	0.252	1.04(0.84, 2.50)	0.176
	Mainly husband	2.55(1.99, 3.26)	0.421	1.12(0.91, 3.69)	0.398
	Jointly	1		1	
Discussed about FP with healthcare worker	Yes	1.47(0.83, 2.66)	0.218	1.17(0.72, 1.89)	0.529
	No	1		1	
Counseled by healthcare worker about side effects	Yes	2.14(1.51, 3.02)	0.000	3.72(2.22, 6.25)	0.000
	No	1		1	

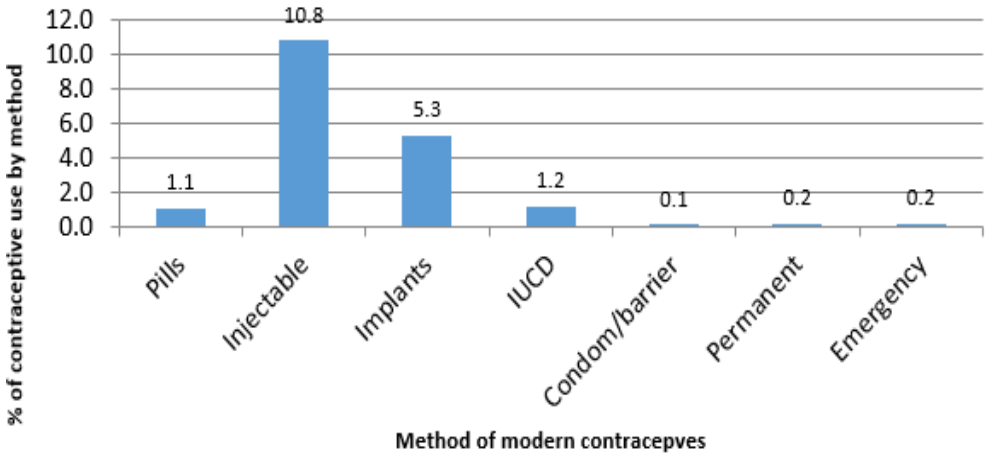

Figure 1: modern contraceptive use by method among perimenopause women in Ethiopia, EDHS 2016