

# Magnitude and Factors Associated with Intra Uterine Contraceptive Device Method Utilization among Clients Attending Family Guidance Association Clinics in Addis Ababa, Ethiopia

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## ABSTRACT

**Introduction:** Although intrauterine contraceptive device (IUCD) method is the safest, very effective, long acting and reversible contraceptive method, it has been used at a very low rate in many developing countries compared to other modern contraceptive methods.

**Objective:** The objective of the study was to assess the utilization of IUCD method and associated factors among women of reproductive age in Addis Ababa attending family Guidance Association of Ethiopia (FGAE) clinics.

**Methods:** Facility based cross sectional study was conducted on sample size of 326 respondents from March 1 to April 30, 2016. Data was coded and entered into Epi-info version 7 and analyzed using statistical package for social sciences version 20. Both descriptive and inferential statistics was employed to summarize and display data. Binary Logistic regression was used to detect factors associated with IUCD utilization. Statistical significance was declared at  $p < 0.05$ .

**Results:** A total of 307 clients participated in the study, making 94.2% response rate. The mean age of the respondents was 34 years 6.6 years. Magnitude of current IUCD utilization was 35.2%. The median duration of IUCD use was 33 months (Range: 1 - 120 months). Binary logistic regression showed good knowledge of IUCD use (AOR: 1.8; 95% CI: 1.1-2.9) was associated with utilization of IUCD.

**Conclusion:** The present study revealed that the proportion of current IUCD utilization was optimal. Clients with good knowledge on the method were more likely to choose IUCD. Information dissemination to clarify myth and perceptions of IUCD method is recommended.

**Keywords:** IUCD; Family planning; Utilization; Factors associated; Ethiopia

## INTRODUCTION

Family planning is defined as the ability of individuals and couples to anticipate and attain their desired number of children, the spacing and timing of their births [1]. More than 350 million couples worldwide have limited or no access to effective and affordable FP, especially to long acting and permanent contraceptive methods [2]. It is proven that family planning contribute enormous role in prevention of unintended pregnancy, unsafe abortion and child mortality [3-6]. Most

pregnancies in developing countries end in unsafe abortion which contributes significantly to maternal morbidity and mortality [7]. Modern family planning methods could be divided into short and long acting contraceptive methods in terms of duration of their action [3]. Intra uterine contraceptive device (IUCD) is a reversible long-term contraceptive method that is suitable for women of all reproductive ages, and represents the most cost effective reversible method for preventing unwanted pregnancies. The most widely available IUCD is the Copper

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bearing IUCD (Cu T 380A). It is highly effective and long acting, easy to insert, and has a low complication rate [8,9]. Although long acting contraceptive methods like IUCD is known to be safe, effective and long lasting, the proportion of users are very low as compared to short acting methods [10]. According to world health organization report many sub Saharan countries have high proportion of unmet need for family planning methods especially for long acting family planning methods. Though there is an intention to increase the utilization of long term including IUCD, still high proportion of women in Africa use short term family planning methods [10,11]. This study is aimed at assessing magnitude and factors associated with IUCD utilization among clients attending family guidance association clinics in Addis Ababa area, Ethiopia.

## METHODS

### Study area

According 2007 population census reported by Central Statistics Agency, the total population of Addis Ababa (AA) estimated to be 2,739,551. Out of these Males are 1,305,387 and Females are 1,434,164. Women of reproductive age from 15 to 49 years of age are estimated to be 947,855. There are 88 functional health centers and 12 hospitals in AA city administration, in addition to these there are also 816 nongovernmental and private health institutions. Family Guidance Association of Ethiopia (FGAE) that was established in 1966 is a pioneer for modern family planning services in Ethiopia. It has been contributing to the national effort to meet the growing demand for family planning and reproductive health services in the country for close to half a century. Currently it has 1 Specialty, 8 models, 12 medium, 6 Confidential, commercial Sex-workers Friendly sexual and reproductive health (SRH) Clinics, 27 youth centers, more than 200 outreach sites, and 290 private franchised clinics under its 8 Area offices. Addis Ababa Area office is one of the 8 area offices under the head quarter which covers ten sub cities of Addis Ababa city administration, where this study was conducted.

### Source population

The source population for the study was all women of reproductive age group of 15 to 49 years of age who come to the clinics of family Guidance Association of Ethiopia (FGAE) for family planning service.

### Study population

Women of reproductive age group (18 to 49 years) who come to Family Guidance Association of Ethiopia (FGAE) clinics for any type of family planning services during the study period.

### Sample size determination

The sample size was determined using single population proportion formula. After considering the following assumptions: 3% marginal error (d), 95% confidence level ( $\alpha = 0.05$ ), and using 7.5% proportion of IUCD method users in Addis Ababa from Mini Ethiopian demographic and health survey report(6).

$$n = \frac{(Z_{\alpha/2})^2 * p(1-p)}{d^2} = \frac{(1.96)^2 * (0.075) * (0.925)}{(0.03)^2} = 296$$

Where,

n=desirable sample size required for the study

Z ( $\alpha / 2$ )=the critical value at 95% level of significance (1.96)

P=Proportion of IUCD method clients (7.5%)

d=Absolute precision or tolerable marginal error (5%).

Based on these assumptions the desired sample size after adding 10% non-response rate was 326.

### Sampling and data collection procedure

A total of Six Family Guidance Association of Ethiopia (FGAE) clinics in Addis Ababa Area office providing intra uterine contraceptive device (IUCD) Services were included in the study in accordance with their provision of IUCD service. After the selection of these facilities the total sample size was proportionally allocated to each selected facilities based on their average client flow. Finally systematic sampling technique was employed to select study subjects. Eligible study participants were interviewed face- to face- using semi-structured data collection tools which was developed after reviewing different literatures. Six nurse professionals were participated in data collection process.

### Data quality assurance

To ensure data quality, reliability of data collection forms were checked by doing pre-test on 5% of the sample size before actual data collection. Data collectors were trained on data collection tools and procedure. Accuracy and completeness of data were checked on daily basis after data collection.

### Data collection tool

The data collection tool contains five parts: Socio-demographic data of the respondents, Reproductive history, Knowledge of IUCD (11 items), attitude towards IUCD (10 items), and practice or use of IUCD (3 items).

### Data analysis procedures

Data were entered in to EPI INFO version 7 and exported to statistical package for social science (SPSS) windows version 20 for analysis. Descriptive statistics like frequency, proportion, mean, and standard deviation were employed in describing socio demographic, and reproductive health characteristics of clients. Adjusted odds ratio with 95% CI was used to assess association between IUCD utilization and independent categorical variables. Variables with p-value<0.2 in binary logistic regression analysis were included in to multivariate logistic regression analysis. Finally, statistical significance was set at p-value<0.05.

### Dependent variables

- Intra uterine contraceptive device (IUCD) utilization

**Independent variables**

- Socio-demographic (Age, marital status, number of living children, educational status, ethnicity, religion)
- Socio-economic (occupation, family income, family size)
- Psychological (fear of side effects, fear of procedure, privacy issue)
- Service related (access to the method, information about the method, providers attitude, provide counseling)

**ETHICAL STATEMENT**

Ethical clearance for the study was obtained from ethical review committee of Addis Ababa University, college of health sciences department of public health. Permission to conduct the study was obtained from Addis Ababa health bureau and responsible bodies of the respective health facilities. Before data collection process, data collectors were briefed on the study objectives, and research ethics. Information sheet explaining the aim of the study prepared and read to all eligible participants. Informed consent was obtained from all study participants.

**RESULTS**

**Socio-demographic characteristics**

Of the total 326 sample size, 307 respondents participated in this study, which makes the response rate of 94.2%. The mean age of the respondent was 34 years ± 6.6 years (Table 1).

**Table 1:** Socio demographic characteristics of clients attending FGAE clinics in Addis Ababa, Ethiopia, 2016.

Variables	Frequency	Percentage
Age group		
20-24	17	5.5
25-29	69	22.5
30-34	79	25.7
>=35	142	46.3
Ethnic background		
Amhara	102	33.2
Oromo	93	30.3
Tigre	41	13.4
Others	71	23.2
Religious view		

Orthodox	179	58.3
Muslim	72	23.5
Protestant	54	17.6
Others	2	0.7
Marital status		
Single	9	2.9
Married	272	88.6
Widowed	9	2.9
Divorced	17	5.5
Educational status		
Illiterate (couldn't read and write)	17	5.5
Informal education(can read and write)	24	7.8
Grade 1-8	116	37.8
Grade 9-12	137	44.6
Higher education(≥ grade 12)	13	9.8
Occupation		
House wife	134	43.6
Employed	74	24.1
daily laborer	5	1.6
Self employed	91	29.6
Student	3	1
Average monthly income (in Ethiopian Birr)		
<1999 ETB	61	19.9
2000-3999 ETB	157	51.1
4000-5999 ETB	58	18.9
>=6000 ETB	31	10.1

**Reproductive history of respondents**

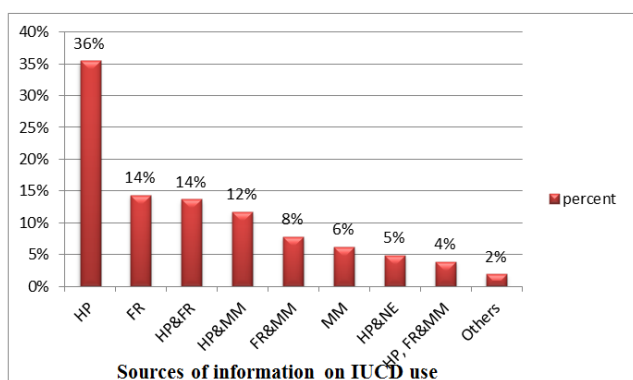
This study shows that 198 (64.5%) and 90 (29.3%) of the study respondents had a history of 1-2 and 3-4 live births, respectively (Table 2).

**Table 2:** Reproductive characteristics of FGAE clients, Addis Ababa, Ethiopia, 2016.

Variables	Frequency	Percent
Number of child born		
01-Feb	198	64.5
03-Apr	90	29.3
≥5	19	6.2
Number of alive children at the time of data collection		
01-Feb	215	70
03-Apr	80	26.1
≥5	12	3.9
Number of more children intended to have in the future		
01-Feb	208	67.7
03-Apr	15	4.85
Do not want any more child	84	27.36

**Source of information on intra uterine contraceptive device (IUCD) use**

109 (35.5%) of respondents got information on IUCD use from health professionals, and 14.33% got through their friends (Figure 1).

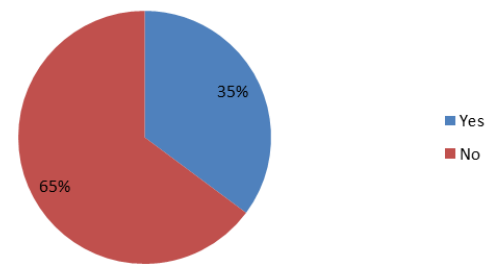


**Figure 1:** Sources of information on IUCD use among FGAE clients in Addis Ababa Ethiopia, 2016 (HP: health professionals, MM: mass media, FR: friends, NE: Neighbor, others: school, youth center and partners).

**Magnitude of IUCD use**

In this study, 108 (35.2%) clients were current users IUCD. Median duration of IUCD use was 33 months (minimum 1 month and maximum of 120 months) (Figure 2).

**current use of IUCD**



**Figure 2:** The current use of IUCD among FGAE clients in Addis Ababa, Ethiopia, 2016.

**Knowledge on IUCD use**

Of the total study subjects, 270(87.9%) stated IUCD is used for prevention of unwanted pregnancy, 162 (52.8%) said IUCD limits family size, 199 (64.8%) IUCD helps child spacing. The overall mean knowledge score of the study participants was 5.2±1.8 (median score=6).

Majority (71%) of the study participants had knowledge score of 5 or above indicating that majority of the participants had good knowledge (Table 3).

**Table 3:** Knowledge on IUCD uses among FGAE clients in Addis Ababa, Ethiopia, 2016.

Knowledge on uses of IUCD	Frequency	Percent
IUCD prevents unwanted pregnancy		
Yes	270	87.9
No	37	12.1
IUCD limits family size		
Yes	162	52.8
No	145	47.2
IUCD helps child spacing		
Yes	199	64.8
No	96	31.3
IUCD is appropriate for woman at risk of STI		
Yes	43	14
No	264	86
IUCD has no interference with sexual intercourse		
Nes	229	74.6
No	78	25.4

IUCD is reversible		
yes	192	62.5
no	39	12.7
don't know	76	24.8

**Perceptions towards IUCD use**

Larger proportion of respondents 209 (68.1%) agreed that IUCD does not migrate to other body parts after insertion. It was also found that 121 (39.4%) of the respondents perceive that IUCD might cause irregular menstrual bleeding. The study result also revealed that 239 (77.2%) clients disagreed that IUCD method decreases sexual desire (Table 4).

**Table 4:** Perceptions of women towards IUCD among FGAE clients Addis Ababa, Ethiopia, 2016.

Variables	Frequency	Percent
IUCD does not migrate to other body parts		
Agree	209	68.3
Not sure	26	8.5
Disagree	71	23.2
IUCD might cause irregular menstrual bleeding		
Agree	121	39.4
Not sure	64	20.8
Disagree	122	39.7
IUCD decreases libido		
Agree	27	8.8
Not sure	41	13
Disagree	239	77.2
IUCD does not cause loss of privacy		
Agree	113	36.8

**Table 5:** Factors associated with Current IUCD utilization among FGAE clients Addis Ababa, Ethiopia, 2016 (\*statistically significant at P-value<0.05; AOR: adjusted odds ratio).

Variables	Current IUCD use		AOR (95% CI)	p-value
	Yes	No		
Marital status				

Not sure	41	13.4
Disagree	153	49.9
IUCD causes infection		
Agree	123	40.1
Not sure	51	16.6
Disagree	133	43.3
IUCD causes infertility		
Agree	16	5.2
Not sure	31	10.1
Disagree	260	84.7
IUCD causes cancer		
Agree	6	2
Not sure	39	12.7
Disagree	262	85.3
IUCD interferes with sex		
Agree	21	6.8
Not sure	40	13
Disagree	246	80.1
IUCD spontaneously expelled from uterus		
Agree	40	13
Not sure	45	14.7
Disagree	222	72.3

**Factors associated with IUCD use**

The binary logistic regression analysis showed the association of different independent variables with the utilization of IUCD. Accordingly, clients with good knowledge score were about two times more likely to use IUCD (AOR=1.8; 95% CI: 1.1-2.9) (Table 5).

Married	90(33.1%)	182(66.9%)	2.2 (0.6, 8.8)	0.2
Not in union	18(51.4%)	17(48.6%)	1	
Knowledge score				
Low	49(44.5%)	61(55.5%)	1	0.02*
High	59(29.9%)	138(70.1%)		
			1.8 (1.1, 2.9)	
Aware of that IUCD can prevent pregnancy for 12 years				
Yes	83(32.7%)	171(67.3%)	0.54(0.43, 1.9)	0.2
No	25(47.2%)	28(52.8%)	1	

## DISCUSSION

The results of the present study showed that the current utilization rate of IUCD among study participants was 35.2%. This finding is comparable with the studies conducted in Shashemene town 28.4% [12]. And southern Ethiopia 29.7% [13]. However, our result is higher compared to the studies conducted in Tigray region 12.3% [14], Debre Markos town, Amhara Regional State, 19.5% [15], Wollega, western Ethiopia, 20% [16]. This might be explained by better availability of service or relatively better information about the method in our study setups since it is conducted in Addis Ababa, capital city of Ethiopia. The majority of the women 88.6% who were using IUCD in this study were married, and 24.1% were employees. The study has similarity with study conducted in Adama town which shows 89% and 17.4% of the women were married and employees respectively [17].

The study also showed that clients with good knowledge score about IUCD were more likely to utilize IUCD. This finding is consistent with study conducted in Tigray region, Ethiopia [18]. Several previous studies proves this idea; A community based study conducted in Adama town revealed that misconception related to adverse effects of IUCD were the factors for low utilization of IUCD [17]. Similar research conducted in Kenyatta University of Kenya showed that fear about IUCD (fear of side effects, fear of what people say about it and fear of the procedure) was the most frequently mentioned reason for not using IUD [19]. Similarly, in a study conducted in South Africa also revealed that barriers which have inhibited the wide spread use of IUCD were myths regarding IUCD [20]. Evidences suggest that having adequate knowledge about the method has positive impact toward the utilization of the method.

The majority of IUCD users in this study were married (83%) women. This finding is similar with other similar studies [14]. This could be explained by the fact that married women could be more motivated to use the method to control the number of children or to space the number of years between children compared to their counterparts.

This study also reveals that 23% of respondents perceive that IUCD migrate to other body part after insertion in the uterus. A relatively similar profile 26 was reported in a study conducted in Kenya [19]. A cross sectional community based survey conducted in Tigray region, Ethiopia, shows that large number of the women had misconception about IUCD and its side effects [14]. This might in turn result lower utilization rate of IUCD.

## CONCLUSION

The present study revealed that the proportion of current IUCD utilization was optimal. Clients with good knowledge on the method were more likely to choose IUCD. Information dissemination to clarify myth and perceptions of IUCD method is recommended.

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