

# Prevalence and Determinant Factors of Long Acting Contraceptive Utilization among Married Women of Reproductive Age in Adaba Town, West Arsi Zone, Oromia, Ethiopia

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## Abstract

**Background:** Ethiopia is the second most populous country in Africa. Total Fertility Rate of Ethiopia is 4.6 children per women, population growth rate is estimated to be 2.7% per year and contraceptive prevalence rate is only 29% while the unmet need for family planning is 34%. The prevalence of long acting contraceptive methods (LACMs) is very low.

**Objective:** The main objective of this study is to determine the level of utilization of long acting contraceptive methods and explore its determinants among married women of reproductive age in Adaba town, West Arsi Zone, Oromia regional State, Ethiopia.

**Methods:** Community based cross sectional survey complemented with a qualitative method was conducted from March, 2016 to April, 2016 on selected Samples of 693 married women of reproductive age. Interviewer administered structured questionnaire was used to collect the data. Data were analyzed by using SPSS version 21. Logistic regression was carried out to see the effect of the independent variables on dependent variable.

**Results:** Long acting reversible contraceptive method utilization was 30.3%. Among the variables age of women and being involved in daily laborer type of occupation were found positively associated with long acting contraceptive methods use with the odds of age of women [AOR (95% CI) = 6.26 (1.92-20.45), 5.18 (1.63-16.5), 9.15 (2.57-32.52)], Occupation of women (daily laborer compared to housewife) [AOR (95% CI) = 5.75 (2.45-13.49)]. Similarly, educational status of being completed grade twelve compared to illiterate were found positively associated with long acting contraceptive methods use with the odds of educational status of women [AOR (95% CI) = 4.42 (1.11-17.62)], and also mothers who disagree IUD influences normal daily activity (i.e., positive attitudes towards long acting contraception) were 44.5 times [AOR = 44.5, (95% CI) = 9.13-216.8] more likely to utilize long acting reversible contraceptive than those who agree (had negative attitudes).

**Conclusion:** Prevalence of long acting contraceptive use is low coverage. Age, educational level, occupational status of the women and attitude towards IUCD were determinant factors identified. So, Health communication on long acting contraceptives should be directed to women of adolescent age (15-19), women who cannot read and write and housewives. Effort should be made to influence the attitude of women on IUCD.

**Keywords:** Fertility rate; Contraceptives; Family planning; Infant death

## Introduction

### Background

Long acting contraceptives (LACs) are contraceptive methods that prevent unwanted pregnancy and spacing options for at least three years and when removed return of fertility is prompt. These are modern contraceptive methods which have low failure rate, safer and cost effective than short acting contraceptives and. This includes implant and Intrauterine devices [1].

The use of modern contraceptive methods prevents unintended pregnancy, which is associated with many negative health consequences [2]. According to a report released by the Guttmacher

Institute and UNFPA, in 2012 approximately 54 million unintended pregnancies resulted in 26 million abortions of which 16 million would have been unsafe; 79,000 maternal deaths and 1.1 million infant deaths which would have been prevented if women of reproductive age used modern contraception [3].

Approximately 25% of women and couples in sub-Saharan Africa who want to space or limit their births are not using any form of contraception [4]. Over time, the use of LACs has not kept pace with that of short-acting methods, such as oral contraceptives and injectables. Data from demographic and health surveys from four sub-Saharan African countries show that the proportion of women currently using LACs is significantly lower than the proportion using short-acting methods. In many countries in the region, fewer than 5% of women who are using contraception are using LACs [5].

Although short-acting methods provide contraceptive coverage for many women who do not want more children, these women are still entitled to a choice of contraceptive methods. LACs may be a good option for some of them, given their reproductive intentions, but they may not be using one because of lack of knowledge, access or other factors [4]. Long-acting reversible contraceptives methods (LACs) have been under-utilized despite their effectiveness and low cost [6].

Modern family planning services were initiated in 1966 by the Family Guidance Association of Ethiopia (FGAE) [7]. Though it showed many progresses, the overall achievement is insufficient in terms of maternal mortality and contraceptive prevalence rate (CPR). Ethiopia has seen a dramatic increase in CPR over the last decade, from a low of 8.2% in 2000 to 14.7% in 2005 and 28.6% in 2011 an average increase of 2% per year. Despite this gain, the objective of health sector development plans four (HSDP IV) over contraceptive prevalence rate to reach 66% by the year 2015 may not be attainable [8].

As showed in the 2011 EDHS report, the contraceptive method mixes was limited to short acting contraceptives such as injectable (21%) and pills (3%). Only 2.5% of currently married reproductive age women use LACs (IUD and implant) [9]. Therefore studying the determinants of long acting contraceptive use is a top priority action to improve its utilization. LAC methods are safe, effective and convenient methods of preventing unplanned and unwanted pregnancy [10-15].

However, according to EDHS 2011 report the contribution of LACs for contraceptive prevalence rate was very low. Similarly, the same report showed that, there was 9% unmet need for limiting. However, which factors contribute to the low utilization and higher unmet needs of these methods locally and nationally are not well studied. In addition, there was no such a study that assessed the determinants of long acting contraceptive at the study area. Therefore, this study aimed to identify to determinants of LACs methods utilization among reproductive age women in study area [16-21].

## Objectives

To assess prevalence and determinant factors of long acting contraceptive method utilization among married women of reproductive age in Adaba Town, West Arsi Zone, Oromia, Ethiopia, 2016.

## Method and Materials

### Study area

The study was conducted in Adaba town which is found in West Arsi zone, 350 km far from Addis Ababa. There is one community governmental health center which was established in 1981 G.C and serves 5 kebeles (two urban and three rural) on which 10 health extension workers (HEW) are assigned to provide Health extension service for the community including family planning method provision.

There are four private medium clinics in this town providing health services for the community. The health office 2015/16 G.C reports show that health service coverage of Adaba is 95%.

### Study design and period

A mixed method design was used with parallel Community Based Cross-sectional study and qualitative method. The study was conducted from March, 2016 to April, 2016.

### Study population

All married women of reproductive age group in selected kebeles of Adaba town were the study population.

### Sample size determination

A sample size of 693 was determined using single population proportion with the assumption that the proportion of long acting contraceptive utilization of 3.4% [EDHS, 2011] margin of error 2%, Type I error of 5%, design effect of 2 and expected non-response rate of 10%.

### Sampling technique or procedures

Multistage sample technique was used to select the participants for the quantitative methods whereas purposive sampling was used for the qualitative part of the study. First kebeles were selected using simple random sampling method and selecting the households by systematic random sampling ( $k = 3$ ). The first household is randomly selected from 1<sup>st</sup> three households after geographically leveling the households in the kebeles with local leaders. Finally, any married women available in the household during data collection and fulfilled the inclusion criteria were included [16-20].

### Dependent variables

Long term reversible contraceptive utilization.

### Independent variables

- Socio-demographic characteristics: Age, Sex, Education, Religion, Ethnicity, Work
- Socioeconomic, Household and Structural Factors: Income, Housing, Infrastructure (transport)
- Individual life style/Behavior: Food habits, Health seeking behavior, Physical activity
- Health system factors: Acceptability, affordability, availability of referral system, health information
- Community context: Social support, Social networks, Cultural beliefs and norms

### Data collection instruments and process

There were 10 data collectors who are diploma nursing graduates and five community leaders (from the two selected kebeles) were used for familiarizing the area for data collectors and support during data collection process. Whole data collection process was coordinated and supervised by principal investigator.

Primary data was collected using face-to-face interview by structured questionnaire guided interview on status of family planning utilization. The questions were prepared in English version and translated to Afan Oromo. Data were collected from every three households since sampling fraction ( $n/N$ ) for all kebeles is equal to three starting from arbitrary selected household. If there is no eligible individual for data collection in household, the household was visited

next day and if no eligible individual again next household was used for the study.

### Data Quality Assurance

The questionnaire was pre-tested on 15% of the sample size (kebele) in Dodola town and appropriate modification was done before final data collection time. Collected data was checked for completeness, accuracy and consistency by data collectors and principal investigator every day. Any challenge and problem identified and also unclear and ambiguous things before actual data collection were managed accordingly through discussion with data collectors, principal investigator and advisors.

### Data Entry and Analysis

After data collection, each questionnaire was checked for completeness and code given during data collection. Data were entered in to Epi info version 3.5, cleaned and explored for outliers, missed values and any inconsistencies and then analyzed using SPSS version 21. Descriptive analysis was employed to determine utilization of long acting contraceptive methods. Binary Logistic regression with 95% confidence interval, P-value <0.05 were considered significant.

### Qualitative Study

#### Focus group discussion

The collection of qualitative data through FGD was carried out by skilled moderator (the investigator), note taker. Participants were selected by purposive selection to explore and saturate relevant information. A total of 3 sessions was carried out. One session of currently married women and one currently married man FGD was conducted based on information saturation. Additionally another 1 FGD for Health workers was conducted with purposively selected FP service providers to see the perceptions and choice of clients towards

the LAFP. Each FGD consisted of 8 participants composed of married women of reproductive age group and married men.

### Data analysis of qualitative information

The qualitative data was analyzed by transcription, narration and summarization per thematic areas. The results were used to explain the quantitative findings.

### Ethical Considerations

The study was carried out after getting permission from the ethical clearance committee of College of Health Sciences, Arsi University. After Ethical clearance and approval of the University Ethical Committee and up on the permission of local government administration bodies of the woreda, the actual research activities was undertaken in the study area.

### Results

#### Socio-demographic characteristics of the respondents

A total of 693 (Six hundred and ninety three) child-bearing age women were interviewed, with 100 % response rate. Among the respondents, 214 (30.9%) were at the age range of 25-29 years. Regarding occupation of respondents, 392 (56.6%) were house wives, and 28 (4.0%) were private employees. The median family size was 2 with 54.4% had a family size of three up to five. During the study period, most of the mothers were Oromo in ethnicity 526 (75.9%) and 344 (49.6%) were Muslim by religion.

Concerning their educational status, 86 (12.4%) were not able to read and write, 289 (41.7%) were educated from 9<sup>th</sup>-12<sup>th</sup> grade. Three hundred eighty one (55%) had radio and 445 (64.2%) had TV set at their home (Table 1).

Variables		Frequency	Percentage (%)
Age of married women	15-19	28	4
	20-24	123	11.7
	25-29	214	30.9
	30-34	173	25
	35-39	106	15.3
	≥40	49	7.1
Occupation	House wife	392	56.6
	Merchant	150	21.6
	Daily labourer	71	10.2
	Government employee	52	7.5
	Private employee	28	4
Family size	<3	49	7.1
	03-05	377	54.4

	>5	267	38.5
Ethnicity	Oromo	526	75.9
	Amhara	148	21.4
	Gurage	19	2.7
Religion	Muslim	344	49.6
	Orthodox	283	40.8
	Protestant	66	9.5
Women Educational status	Not able to read and write	86	12.4
	Able to read and write	117	16.9
	Elementary school	165	23.8
	Secondary school	194	28
	Grade 12 complete	95	13.7
	College and above	36	5.2
Husband Educational status	Not able to read and write	41	5.9
	Able to read and write	94	13.6
	Elementary school	149	21.5
	Secondary school	150	21.6
	Grade 12 complete	38	5.5
	College and above	221	31.9
Occupation of Husband	Farmer	113	16.3
	Merchant	204	29.4
	Daily labourer	98	14.1
	Government employee	200	28.9
	Others	78	11.3
Monthly income	<1000	189	27.3
	1000-2000	265	38.2
	>2000	239	34.5
Have Radio and/or TV	Have Radio	381	55
	Have TV	445	64.2

**Table 1:** Socio-demographic characteristics of women aged 15-49 years in Adaba town, West Arsi zone, Oromia Region, Ethiopia, 2016.

Three FGD sessions were conducted. Near to half of the participants were housewives by occupation. Thirteen (46.4%) of the participants had 3-4 number of births. One third of the participants were currently using long term contraceptive method.

### Reproductive characteristics of the women aged 15-49 years

Among the married women, 324 (46.8%) were married at the age range of 15 up to 18 years. Of all the married women 296 (42.7%) of

the participants gave birth at the age of 19 up to 22 years. In this study near to half 308 (44.4%) of the mothers had 3-5 children (Table 2).

Regarding the number of children women wish to have in her life time the study showed 223 (32.2%) of the mothers wanted to have children as God allows, while 266 (38.4%) of the participants were not decided the actual number of children they want to have. Close to two third of the participants 425 (61.3%) need to have more children after 2 years 358 (51.7%) and the rest 268 (38.7%) of the participants do not want more child at all (Table 2).

Reproductive history of women		Frequency	Percentage (%)
Age at 1st Marriage	15-18	324	46.8
	19-22	207	29.9
	>22	70	10
	Don't remember	92	13.3
Ever give birth	Yes	659	95.1
	No	34	4.9
Age at 1st Birth	15-18	149	21.5
	19-22	296	42.7
	>22	114	16.5
	NA	34	4.9
	Don't remember	100	14.4
Number of alive Children	01-02	274	39.5
	03-05	308	44.4
	>5	77	11.1
	Don't Have	34	4.9
Number of children women wish to have in her life time	I don't want for ever	11	1.58
	01-03	42	6.05
	04-05	72	10.37
	>5	79	11.38
	Undecided	266	38.4
	God allows	223	32.2
The need to have more child	Yes	425	61.3
	No	268	38.7
Time to get more children	Within 2 years	67	9.7
	After 2 years	358	51.7

**Table 2:** Reproductive characteristics of women aged 15-49 years in Adaba town, West Arsi Zone, Oromia, Ethiopia 2016.

### Knowledge of women aged 15-49 years about long acting reversible contraceptive methods

Of the total 693 participants, 509 (73.4%) of the married women were heard about LARCM, and the rest 184 (26.6) of the married women never heard about LARCM before. In this study, 506 (73%) of the respondents were aware about the notion that implant prevents pregnancy for 3 years, the rest 187 (27%) did not know. Among the participants, 363 (52.4%) knew that Implants require minor surgical

procedure during insertion and removal as well as they were aware that after immediate removal of Implant, women become pregnant.

In this study, 381 (55%) of the respondents were aware of that IUCD can prevent pregnancies for 10 years, whereas 312 (45%) were not sure that IUCD can prevent pregnancy for 10 years. In this study, 284 (41%) of the married women were aware of that IUCD has no influence on sexual intercourse and that it results in immediate pregnancies after removal (Table 3).

Variables		Number	Percentage (%)
Heard about any type of LARCM	Yes	509	73.4

	No	184	26.6
Knowledge on Implant	Implant Can prevent pregnancy for more than 3 years	506	73
	Implants require minor surgical procedure during insertion and removal	363	52.4
	Immediately reversible	363	52.4
Knowledge on IUCD	IUD Can prevent pregnancy for more than 10 years	381	55
	Not appropriate for female at high risk of getting STI	277	40
	Has no interference with sexual intercourse	236	34
	Immediately reversible	284	41
	Cannot cause cancer	263	38
	It is very effective	284	41
Use of family planning methods	For spacing	654	94.4
	For Limiting	19	2.7
	Don't know	20	2.9

**Table 3:** Knowledge of reproductive aged women 15-49 years about long acting reversible Contraceptive Methods in Adaba town, West Arsi zone, Oromia, 2016.

In the qualitative study, generally it was found that the majority of participants in the study were aware of long-acting methods of contraception (implants, and IUCD). They also recognized the long term protection of pregnancy by avoiding repeated visit for short term contraceptives.

In the qualitative study, A 34 years old female discussant said, “...I know long acting contraceptive method and using implant for the last two years since I got educations on it from health facilities as well as health extension workers, but as far as I know the community mostly use depo provera than long acting methods...”

#### Attitudes, socio cultural and religious condition of women towards long acting contraceptive methods

In this study, about three fourth 523 (75.5%) of married women disagreed that the use of contraceptive will cause infertility in females, whereas 58 (8.4%) of them agreed that it can cause infertility and the rest 112 (16.2%) of the married women were not sure about it. Majority, 625 (90.2%) disagreed on the notion that men only decides on the use of family planning whereas, 54 (7.8%) agreed. and also 618 (89.2%) of the total married women in the study were also disagreed the idea of “no problem if a person have too many children”.

In this study, 505 (72.9%) of the married women agree that implants are removed from the place of insertion and 273 (39.4%) disagree its

insertion and removal is highly painful. During the study the married women were asked whether Long Acting Contraceptives can harm a woman's womb/uterus and can be very dangerous or not, 80 (11.5%) and 304 (43.9%) agree and disagree respectively, whereas, 309 (44.6%) of them were not sure. In most participants of the focused group discussions, the study revealed that there were high numbers of married women with negative attitude towards LAMPs which create obstacle to use long acting contraceptives. A 31 years women participant said:

*“In the community, there is thinking that use of implants and IUCD causes a problem to the user, like for example some of them suffer from excessive menstrual period (IUD), restriction from different work activities (Implant and IUD), and even it may cause infertility.”*

More than half of 395 (57%) the participants do not like to use long term method of family planning due to the reason of fear of side effects 95 (13.7%), Opposition to use 16 (2.3%), Planning to have in the next 3 years 151 (21.8%), not sure of mode of action of LARCM 70 (10.1%). In the result, it was found that 449 (64.8%) and 502 (72.4%) of the participants responded that there are family planning methods which are considered as cultural taboo and religious taboo respectively in the area. In this study, more than two third 575 (83%) of the participants have never get health education on family planning method and majority of participants did not discuss about family planning with their husband (Table 4).

Variables	Agree	Disagree	Not sure
Contraceptive use may cause infertility in a women	58 (8.4%)	523 (75.5%)	112 (16.2%)
Only men decides to use contraceptives	54 (7.8%)	625 (90.2%)	14 (2.0%)
No matter if you have too many children	51 (7.4%)	618 (89.2%)	24 (3.5%)
Implants can be removed from the place of insertion	505 (72.9%)	17 (2.5%)	171 (24.7%)



Insertion and removal of implant is highly painful	123 (17.7%)	273 (39.4%)	297 (42.9%)
Using IUD restricts normal activities	64 (9.2%)	289 (41.7%)	340 (49.1%)
L ACM can harm a woman's womb/ uterus and can be very dangerous	80 (11.5%)	304 (43.9%)	309 (44.6%)
what is the reason for not using LARCM	<b>Reasons</b>	<b>Number</b>	<b>Percentage (%)</b>
	Fear of side effects	95	23.7
	Planning to have in the next 3 years	164	40.9
	Not sure of mode of action of LACM	73	18.2
Presence of family planning methods considered as religious taboo	<b>Response</b>	<b>Number</b>	<b>Percentage (%)</b>
	Yes	502	72.4
	No	191	27.6
Discuss about family planning with husband	Yes	542	78.2
	No	151	21.8
Do you prefer long term method of family planning?	Yes	292	42.1
	No	401	57.9
Presence of family planning methods considered as cultural taboo	Yes	449	64.8
	No	244	35.2
Get health education on family planning method	Yes	575	83
	No	118	17

**Table 4:** Attitudes, socio cultural and religious condition of women towards long acting contraceptive methods in Adaba town, West Arsi zone, Oromia, 2016.

### Long acting reversible contraceptive method utilization

All the study subjects were asked whether they were practicing for LARCM or not. Then those who were practicing were also asked when they had initiated, which type and source of contraceptive. The overall prevalence of long acting reversible contraceptive methods utilization was 30.3%. Out of which, more than half of the married women were using implants 120 (57.1%) followed by IUCD 90 (42.9%). Out of the total married women the long acting reversible contraceptive methods users like implants and IUCD were 17.3% and 12.9% respectively.

Regarding the source where they get LARCM, majority (96.6%) of the married women responded that they get the service from public

institution. Concerning the choice of the methods (82.4%) choose by themselves, (8.57%) by the provider, (7.6%) by husband, 1.43% neighbors. In this study, the participants were asked reasons why they prefer the method they are using, nearly half 96 (45.7%) of them use because it is convenient to use, 67 (31.9%) were familiar with the method, 66 (31.4%) because it is used for longer time, and the rest 27 (12.85%) because of friends are using it.

Almost all (93.8%) of the married women responded that the service is offered freely, 185 (88.1%) travel on foot less than 30 minutes to reach the place where they get the service (Table 5).

Variables		Number	Percentage (%)
Utilization (Practice) of LARCM		210	30.3
Type of LARCM used	Implant	120	17.3
	IUCD	90	12.98
Source of the LARCM get	Governmental institution	203	96.6
	Private institution	7	3.4
Who chooses the method you are using for you?	By my self	173	82.4

	The provider	18	8.57
	My husband	16	7.6
	My neighbours	3	1.43
Reason to prefer the method	Familiar with the method	67	31.9
	My friends are using it	27	12.85
	Convenient to use	96	45.7
	It is used for longer time	66	31.4
Pay for the service of long acting contraceptive method	Yes	13	6.2
	No	197	93.8
Time elapsed to reach the place where to get contraceptive	<30 minutes	179	85.2
	30 min-60 min	13	6.2
	>1hour	18	8.57
Mode of travel to health facility	On foot	185	88.1
	Using public transport	25	11.9

**Table 5:** Long acting reversible contraceptive methods utilization among reproductive age women in Adaba town, West Arsi zone, Oromia, 2016.

### Multivariate analysis of determinants of Long Acting Reversible Contraceptive utilization

A multivariate analysis was performed for identified candidate variables in bi-variate analysis which showed a significant association for the utilization of long acting reversible contraceptive method. Accordingly, Age of women, maternal educational status, occupational status, reason of not utilizing LARCM, and respondent's attitude towards influence of IUD on normal daily activity were showed significant association on multivariate analysis.

Women who are in the age range of 25-29, 30-34, and 35-39 years were 6.26 (1.92-20.45), 5.18 (1.63-16.5), and 9.15 (2.57-32.52) [AOR,

95% CI] times more likely respectively to use LARCM than women in the age range of 15-19 years. The other strong determinant of LARCM utilization was occupation of the women.

Hence, women who were daily laborers are 5.75 times more likely to use LARCM than women who were House wives [AOR = 5.75, 95% CI: 2.45-13.5].

Similarly, Level of education showed strong statistical association with LACM utilization. Mothers with grade twelve complete were 4.42 times more likely to utilize long acting contraceptives as compared to those who were illiterate [AOR = 4.42, 95% CI: (1.11-17.62)] (Table 6).

Variables		Utilization of LACM		COR	AOR	P-Value
		Yes	No			
Age	15-19	6	22	1	1	
	20-24	15	109	0.51 (0.18-1.46)	1.16 (0.32-4.24)	0.82
	25-29	79	133	2.15 (0.83-5.52)	6.26 (1.92-20.45)**	0.002
	30-34	49	124	1.45 (0.55-3.79)	5.18 (1.63-16.5)**	0.01
	35-39	52	54	3.53 (1.33-9.41)	9.15 (2.57-32.52)**	0.001
	>40	9	40	0.83 (0.26-2.62)	4.74 (0.71-31.79)	0.11
Occupation of respondent	House wife	96	296	1	1	
	Merchants	43	107	1.26 (0.82-1.92)	1.87 (0.81-4.32)	0.143
	Daily labourers	38	33	3.60 (2.14-6.06)	5.75 (2.45-13.49)**	0.001
	Government employee	30	22	4.62 (2.53-8.41)	2.18 (0.62-7.64)	0.22



	Private employee	3	25	0.38 (0.11-1.27)	0.033 (0.004-0.28)	0.002
Educational status	Unable to read and write	16	70	1	1	
	able to read and write	16	101	0.69 (0.33-1.48)	0.33 (0.096-1.13)	0.07
	elementary school	48	117	1.79 (0.95-3.39)	0.92 (0.31-2.76)	0.88
	secondary school	74	120	2.69 (1.46-4.99)	0.63 (0.20-1.98)	0.43
	complete grade twelve	35	60	2.55 (1.29-5.06)	4.42 (1.11-17.62)**	0.04
	college and above	21	15	6.13 (2.60-14.4)	0.88 (0.56-4.86)	0.88
Reasons of not utilizing LARCM	Fear of side effects	95		1	1	
	Planning to have in the next 3 years	164		2.72 (1.07-6.89)	6.38 (1.45-28.16)**	0.014
Attitude respondent of towards IUD	Agree	64		1	1	
	Disagree	289		24.2 (7.42-78.9)	44.5 (9.13-216.8)**	0.001
	Not sure	340		3.51 (1.06-11.6)	7.22 (1.43-36.35)**	0.02

**Table 6:** Multivariate analysis of determinants of long acting reversible contraceptive method use among married women in Adaba town, West Arsi Zone, Oromia, Ethiopia April 2016.

Women who disagree the influence of IUD on normal daily activity were 44.5 times more likely to utilize long acting reversible contraceptives as compared to those who agree on its influence [AOR = 44.5, CI: (9.13-216.8)].

The findings were similar to those of FGD which 39 years, Gravida 6, grade 12 complete Female respondent said;

*"I have used IUCD for the past five years. Initially I was told and know that it had minimal side effects. Really it is convenient method and I can surely tell you that it has no impact on normal daily activity, because as for me I have no problem with the method and even if I were to get a problem I would go and consult health care provider to get treatment as I was told"*

## Discussion

This community based cross-sectional study attempts to assess the prevalence and determinant factors affecting utilization of LARCM and showed that the overall prevalence of LARCs was 30.3% [21-30]. This finding is nearly in line with the evidence from a study conducted in Adigrat town (37%) however; the finding of this study was higher as compared with the study in Mekelle (12%) report of EDHS 2011 and Kenya (8.4%) [31-33]. This might be due to difference in the socio economic status and individual factors of the married women. In this study near to half 308 (44.4%) of the mothers had 3-5 children, but still majority of them 425 (61.3%) need to have more children after 2 years 358 (51.7%).

Regarding married women general awareness about the use of family planning methods, a large number of 654 (94.4%) of the respondents knew that it is used for spacing, whereas only 19 (2.7%) of them responded as it is used for limiting which supports study conducted in Mekelle town where 65% of women use contraception for child spacing and 17% for limitation. This result is inversely related with the study conducted in Nigeria where, 30% of women contraception for child spacing versus 70% uses it for permanent

limitation for number of children. This might be related to the fact that large number (61.3%) of the married women having the need to have more child for the future as well as misconception on presence of family planning methods which are considered as cultural taboo and religious taboo in the study community.

In this study 17.3% of the married women were utilizing implants. This finding was a bit higher as compared with study done in Mekelle (11%) and report of EDHS, 2011 (3.8%) [9,31]. This might be due difference in time gap since there is an increment of nongovernmental organization which works on long acting and permanent contraceptive. Similarly, 12.9% of the married women were use IUCD the finding was higher than finding of study done in Mekelle (1.5%) and EDHS, 2011 (3.8%) [9,31].

Of the total participants, 73.4% of the married women heard about LARCM, and 73% of the respondents were aware that Implant prevents pregnancy for 3 years. Among the participants, 55% of the respondents were aware of that IUCD can prevent pregnancies for 10 years, whereas 45% were not sure that IUCD can prevent pregnancy for 10 years.

On the other hand, this study has focused on an examination of a variety of factors which determine utilization of long acting reversible contraceptive methods. As a result, the study generally recognized that utilization of long acting reversible contraceptive methods were depend on individual factors like age of women, socioeconomic status like occupation of the women and her educational level and also attitude towards long acting contraceptive methods. Hence, this all above mentioned factors were appeared to be the most important determinants of the utilization of LARCMs.

Having too many children in other words big family size was found to have significant association with use of long acting methods in this study though it did not remain significant when entered to the multivariate model with other variables. This might be related to lack of knowledge, religious and cultural norms favoring high fertility. Moreover, their educational level and lack of employment

opportunities to participate in the labor force combined with strong social pressure that forces them to marry early and reproduce children prevent them from using family planning services and thus remained the cause to have more children in their life time.

The use of a modern method among married women is lowest, among women aged 15-19, gradually increases, and then decreases again toward the end of the reproductive years. Regarding the source where they get LARCM, majority (96.6%) of the married women responded that they get the service from public institution which is consistent with the finding of Mekelle and EDHS 2011.

In this study, age of women had strong statistical association with long acting reversible contraceptive method utilization. This study showed increment of women who use long acting reversible contraceptive were found within the age group of 25-39 were 18 (32.1%). This is similar with a study conducted in Mekelle and study in China which found prevalence of IUCD use increased with age up to ages 25-29 years, but declined thereafter which may reflect a switch from IUD to other methods such as sterilization [31].

In this study, occupation of women was found to be significantly associated with long acting reversible contraceptive method use. Accordingly, women who involve in daily labor were positively associated with use of long acting contraceptives methods [AOR = 5.75, 95% CI = (2.45-13.49)] than women who were house wives. This result is inversely related with the study conducted in Debre Markos which shows negative association [32].

Level of education showed strong statistical association with LARCM utilization. Mothers who completed grade twelve were about 4 times [AOR = 4.42, 95% CI: (1.11-17.62)] more likely to utilize long acting contraceptive methods as compared to those who had not attended formal education at all or illiterate which supports the evidence from study conducted in Arba Minch Ethiopia [30]. This can be explained by the fact that educated women have better access to health care information, have greater autonomy to make decisions and have greater ability to use quality health care services.

Another determinant factor that has also shown as an important influence on LARCMs utilization was women's attitude towards influence of IUD on normal daily activity. Mothers who disagree IUD influences normal daily activity (i.e., positive attitudes towards long acting contraception) were 44.5 times [AOR = 44.5, 95% CI: (9.13-216.8)] more likely to utilize than those who agree (had negative attitudes) [33].

## Conclusion

In general, this study reveals that there was a low utilization of long acting contraceptive methods in the study area. In the study area, following factors like; age, educational status and occupational status of the mother were found to be independent predictors of long acting contraceptive methods utilization. Even though the majority of reproductive aged women were heard about LARCM, significantly higher women were still didn't have supportive attitude. Particularly Significant numbers of participant had misconception about IUCD influences the normal daily activity.

## Recommendations

Based on the findings of this study it is recommended that:

- Policy makers should further encourage women to pursue their education to at least secondary school level.
- Regional, Zonal, and Adaba woreda health office in collaboration with other government sectors like women's affairs, community based organizations and other partners should maintain continuous health education programs on long acting reversible contraceptive methods by enhancing strategies to increase its utilization.
- Community based health care workers should strengthen to provide information, education and communication to ensure that women have higher knowledge as well as positive attitude towards long acting contraception methods.

## Competing Interests

The authors declare that they have no competing interests.

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