

## LEVEL AND FACTORS ASSOCIATED WITH THE USE OF LONG ACTING REVERSIBLE CONTRACEPTIVE METHODS AMONG MARRIED WOMEN IN SHONE TOWN ADMINISTRATION, HADIYA ZONE, SOUTHERN ETHIOPIA.

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### ABSTRACT

**BACKGROUND:** There was low utilization of long acting reversible contraceptive method in developing countries. There are diversity factors associated with use of long acting reversible contraceptive method. Currently many married women prefer to use short acting rather than long acting contraceptive method.

**OBJECTIVES:** To assess level and factors associated with use of long acting reversible contraceptive method among married women in Shone Town, Hadiya Zone, Southern Ethiopia, from Jan 26 - Feb 05 /2018.

**METHODS:** Community based cross-sectional study was employed on randomly selected 576 reproductive age married women. All married women who lived in Shone Town for more than 6 months and those fulfill the inclusion criteria were included. Data were collected by using pretested questionnaire and entered to Epidata version 3.0 and exported to SPSS version 20 for further analysis. Frequencies, proportion, and summary statistics were used to describe the study population in relation to relevant variables and presented in tables. Binary Logistic regression analysis was carried out to identify factors associated with long acting reversible contraceptive method.

**RESULT:** The overall long acting reversible contraceptive method use in Shone Town was 164(29.2%). History of LARC use [AOR = 3.58; 95%: CI=2.27-5.64], discussion with health care provider on LARC in last 6 month [AOR=2.85; 95%CI (1.65-4.90)], high knowledge of LARC method [AOR= 2.86; 95: CI (1.69-4.84)], moderate knowledge of LARC method [AOR=2.68; 95: CI (1.60-4.51)] and positive attitude towards LARC [AOR=2.63; 95%: CI (1.71-4.04)], to be associated with the LARC use.

**CONCLUSION:** The level of long acting reversible contraceptive methods in Shone Town was low. History of LARC use, discussion with health care provider on LARC in last 6-month, knowledge of LARC method and Attitude towards LARC were found to be statistically significant predictors of the outcome variable this study.

**KEYWORDS:** Long acting reversible contraceptive method, level, factors, Shone, Ethiopia.

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## INTRODUCTION

Contraceptives are used by the majority of married women in almost all regions of the world. In 2015, 64% of married women of reproductive age worldwide were using some form of contraception. IUD and Female sterilization are the two most common methods used by married women worldwide: in 2015, 19% of married women depend on female sterilization and 14% used IUD. Short-term and reversible methods, such as the pill, injectable and male condom, are more common than other methods in Africa and Europe whereas LAPMs, such as sterilization, implants and the IUD, are more common in Asia and Northern America.

The total fertility rate of Ethiopia is 4.6 children per women, population growth rate is estimated at 2.7% per year, and contraceptive prevalence rate is 36%, with 35% using modern methods and 1% using traditional methods. Implants, IUD and female sterilization are the least used methods of modern contraceptive each accounting 8, 1.5 and less than 1 % respectively. Current use of modern contraception SNNPR for married women is 40% and prevalence of LARC use in region is 9.3%, implants 8% and IUCD 1.3%. The overall the percentage of women who are currently using any method of contraceptive for SNNPR region is 39.9%<sup>1</sup>.

Factors found to be associated with use of contraceptives vary. These include educational level, living area, male involvement, women partner involvement<sup>2,3</sup> age, level of knowledge<sup>4</sup>, attitude, misconception and myths, education<sup>5</sup> fear of side effects, fear of fertility affect, attitude<sup>6</sup>, information, desire more child, previous exposure, husband discussion<sup>7,8</sup>, convenience, socio-demographic, abortion, decider of using mother, lack of counseling, accessibility, discussion with health provider on LARC<sup>3,9,10</sup>. These factors go a long way to influence the type of contraceptive one decides to use and actually use. There are various factors related to factors affecting use of LARC.

However, limited study was done in use of long acting reversible contraceptive method among reproductive age currently married women rather studied in long acting and permanent contraceptive method among reproductive age married women.

This study assessed the use of LARC and factors such as socio-demographic, reproductive, awareness, knowledge and attitude related factors toward LARC factors that influence the use of contraceptives in Shone town administration, SNNPR. In addition, this study was focused on those not addressed in the other study that of wealth index and the same sex composition of child. Also, this study tried to clarify various factors related to factors associated with the use of LARC.

## METHOD

### Study Area and Period

A community based cross-sectional study design was conducted to collect data from 576 women's January 26/2018 - February 26 /2018 in Shone town, Hadiya Zone southern Ethiopia. Shone town is one of the city administrations in Hadiya Zone Southern Ethiopia which is 76km form Hossana capital of the zone, 114km from Hawassa, and 334km from Addis Ababa. The town has one primary hospital, one health center, 6 health posts, 22 health extension workers and 146 health professionals. All of the health facilities were providing modern contraceptive methods.

### Sample size and sampling procedure

Sample size was determined by using both single and double population proportion formula both objectives. The following assumptions were used to calculate sample size for the first objective: 95% confidence level (1.96), 5% margin of error, and proportion (P) of the long acting contraceptive utilization 13.1% from similar study<sup>8</sup>. Accordingly the sample size was calculated by using the formula:  $n = (z (\frac{l}{2}))^2 p(1-p) / d^2$  and the sample size with become,  $n = 192$ .

Sample size for the second objective was determined using double population proportion formula using Epi-info software version 7(table 1).

Accordingly, the final sample size required to address the objectives of the study was 576.

There are six kebeles in Shone Town; of them three namely; Arencha, Lalogeribe, and Lenicera kebele were randomly selected from Shone Town. Households were taken from the log book of urban health extension workers of respective Kebeles, and a total of 9720

households were listed. Systematic random sampling was implemented to select the households involved in the study. Every 17th households in the Kebele were included in the study using the first selected household as a reference. In cases of selected household with more than one eligible respondent, only one respondent was chosen by lottery method. In cases where no eligible participant identified in the selected household, the data collectors have gone to the next household to the right direction until they got eligible women for face to face interview.

The data was collected by using through face to face interview by using interviewer- administered structured questionnaire and contains socio-demographic and economic (25 items), reproductive characteristics (8 items), history of LARC use, awareness and misconception of LARC (7 items), knowledge and attitude about LARC (12 items) and use of LARC (2 items). The instrument was pretested in Jariso kebele East Badawacho District among 29 women before actual data collection and few modifications were made.

#### **Operational Definition**

**Knowledge:** - Married women's knowledge was measured by the total number of correct answers to 8 items on knowledge with a minimum score of 0 and maximum of 8. It was categorized based on the percentage of knowledge score of respondents. It was categorized as "high knowledge"; those who knew 70% and above, "moderate knowledge"; those who knew 50 - 70% and "low knowledge" those who knew less than 50% of the knowledge questions<sup>12</sup>.

**Attitude:** - Measured as Positive attitude: Those who scored above mean to the correct answers from attitude measuring LARC questions. Whereas Negative attitude: Those who scored mean and below to the correct answers<sup>11,12</sup>.

#### **Data management and analysis**

The data was checked for completeness and consistency, and entered to Epidata software version 3.0 then exported to SPSS version 20 for further analysis. Descriptive statistics was used to present the frequencies, proportion and summary statistics. Multivariable logistic regression analysis was carried out to control

possible confounders and identify factors independently associated with LARC use. Bivariate analysis was carried out to see association of each independent variable with the LARC use. Those variables with p-value less than 0.25 included in multivariable logistic regression analysis. Finally, variables with p-value less than 0.05 in multivariable logistic regression analysis considered as independently significant association with LARC use. Odds ratio was used to determine the strength of association with LARC use.

#### **Ethical consideration**

The study was approved by the Haramaya University, College of Health and Medical Sciences Institutional Health Research Ethics Review Committee (IHRERC). The permission and consent were obtained from Southern Nations Nationalities and Peoples Regional Health Bureau, Hadiya Zone, Shone town administration Health office. An informed written and signed consent was obtained from all subjects. Privacy and confidentiality of responses was maintained.

#### **RESULT**

Socio-demographic and economic characteristics

A total of 561 were included giving a response rate of 97%. The median age of participants was 30 (SD  $\pm$ 6.56, and ranges from 19-48 years old). The majorities of respondents 477(85%) were Hadiya in Ethnicity. Most 448(79.9%) of respondents were protestant in their Religion. In regard to their education 126 (22.5%) of married women were never attend formal education. 301(53.7%) attended primary education, and (23.8%) attended secondary and above educational level. Nearly half 275(49%) of respondents who were house wife. Near to half 268 (47.8%) of participants who had a wealth index of lowest quintile (Table 2).

Majority of married women 479 (85.4%) were with family size  $\geq$ 4 children. From total respondents of married women 352(62.7%) had number of living children  $<$ 4 children. Overall, 529(94.3%) of participants were desire to having less than four children in the future. Around three-fourth 415(74%) of the study participants were decide on the number of children together husband and wife. Overall, more-than two-third 69.5% of currently Married women discussed about family planning with

their husband. Four hundred sixty-six (83.1%) had no history of abortion.

Majority 489 (87.2%) of respondents had heard information about LARC. Two hundred thirty (39.5%) got the information from health worker, 9.3% from Radio, 11.8% from television, 20.5% from friends and 7.5% from husbands. Three hundred forty seven (61.9%) of married women discussed with health care provider on LARC in last 6months.

Among study participants 220 (39.2%) 24(4.3%), and 196(34.9%) had history of LARC, IUCD, and implants utilization respectively. Moreover, currently married women who did not use LARC were because 113(20.1%) fear of side effect, 85 (15.2%) rumors of they are not good, 49(8.7%) other important person influence, 49(8.7%) not my preferred method, 59(10.5%) to have more child, 66(11.8%) husband disapproval and 35(6.2%) fear of infertility.

#### **Knowledge and Attitude Related Characteristics of Respondents**

Half 297(52.9%) of married women were aware of that IUCD can prevent pregnancies for 10 years. Near to three fourth 413(73.6%) of respondents were not agree IUCD is good for female at risk of acquiring Sexual Transmitted Infection. In this study, 400(71.3%) and 272(48.5%) of participants were aware of that IUCD has no influence on sexual intercourse and it results in immediate pregnancies after removal respectively. More than one fourth 154(27.5%) of the currently married women were aware of that IUCD cannot result cancer. In this study, 359(64%) and 351(62.6%) knew that implant can prevent pregnancy for 3-5 years and it require minor surgical procedure for insertion and removal respectively. Majority 299(53.3%) of the married women knew that implants result in immediate pregnancy after removal (Table 3).

A large number of married women beliefs that implant can cause irregular bleeding and its insertion and removal is very painful. A major number of married women beliefs that IUCD insertion can result was shame and prevent from doing normal activities (Table 4).

#### **Long Acting Reversible Contraceptive Method Utilization Characteristics**

The overall prevalence of long acting reversible

contraceptive methods was 164(29.2%) (95% CI 25.7%-33%). Majority of married women were using 120(21.4%) implants and 44(7.8%) IUCD. Moreover, 104 (18.5%) of currently married women not using LARC (Figure 1).

#### **Factors Associated with Use of LARC**

The odds of married women who had history of LARC use were 4 times [AOR= 3.58; 95% CI (2.27-5.64)] more likely to use LARC when compared with those who had not history of LARC use. Those currently married women who had discussed with health care provider about LARC in last 6months were 3 times [AOR=2.85; 95%CI (1.65-4.90)] more likely to use LARC than married women who had not discussion with health care provider about LARC in last 6months. Those having high knowledge and moderate knowledge on LARC were 3 times [AOR= 2.86; 95%CI (1.69-4.84)] and 3 times [AOR= 2.68; 95% CI (1.60-4.51)] more likely use LARC than those with low knowledge on LARC respectively. Those married women who had a positive attitude towards LARC were 3 times [AOR=2.63; 95%: CI (1.71-4.04)] more likely to use LARC than married women who had a negative attitude (Table 5).

#### **DISCUSSION**

In this study level of reproductive age married women who were used long acting reversible contraceptive methods were 164 (29.2%) (95% CI 25.7%-33%). This finding was in line with the study conducted in Amhara Region (29%)<sup>13</sup>. But, it was higher than studies done in Mekelle (12.3%), Arba Minch, Debre Markos (19.5%) and reports of EDHS,2016 (9.5%)<sup>1,7,8,11,4</sup>. These differences might be awareness creation being given for the community about long acting reversible contraceptive methods and discussion with health care provider towards LARC. This finding was lower when compared to other findings done in Egypt and China which was 36% and 41% respectively<sup>15,16</sup>. It might be as result of social, economic, and cultural differences. This difference could be explained by the fact that mothers in these countries had better educational status and better access to family planning information.

Married women who had history of LARC were 4 times more likely use LARC compared with married Women who had no history of LARC use. This finding

was consistent with the studies done in Durame Town, Southern Ethiopia and Goba, Bale Zone, South East Ethiopia<sup>9,17</sup>. It might increase the use of LARC. It might be occurred those women had better knowledge on LARC method because they had experienced on it. Married Women who had discussed with health care provider on LARC in last 6 months were 3 times more likely use LARC than their counterparts. This finding was similar with the studies done in Durame Town, Southern Ethiopia and Nekemte Town, Oromia Region, West Ethiopia<sup>10,17</sup>. According to EDHS 2016 among 22% of women age group of 15-49 who were not using contraception; 12% of women visited health facility in the 12 months and discussed family planning, while 25% of women visited a health facility but did not discuss family planning<sup>1</sup>. It could be that discussion with health care provider can decrease rumor, myth and misconception about LARC and increase awareness about LARC.

The odds of LARC use was 3 times more for married women who had high knowledge on LARC when compared with currently married women who had low knowledge. Which was concurrent with the studies Conducted in Machakel District, Northwest Ethiopia and Arba Minch<sup>8,18</sup>. According to EDHS 2014 Knowledge about IUCD and implants has increased by 43 percent and 11 percent, respectively. Women who had high knowledge were increase contraception utilization. On other hand, knowledge is main determinant to use LARC in a timely and effective mode. Low educational achievement is negatively associated with LARC use<sup>19</sup>. The possible explanation might be due to less educated currently married women have no better access to health care information and have no greater independence to make decisions. Education has strong effect on attitude, and awareness towards LARC use. Moreover, higher education allows women to better understanding the benefits and side effects of LARC.

Married women who had Positive attitude towards LARC had odds of 3 times more likely use LARC compared with currently married women who had negative attitude. This finding was in line with studies done in Adigrat, Arba Minch, and Wolayita, Southern

Ethiopia (5, 8, 12). It could be due to raise of awareness of married women on LARC were reduce myths and misconceptions about LARC and also positive attitude increases use of LARC.

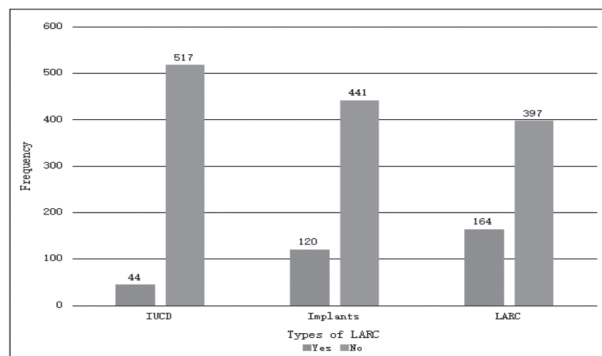


Figure 1: Long acting reversible contraceptive method use among married women of reproductive age in Shone Town, South Ethiopia, 2018.

Table 1, Sample size determination for factors associated with use of LARC.

Factors	% of Exposed	% of non-exposed	Total sample size	References
Age 20-24years	41	59	262	(7)
Age 35-39years	59.5	40.5	236	(7)
Joint decision	44	56	576	(5)
Secondary education	42	58	330	(17)

**Table 2: Socio demographic characteristics of married women in Shone Town, Hadiya Zone, Southern Ethiopia, 2018 (n=561)**

Variables	Frequency	Percentage
<b>Age</b>		
15-24	76	13.5
25-34	278	49.6
35-49	207	36.9
<b>Religion</b>		
Protestant	448	79.9
Catholic	75	13.4
Other (Orthodox and Muslim)	38	6.7
<b>Ethnicity</b>		
Hadiya	477	85
Amhara	29	5.2
Other(Wolayita and kemibata)	55	9.8
<b>Education</b>		
No formal education	126	22.5
Primary education	301	53.7
Secondary and above	134	23.8
<b>Occupation</b>		
Student	43	7.7
Merchant	159	28.3
Government employee	42	7.5
Non-government employee	42	7.5
House wife	275	49
<b>Wealth index</b>		
Lowest	459	81.8
Middle	77	13.7
Highest	25	4.5

**Table 3: Knowledge related characteristic of respondents in Shone Town, Hadiya Zone, Southern Ethiopia, 2018 (n=561).**

Knowledge statements of currently married women on LARC	Yes		No		Not sure	
	N/o	%	N/o	%	N/o	%
IUCD can prevent pregnancies for more than 10 years	2	5	4	7.	2	3
	9	2.	4	8	2	9.
	7	9			0	2
IUCD is not appropriate for female at high risk of getting STIs	1	2	1	2	2	5
	4	6.	3	3.	8	0
	8	4	2	5	1	1
IUCD has no interference with sexual intercourse or desire	1	2	1	2	2	4
	6	8.	5	7.	4	4.
	1	7	2	1	8	2
UCD is immediately reversible(become pregnant quickly when removed)	2	4	9	1	1	3
	7	8.	7	7.	9	4.
	2	5		3	2	2
IUCD cannot cause cancer	1	2	1	1	2	5
	5	7.	1	9.	9	2.
	4	5	0	6	7	9
Implant can prevent pregnancies for 3-5 years	3	6	3	6.	1	2
	5	4	4	1	6	9.
	9				8	9
Implants require minor surgical procedure during insertion and removal	3	6	3	6.	1	2
	5	2.	1	2.	3	4.
	1	6		7	9	7
Implants is immediately reversible(become pregnant quickly when removed)	2	5	1	1	1	2
	9	3.	0	7.	6	8.
	9	3	0	8	2	9



**Table 4: Attitude related characteristic of in Shone Town, Hadiya Zone, Southern Ethiopia, 2018 (n=561).**

Attitude statements of married women towards LARC	Agree		Disagree		Not sure	
	No	%	No	%	No	%
Irregular bleeding due to using implant is severe	229	(40.8)	165	(29.4)	167	(29.8)
Insertion and removal of implant is highly pain full	212	(37.8)	192	(34.2)	157	(28)
Loosing privacy during Intra uterine contraceptive device insertion is shame full	204	(36.4)	199	(35.5)	158	(28.2)
Using Intra uterine contraceptive device restricted from different work activity highly un acceptable	182	(32.4)	177	(31.6)	202	(36)

## CONCLUSIONS

The LARC utilization was found to be low. Married women were history of LARC use, discussion with health care provider, and those possessing better knowledge and attitude were factors that improved the utilization of the LARC.

### Data Availability

All data and materials in this manuscript could be deposited in any publicly available repositories.

**Table 5: Result of multivariate logistic regression analysis on factors associated with use of LARC among reproductive age married women in Shone Town, Hadiya Zone, Southern Ethiopia, 2018 (n=561).**

Variables	LARC		COR,95%(CI)	AOR,95%(CI)
	Yes	No		
Number of living children				
<4	95(33.3%)	190(66.7)	1	1
≥ 4	69(25%)	207(75%)	0.68(0.46-1.00)	0.67(0.44-1.02)
Number of female living children				
<4	158(29.9%)	370(70.1%)	1	1
≥ 4	6(18.2%)	27(81.8%)	0.52(0.21-1.28)	0.41(0.15-1.08)
Ever history of LARC use				
Yes	99(45%)	121(55%)	3.47(2.37-5.07)	3.58(2.27-5.64)**
No	65(19.1%)	276(80.9%)	1	1
Ever heard information about LARC				
Yes	159(32.6%)	328(67.4%)	6.69(2.64-16.90)	2.38(0.84-6.60)
No	5(6.8%)	69(93.2%)	1	1
Ever discussed on LARC with health care provider in last 6months				
Yes	126(36.3%)	221(75.7)	2.64(1.74-3.99)	2.85(1.65-4.90)**
No	38(17.8%)	176(82.2%)	1	1
Knowledge of LARC method				
High	57(34.8%)	107(65.2%)	2.19(1.40-3.41)	2.86(1.69-4.84)**
Moderate	56(41.2%)	80(58.8%)	2.88(1.82-4.55)	2.68(1.60-4.51)**
Low	51(19.9%)	210(80.1%)	1	1
Attitude towards LARC				
Negative attitude	59(19.9%)	238(80.1%)	1	1
Positive attitude	105(39.8%)	159(60.2%)	2.60(1.82-3.88)	2.63(1.71-4.04)**

### **CONFLICT OF INTEREST**

The authors declare that they don't have any conflict of interest in any aspect of the article.

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The whole cost of the research was covered by principal investigator.

### **AUTHOR'S CONTRIBUTIONS**

DB The principal investigator (PI) designed the study, collected, analyzed and interpreted the data, and also drafted the manuscript. NA - Participated in conceptualization of the study, design, analyses and interpretation of results as well as drafting and review of the manuscript. YD - Participated in conceptualization of the study, design, analyses and interpretation of results as well as drafting and review of the manuscript. TL - Participated in conceptualization of the study, design, analyses and interpretation of results as well as drafting and review of the manuscript.

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