

Prevalence, Perceptions and Factors Contributing to Long Acting Reversible Contraception Use among Family Planning Clients, Jimma Town, Oromiya Region, South-West Ethiopia

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Abstract

Introduction: Despite the contributions of Long Acting Reversible Contraceptions (LARC) in improving maternal and child health, they are underutilized, while studies on this particular topic are also limited in Ethiopia, specifically in Jimma.

Objective: The objective of this study is to assess the prevalence, clients and providers' perceptions, reasons and factors contributing to long acting and reversible contraceptive use, among family planning clients of Jimma Town health institutions.

Methods: A cross-sectional quantitative and qualitative survey was conducted using a systematic and purposive sampling method respectively. Pre-tested survey questionnaires were used for the quantitative data collection. Descriptive and inferential statistics were analysed using SPSS version 20.0 and P-value less than 0.05 considered statistically significant. In-depth interview and FGD findings were thematically analysed.

Result: Of the total 422 participants: 22.9% (95% CI: 18.9, 26.9%) were currently using LARC of which, 78 (82.98%) and 16 (17.02%) were using implants and IUCD respectively; similarly, 112 (22.2%) ever used LARC. Major reasons given for not using or intending to use LARC were: husbands' disapproval, fear of side effects and fear of procedure. Based on the qualitative study findings, clients perceived, side effects, rumours, partner influence, and lack of women's decision making power were the major reasons hindering the use of LARC. Similarly family planning providers reported: providers' lack of counselling skills, work load, clients' misunderstanding about LARC and husbands influence as major reasons hindering its use. Multivariable logistic regression analysis identified: age, previous use of LARC and educational status of women as the main predictors having statistically significant association with the current use of LARC, ($P < 0.05$).

Conclusion: Despite its effectiveness, safety and compared to other studies such as Ugandan, the current prevalence of LARCs was low. Therefore concerned authorities should consider training of midwives on counselling skill, male involvement in addition to empowering women on contraception negotiation skill and decision making are recommended.

Keywords: Long acting reversible contraceptives; Prevalence; Perception; Reasons; Factors

Abbreviations ACOG: American Congress of Obstetrician and Gynaecologists; CPR: Contraceptive; Prevalence Rate; DHS: Demographic and Health Survey; FGAE: Family Guidance Association Ethiopia; FP: Family Planning; HIV: Human Immune Deficiency Virus; IRB: Institutional Review Board; IUCD: Intrauterine Contraceptive Device; JUSH: Jimma University Specialized Hospital; CPHMS: College of Public Health and Medical Sciences; LAC's: Long Acting Contraceptives; LAPMS: Long Acting and Permanent Methods of Contraception's; LARC's: Long Acting Reversible Contraception's; MOH: Ministry Of Health; NGOs: Non-governmental Organizations

Background

Women and couples who want safe and effective protection against pregnancy would benefit from access to more contraceptive choices, including long-acting reversible contraceptives (LARCs). These are: IUCDs and implants. LARCs are convenient for users and effectively prevent pregnancy. They are also cost effective for programs over time, can result in substantial cost savings for governments and contribute directly to reaching the national and international health goals.

For instance, the government of Ethiopia has targeted 55% CPR by the year 2020, of which 35% is expected to come from LARCs [1], which in turn implies that much needs to be done to catalyse the uptake of these methods. Despite these expectations and advantages of LARCs, its use remains small and sometimes missing component of many national reproductive health and family planning programs [2]. The prevalence of high-unintended pregnancy rates can also be related

to low use of long-acting reversible contraceptive (LARC) methods, specifically the contraceptive implants and intrauterine devices (IUDs).

LARCs such as implants can be used by women of age 15-49 and any time including breastfeeding women during the first 6 weeks after childbirth. WHO guidance also states that the risks outweigh the benefits during this period [3]. The U.S. Centers for Disease Control and Prevention (CDC) advises that the benefits outweigh risks during the first 4 weeks and places no restrictions on use after 4 weeks [4].

The U.K.'s Royal College of Obstetricians and Gynecologists also places no restrictions on use of implants by breastfeeding women at any time [5]. Immediate postpartum provision of implants would offer expanded programmatic opportunity, as women are increasingly receiving safe delivery services and there is almost universal interest among postpartum women in avoiding a pregnancy for at least 2 years [6].

Implants also offer great promise for helping to meet the needs of younger women, who often face many barriers in accessing effective modern contraception. For example, when implants were made available to young Kenyan women of ages 18-24 seeking family planning, 24% selected the method [7]. Similarly, IUCD is one of the most effective forms of reversible long term contraceptive methods that can be used by many women including older, lactating, young...etc., and have a tremendous impact on preventing unintended pregnancies

The American College of Obstetricians and Gynaecologists recommends providers to encourage adolescents aged 15-19 seeking contraception to consider implants and intrauterine devices (IUDs) as "the best reversible methods for preventing unintended pregnancy, rapid repeated pregnancy and abortion in young women" [8,9].

Many factors, including contraceptive method choice and continuation patterns, contribute to the lack of progress in reducing unintended pregnancies. Combined oral contraceptives and condoms, the predominant reversible contraceptive methods are user dependent have relatively low continuation rates, and have relatively high failure rates with typical use patterns.

Studies done across regions reflected different factors contributing to use of LARC. For instance a study done in Ghana identified that LARCs were used mainly by women with more living children and those who had previously used LARCs [10]. Another study in France on lifetime use of LARC and factors associated with current use of LARC methods indicated that 11.4% of women at potential risk of an unintended pregnancy at the time of the survey had ever used a LARC method, with 5.4% who had ever used an implant and 6.6% who had ever used an IUCD [11].

This study also indicated that, at the time of the survey, 6.6% of women in need of contraception reported using LARC methods: 2.6% of women were using the implant, 1.5% had a copper IUCD [10]. In the same study, the odds of using LARC were more than 4 times higher in women in their twenties as compared to teenagers. The increase was even greater in parous women. Prior experience of an unintended pregnancy, reported by 18% of women interviewed, seemed also to be a strong motivation to use LARCs, regardless of women's parity [11].

Although similar studies (LARC) are lacking in Ethiopia, few were done on long acting and permanent methods (LAPMs). For instance a study done in Goba town by Abulie et al., Reflected that use of LAPMs was significantly associated with ever use, number of times discussions made on methods and main decider of using methods [12]. Another

study done in Mekele town, 2012, identified that mothers who had good knowledge were 8 times more likely to use LAPMs as compared with those who had less knowledge. Mothers who had two or more pregnancies were 3 times more likely to use LAPM as compared with those who had one-pregnancy [13].

Similarly, a study in Uganda showed that current use of LARC was 31.7%. And factors associated with current use of LARC were previous use, knowledge of respondents about LARC and perception that; male partner decisions positively influence their choices [14]. Another study in Mekelle city, Ethiopia, 2014, indicated the reasons for not accepting LARC were: because of the side effects 128 (44.8%), fear of infertility after use 117 (40.9%), and 38 (11.1%) husband disapproval. The same study reflected that, 183 (53.5%) of clients do have future intention to utilize long acting reversible contraceptives [15]. It is to be noted that, many of the above studies do have variations in the prevalence while sharing some similarities on the factors contributing to LARC use.

Methods

Study area and period

The study was conducted in Jimma town, one of the zones in Oromiya regional state. Jimma is one of the biggest cities in Ethiopia located 352 Kms south-west of the capital, Addis Ababa. It is, a town of multi-ethnic group, distinguished by different religions, cultures and languages, consisting 13 Kebles and three Woredas. According to the data drawn from Jimma town Health Office the total population of the town is 174,446, of which women of reproductive age accounted for 40, 646. Jimma town has also 2 government hospitals and 3 health centres.

Study design and population

A facility based cross-sectional study design and mixed method including quantitative and qualitative was employed in June 1-30, 2014. The source and study population was all and sampled reproductive age women attending FP service in the study institutions during data collection period respectively.

Sample size and sampling technique

Quantitative and qualitative data were collected using the probability and purposive sampling method respectively. The sample size for the quantitative study was calculated by using the formula for a single population proportion with assumption of 95% CI, 5% degree of precision and 50% Prevalence (to get the maximum sample size and since there were no previous similar published local studies).

By adding non-response rate of 10%, the final total sample size became 422. This total sample size was proportionally allocated to each facility after taking their weekly and monthly case load of FP clients so as to determine the proportion of FP women taken from each health facility. A 10% was added to the sample size as a contingency to increase the power of response or to compensate the possible non-response rate.

Focus group discussion was considered so as to find out ideas which are difficult to collect using only quantitative methods i.e. beliefs and attitude questions. Purposive sampling technique was used to select participants (clients) who had better information on the subject for the qualitative study. On the basis of the saturation level of the information, 5 FGDs (consisting 6-12 participants) were conducted using topic guides and audio recorder. In order to obtain more

information on the subject an in-depth interview was employed on five key informants (heads of FP) at each institution.

Data collection technique and tools

Considerable attention was given to obtain valid and reliable information that suits the objective and the use of triangulation. Data were collected using pretested, structured survey questionnaire, Focus Group Discussion (FGD) and in-depth interview methods at FP clinics. The survey questionnaire was prepared after reviewing different literatures relevant to the study and adapted to the local situation.

In order to keep participants anonymity, privacy and cultural integrity, 5 female BSc Nurse/midwife staff members who could speak the local language and were familiar with local culture collected the data at FP clinic in a private room. Female nurse/midwife professionals were selected because, they could understand technical terms easily, clients better trust them and forward their opinion without being embarrassed.

Our inclusion criteria was: those reproductive age women coming for family planning service at the time of data collection, who were able and volunteer to participate were included in the study while, those family planning clients who refused to participate in the study or sick were excluded.

With regard to the qualitative data collection, the investigators facilitated the discussion with an audio recorder while a note taker recorded the discussion. Discussants were informed about the recorder that the session would be recorded so that it can review the discussion, but will not be recorded if anyone refuses. In the same way, they were assured that, each participant was free to turn off the recorder if they felt inhibited in talking about a particular topic.

Data quality control

Data collectors were trained for two days on how to interview and fill the survey questionnaires.

During data collection to prevent incomplete and inconsistent responses, the researchers counter checked completed questionnaires. Furthermore, the principal investigators were available at the time of data collection to clarify certain possible misunderstandings.

Topic guides that suited the purpose of study were developed for FGDs and for an in-depth interview. FGD was added in order to collect information that is culturally sensitive, which would otherwise not be disclosed, besides allowing an immediate validation. Therefore, 5-FGD sessions which took a minimum of one hour for each were carried out and the selection of discussants was made based on their age and other socio-demographic characteristics (homogeneity). In-depth interview that took a minimum of 40 minutes was added to obtain information from the providers' perspective.

Data processing and analysis

All the quantitative information from questionnaire and interview was cleaned, coded and analyzed using SPSS version 20.0 computer statistical package. A descriptive analysis was carried out for each of the variables. Then a bivariate analysis was done for the independent variables against the outcome variable to select candidate variables for the multivariable analyses. Finally, variables with ($P < 0.20$), on the

bivariate analysis were entered into the multivariate logistic regression model to identify the independent effect of each covariate.

Data from the focus group discussion and in-depth interview were transcribed and translated to English and categorized accordingly to main thematic areas manually. Qualitative content analysis, specifically conventional content analysis approach was applied to describe or explain the phenomenon of the qualitative data. The goal of content analysis was "to provide knowledge and understanding of the phenomenon under study, and the outcome of the analysis were categories or themes describing the phenomenon using the following steps: interviews were transcribed and translated verbatim and reread several times to gain an overall understanding of their condensed meaning and then coded. Codes were compared based on similarities and differences and classified into categories. Themes of the categories were specified. Finally, the findings were presented in narratives triangulated with the quantitative results.

Measurements

Variables

Dependent variable

LARC use (outcome variable)

Independent variables

Socio-demographic factors such as: age, religion, ethnicity, literacy and occupational status of woman, spousal literacy and occupational status.

Client' awareness about LARC

Providers' behaviour: counselling based on clients need, privacy, confidentiality, interaction.

Reproductive Health history.

Operational definition of variables

Current Use of LARC: If clients currently using any of LARCs.

Ever Use of LARC: If clients had been using any of LARCs in her life time but not currently.

Client's awareness about LARC: Yes: If a client mentions both implants and IUCD; No: If a client mentions only either of them or none.

Ethical Considerations

A copy of research proposal was submitted to the CPHMS research coordinating office of Jimma University. Ethical clearance from Jimma University CPHMS Institutional Review Board (IRB) and permission from respective authorities was obtained before the data collection. During the data collection, written and verbal consent was obtained from the respondents after the purpose of the study was explained to them.

To get full co-operation, respondents were reassured about the confidentiality of their response. They were also ensured their voluntarily participation and right to take part or terminate at any time they wanted without their service being affected.

Since, the subject of the study could raise sensitive cultural and ethical issues, care was taken in designing questionnaire and selecting

enumerators. Survey and qualitative data collectors were strictly trained and reminded to keep the local cultural norms intact. Confidentiality and privacy were adhered to keep the women's safety. Clients were also assured that their name would not be mentioned and data collected will never be left unattended.

Results

Quantitative study results

A total of 422 FP clients participated in the quantitative study with a response rate of 100%.

The majority of participants were: in the age group of 25-29 years 126 (29.9%), Oromo 175 (41.5%), Orthodox Christian 181 (42.9%), married 357 (84.6%), primary cycle (1-8 grades) 166 (39.3%) and 247 (59.4%) of women were house wives. Similarly, 229 (54.3%) of participants were urban and 193 (45.7%) were rural residents originally (Table 1).

Variables	Frequency	Percent (%)
Age		
15-19	35	8.3
20-24	112	26.5
25-29	126	29.9
30-34	73	17.3
35+	76	18
Parity		
Primi	104	24.6
Multi	310	73.5
Nulli para	8	1.9
Gravida		
Nulli gravid	42	10
01-02	225	53.3
03-04	123	29.1
5+	32	7.6
Marital status		
Single	53	12.6
Married	357	84.6
Widowed	6	1.4
Divorced	6	1.4
Age at 1st marriage		
<18	130	32.1
≥18	275	67.9
Type of marriage		
Family arranged	162	40.4

By choice	239	59.6
Previous residence		
Urban	229	54.3
Rural	193	45.7
Ethnicity		
Oromo	175	41.5
Amhara	82	19.4
Gurage	47	11.1
Kefa	30	7.1
Dawro	45	10.7
Other	43	10.2
Religion		
Orthodox	181	42.9
Muslim	171	40.5
Protestant	68	16.1
Others	2	0.5
Educational status of women		
Can't read and write	64	15.2
Can read and write	55	13
Primary cycle (1-8)	166	39.3
Secondary and above (9+)	137	32.5
Occupation of women		
Govt. Employee	79	19
House wife	247	59.4
Private (merchant)	76	18.3
Other	14	3.4
Educational status of husband		
Can't read and write	27	6.4
Can read and write	40	9.5
Primary cycle (1-8)	160	38
Secondary and above (9+)	194	46.1
Occupation of husband		
Govt. Employee	155	39
Private (merchant)	114	28.7
Daily labourer	105	26.4
Other	23	5.8

Table 1: Socio-demographic characteristics of FP clients in Jimma Town Health Institutions June, 2014.

With regard to reproductive health history: 225 (53.3%) were gravida 1-2, 310 (73.5%) were multiparous, 130 (32.1%) and 275 (67.9%) had their 1st marriage at the age of less than 18 and ≥18 years old respectively. 162 (40.4%) had family arranged marriage and 239 (59.6%) of them were married by their choice. With regard to educational status of husbands, secondary and above (9+) level accounted for 194 (46.1%), and majority 155 (39%) of husbands were government employee, (Table 2).

Of the total participants; 101 (24%) had history of unintended pregnancy, 80 (19.2%) had history of abortion, 233 (57%) had 1-2 children, 324 (81.6%) reported to have mutual decision on contraception use, 345 (84.1%) knew about LARC and 131 (35.4%) of clients knew about implanone (Table 2).

Variables	Frequency	Percent (%)
Ever had unintended pregnancy		
Yes	101	24
No	320	76
Ever had abortion		
Yes	80	19.2
No	336	80.8
No. of living children		
None	56	13.7
42737	233	57
42798	92	22.5
5+	28	6.8
Mutual decision on contraception use		
Yes	324	81.6
No	53	13.4
Other	20	5
Perceived risk of unintended pregnancy		
Yes	106	25.2
No	315	74.8
Know about LARC		
Yes	345	84.1
No	65	15.9
Type of LARC client knew		
Implanone	131	35.4
Sino-implant	49	13.2
Jaddle	83	22.4
IUCD	107	28.9

Table 2: Reproductive Health history and information on LARC among FP clients in Jimma Town Health Institutions June, 2014.

Majority 242 (57.3%) of participants were using injectable followed by OCP 81 (19.2%). 398 (95.7%) of clients reported to using contraception by choice while 18 (4.3%) of them were not given the contraception they preferred at the time of their visit. Some of the reasons for not being given methods preferred were: unavailability of contraception they preferred at the time of visit, providers were not around and contraindications (Table 3).

Of the total participants 112 (22.2%) ever used and 94 (22.9%) were currently using LARC of which 78 (82.98%) and 16 (17.02%) were using implants and IUCD respectively (Figure 1 and Table 3).

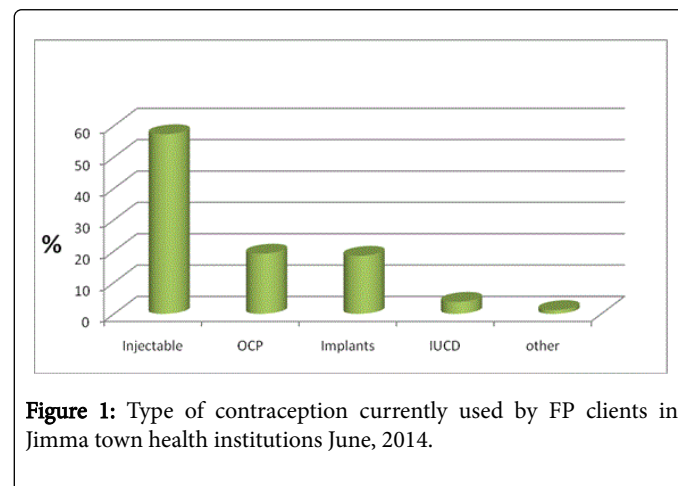


Figure 1: Type of contraception currently used by FP clients in Jimma town health institutions June, 2014.

Contraceptive use	Frequency	Percentage
Current contraception use by choice		
Yes	398	95.7
No	18	4.3
Ever used IUCD/implants		
Yes	112	27.2
No	300	72.8
Current use of IUCD/Implants (LARC)		
Yes	94	22.9
No	316	77.1
Type of LARC client using currently		
IUCD	16	17.02
Implants	78	82.98

Table 3: Use of LARC among FP clients in Jimma Town Health Institutions June, 2014.

Clients were also asked whether they were intending to use LARC in the future and only 103 (35%) of them reported that they may use LARC sometime in the future (Table 3). Major reasons given for not to using or intending to use IUCD were: husbands' disapproval, fear of side effects and fear of procedure, accounting for 103 (28.7%), 92 (25.6%) and 99 (27.6%) respectively (Figure 2).

Similarly, the main reasons given for not using or intending to use implants were: fear of side effects and husbands' disapproval accounting for 115 (47.3%) and 79 (32.5%) of them respectively (Figure 2).

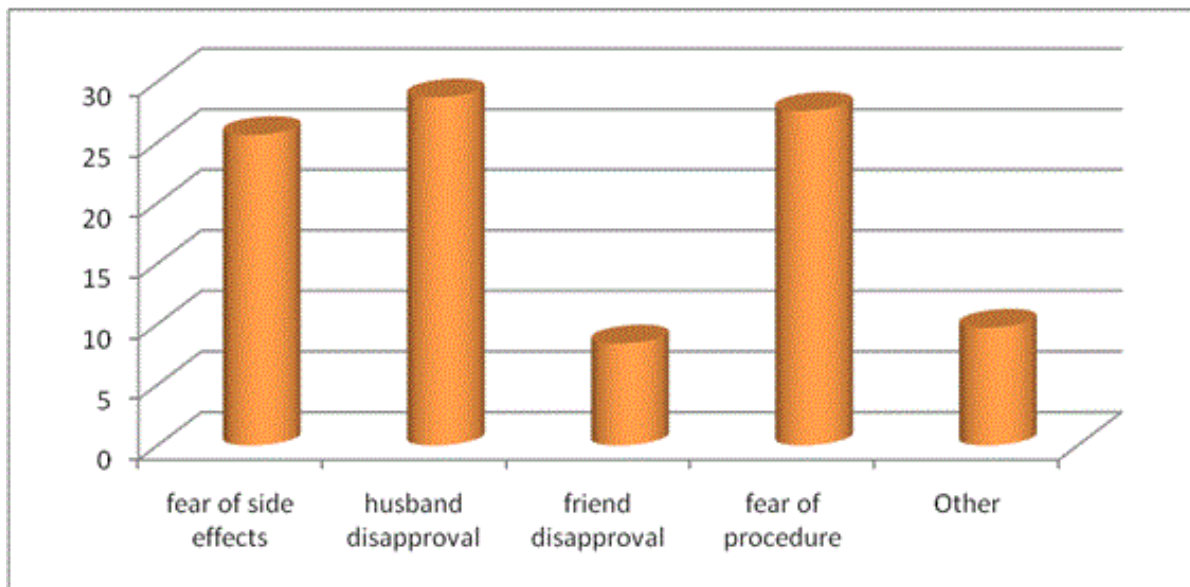


Figure 2: Reasons for not using or intending to use IUCD among FP clients in Jimma Town Health Institutions June, 2014.

About 48 (11.7%) family planning clients reported that health care providers' behavior affected their LARC choice of which; lack of discussion 14 (29.2%), long waiting time 12 (25.0%), and lack of privacy 11 (22.9%) were the main ones.

During the study period a total of 33 clients came to get their implants removed and the major reasons for removal were: partner influence 13 (39.4%), time is over 11 (33.3%) and side effects 5 (15.2%) (Figures 3 and 4).

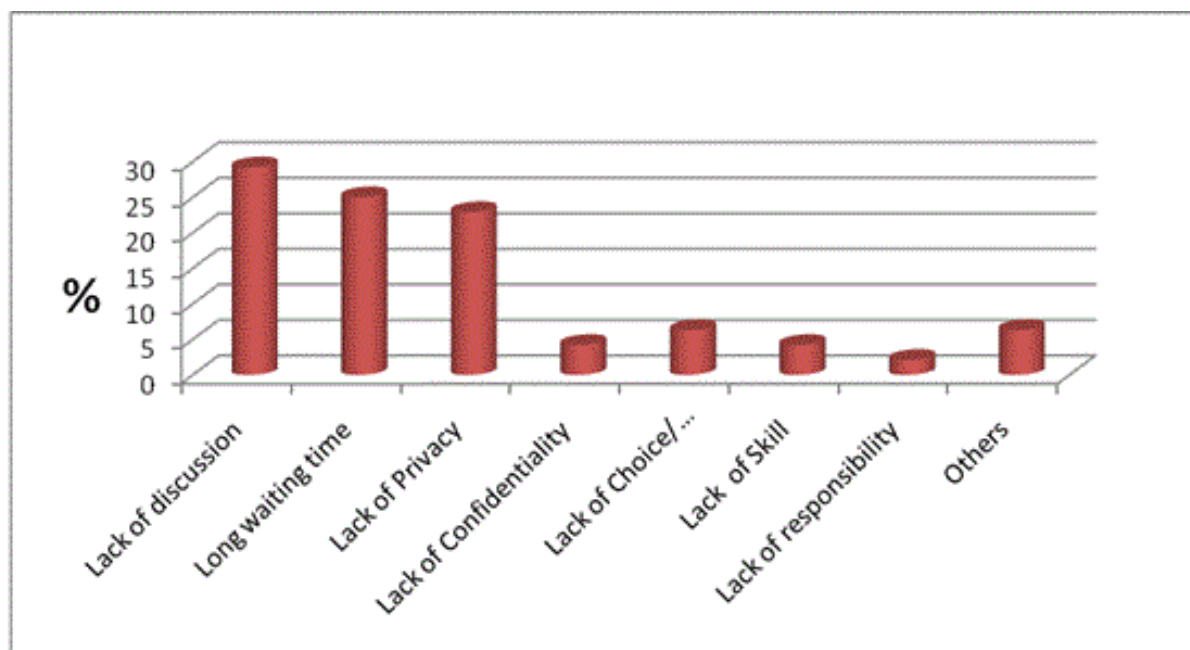


Figure 3: Type of HCWs behaviour affecting the choice of LARC reported by FP clients in Jimma Town Health Institutions. June, 2014.

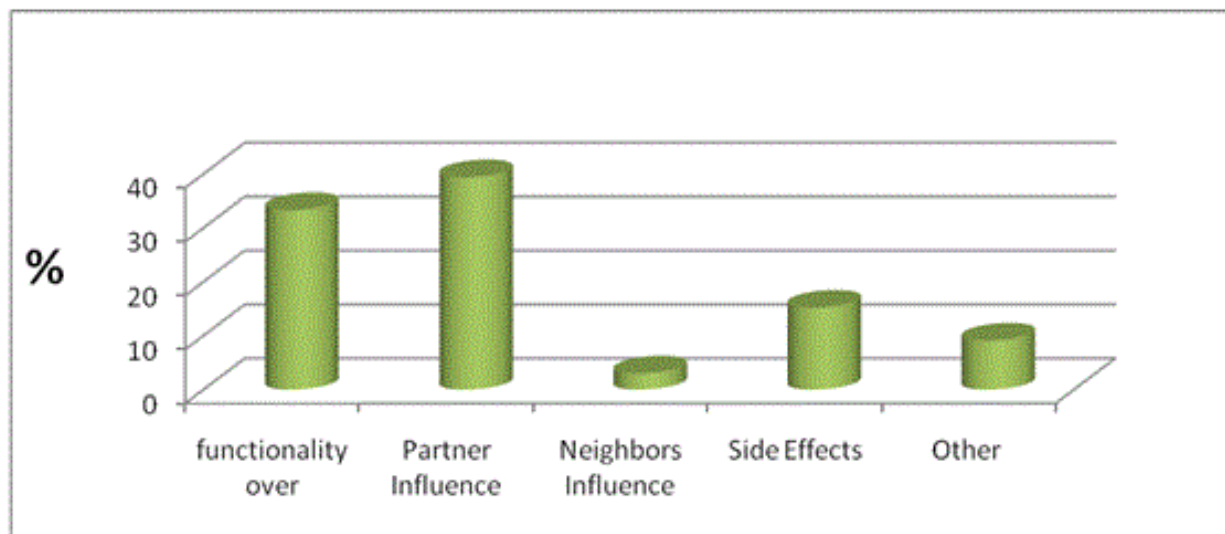


Figure 4: Reasons for implants removal among FP clients in Jimma Town Health Institutions June, 2014.

Binary logistic regression analysis was done to see associations between the independent variables with the outcome variable. The results of this analysis showed that: age, gravidity, ever had abortion,

ever used LARC and knowing about LARC had statistically significant association with the current use of LARC (Table 4).

Variables	Categories	Current use of LARC		COR (95% CI)	AOR (95% CI)
		Yes	No		
Age	15-19	10	25	1	1
	20-24	25	81	0.346 (0.236,0.952)	0.078 (0.019,0.321)**
	25-29	35	87	0.449 (0.196,1.028)	0.213 (0.076,0.599)**
	30-34	15	58	0.344 (0.155,0.766)	0.245 (0.092,0.653)**
	35+	9	65	0.535 (0.218,1.316)	0.447 (0.149,1.341)
Gravidity	Nulli gravid	13	27	1	1
	42737	52	167	0.223 (0.57,0.869)	0.404 (0.056,2.926)
	42798	26	94	0.344 (0.0,1.17)	0.602 (0.107,3.377)
	5+	3	28	0.387 (0.109,1.376)	0.753 (0.146,3.880)
Ever had abortion	Yes	27	52	1	1
	No	66	260	0.489 (0.286,0.837)	1.039 (0.477,2.267)
Ever used LARC	Yes	64	45	1	1
	No	28	266	0.074 (0.043,0.128)	0.048 (0.024,0.093)**
Know about LARC	Yes	83	253	1	1
	No	7	56	0.381 (0.167,0.869)	0.367 (0.117,1.149)
Educational level of women	Illiterate	18	43	1	1
	Literate	76	273	0.665 (0.363,1.219)	0.225 (0.093,0.540)**

Parity	Primi	22	78	1	1
	Multi	71	231	0.506 (0.059,4.340)	1.133 (0.073,17.498)
	Nulli para	1	7	0.465 (0.56,3.842)	0.687 (0.047,10.017)
Age at 1st marriage	<18	25	102	1	1
	≥18	65	202	1.313 (0.781,2.206)	1.276 (0.590,2.762)
Type of marriage	Family arranged	34	123	1	1
	By choice	56	177	1.145 (0.705,1.858)	0.719 (0.340,1.521)
Educational status of husband	Illiterate	8	18	1	1
	Literate	86	297	0.665 (0.363,1.219)	0.438 (0.110,1.734)

Table 4: Predicators of LARC use on Binary and Multivariable logistic regression analysis among FP clients in Jimma Town Health Institutions June, 2014.

Meanwhile, those FP clients in the age group of 20-24 years and 30-34 years old [COR: 0.346; 95% CI=0.236, 0.952] and [COR: 0.344; 95% CI=0.155, 0.766] respectively were less likely to use LARC than their 15-19 years old counterparts.

Similarly, those gravid 1-2 were less likely than nulli gravid clients [COR: 0.223; 95% CI=0.57, 0.869]; never had abortion were less likely than those who had abortion [COR: 0.489; 95% CI=0.286, 0.837]; who did not know LARC than those who knew about LARC [COR: 0.381; 95% CI=0.167, 0.869] were to currently use LARC.

However, multivariable logistic regression analyses identified that only age, ever used LARC and educational status of women had statistically significant association with the current use of LARC. Meanwhile, those clients in the age group of 20-24 years, 25-29 years and 30-34 years old, [AOR: 0.078; 95% CI=0.019,0.321], [AOR: 0.213; 95% CI=0.076,0.599], and [AOR: 0.245; 95% CI=0.092,0.653] respectively were less likely to use LARC than their 15-19 years old counterparts. Similarly, those who previously never used LARC were less likely to use it than those who previously used it [AOR: 0.048; 95% CI=0.024, 0.093]. Moreover, literate women were less likely to use LARC than illiterate women [AOR: 0.489; 95% CI=0.286, 0.837].

Qualitative study results: clients' and providers' perception on LARC use

Perception of FP providers on why use of LARC is low

Many FP providers reported that, because implants do have side effects such as vaginal bleeding, the perception of some clients was LARCs cause numbness of the involved arm. Providers also reported that, Muslim clients usually come for removal while fasting. Similarly, myths associated with IUCD that (it causes cancer, it needs much food, it goes to other organ such as to head, heart...etc.), husbands' complaint that it causes discomfort during sex, "Yikorekural", and lack of women's decision making power on contraceptive use were reported as to why IUCD use is low. As 36 years old FP provider stated "when we counsel them on LARC they told us that they had to go back to home, consult their husbands and comeback again however, they would never show up again".

Another FP provider stated that, "there was one client having IUCD inserted was beaten by her husband as a result. I told her to bring her husband who I told that IUCD was removed (while it was still there). I

asked him to come back and tell what he experienced during the sexual relationship. He said now it was conformable and he was happy".

Many others also reported that feeling bored of counselling, lack of counselling skill (need based, privacy, confidentiality, interaction...etc.), heavy client loads, lack of resources for providing LARC (ex, lack of sterile instruments for IUCD and or implants insertion) were some of the reasons for low use of LARC. As one FP provider stated "since I might have long queues of clients, I may not have time for counselling".

FP clients' perception on LARC uses; Five FGDs consisting of 6-8 clients participated in the discussion. Most clients perceived that IUCD migrate to head and cause illness, cancer, bleeding, prevents from hard working, requires more food. Similarly they perceived that implants may paralyze involved arm and cause vaginal bleeding, and illness. As one client described "implants are foreign bodies, we should not be buried with foreign things in our body when we die".

Many of the clients also reflected that their husbands should decide in order for them to use LARC. Many others also expressed their feelings that they feel embarrassed to expose their genitalia and having something foreign inserted in their body specifically for IUCD.

Discussion

Long-acting reversible contraceptions are methods of birth control that provide effective contraception for an extended period without requiring user action. Despite these advantages, use of LARCs remains relatively small. Thus this study tries to find out the prevalence, reasons, perception and factors contributing to utilization of LARC by FP clients [16,17].

This study identified that, the majority 242 (57.3%) of participants were using injectable, followed by OCP 81 (19.2%). Three hundred and ninety eight (95.7%) of clients reported to using contraception by choice while, 18 (4.3%) of them were not given the contraception they preferred at the time of their visit. Some of the reasons for not being given methods preferred were: unavailability of contraception they preferred, providers were not around and contraindications.

As shown in this study, the highest proportion of client uses injectable contraception. This might be due to the fact that injectable is not user dependent and not seen by partners. This may again partly

explain women's lack of decision making power over their contraceptive choice or their partners' influence. In fact, there are many evidences including a study in Turkey and Bangladesh that indicated spousal attitude and approval influence contraceptive use [18,19].

Of the total participants in this study, 22.2% ever used and 22.9% were currently using LARC of which 78 (82.98%) and 16 (17.02%) were using implants and IUCD respectively. While a study in Uganda showed the current use of LARC was 31.7%, [14], in Ghana 71% [10], in US 11.6% [16], in Western Ethiopia 17.6% [17] and a study in France showed the current LARC use was much lower (6.6%) of which 2.6% were using the implant, 1.5% had a copper IUCD [11]. Variation among these studies might be due to the difference in sampling procedures, study designs, setting and time of study.

In this study, only 103 (35%) of clients reported that they may use LARC sometime in the future. However a study in Mekelle, city, northern part of Ethiopia reported that 183 (53.5%) of clients do have future intention to utilize LARC [15], While another recent study in the Western part showed intention to use long acting and permanent contraceptive method 18.2% [20]. The difference between these studies might be the difference in the level of clients' awareness, the type of long acting contraceptive methods. Major reasons given for not using or intending to use IUCD were: husbands' disapproval, fear of side effects and fear of procedure, accounting 103 (28.7%), 92 (25.6%) and 99 (27.6%) respectively.

The study in Mekelle town also cited the main reasons for not accepting long acting reversible contraceptive reported by women as follows: 128 (44.8%) because of the side effects, 117 (40.9%), of the women fear of infertility after use and 38 (11.1%) of them mentioned husband disapproval [15]. One can see similarity between the two studies as reasons for not using LARC are husband disapproval and fear of side effects. Family planning service providers' behavior also affects LARC use. For instance, in this study, 48 (11.7%) family planning clients reported that, providers' lack of discussion with them 14 (29.2%), long waiting time 12 (25.0%) and lack of privacy 11 (22.9%) reported as the main providers behaviours affecting LARC use of clients.

Based on the qualitative study findings, family planning providers stated: providers' lack of counselling skills, work load, lack of resources for LARC procedures, clients' misunderstanding about LARC and husbands influence as a major factors hindering LARC use. Similarly participant clients reported, side effects related to IUCD and implants, partner discomfort, lack of privacy and fear of IUCD insertion as the major reasons hindering use of LARC. This entail the need for male involvement, improving providers counselling skill, availing necessary equipment for LARC procedures, concern for client privacy, treating the side effects and awareness creation about LARC.

Multivariable logistic regression analyses identified that age, ever used LARC and educational status of women were independent predictors that had statistically significant association with the current use of LARC after adjusted for other covariates. Meanwhile, those clients in the age group of 20-24 years, 25-29 years and 30-34 years old, [AOR: 0.078; 95% CI=0.019,0.321], [AOR: 0.213; 95% CI=0.076,0.599], and [AOR: 0.245; 95% CI=0.092,0.653] respectively were less likely to use LARC compared to their 15-19 years old counterparts. Similarly, those who never used LARC previously were less likely to currently use it compared to those who previously used it [AOR: 0.048; 95%

CI=0.024, 0.093]. Age predicting the current use of LARC was also evidenced by other previous study [14].

The association between the previous and current use of LARC was also confirmed by other studies [10,21]. Contrary to a recent study in Ethiopia [17], a surprising finding in this study is that literate women were less likely to use LARC than illiterate women [AOR: 0.49; 95% CI=0.286, 0.837], which might be due to the fact that literate women may be more afraid of side effects of LARC than their counterparts. Ugandan study also indicated previous use, knowledge of respondents about LARC and perception, and male partner decisions as the main predictors of LARC use [14]. The study done in Goba and Mekelle town reflected ever use of LAPM and knowledge about LAPM respectively as predictors of LAPM use [12,13]. Although these last two studies included permanent methods they have similarities with this study in some predicting variables.

Finally, although this study sampled women of FP clients that limit the generalizability of its findings, it illuminates some picture on the LARC use and factors contributing to it. Taking into account its contribution on the effect of increasing population and unintended pregnancy for developing countries such as Ethiopia, we believe that it will contribute to the prevention efforts while encouraging other researchers to undertake more rigorous study on the subject.

Limitation of the Study

Since the subject to be studied was related to sexual and Reproductive Health issues, sensitive one, which would likely to override the couples privacy and cultural norms; many women usually tend to hide their true feelings (due to socio-cultural norms, fear of disclosure of privacy). As a result, there might be underreporting. Furthermore, because of the use of survey (cross sectional design), being institutional based, sampled only on Family Planning client women; we can neither claim causality nor generalizability.

Conclusion

The study identified that LARC use is low compared to some studies [such as, Ugandan, and Ghanaian (14-16)], despite its contribution to improve maternal and child health. Only nearly a third of women reported that they may use LARC sometime in the future. Major reasons given for not using or intending to use LARC were husbands' disapproval, fear of side effects and fear of procedure.

As stated by providers, providers' lack of counselling skills, work load, lack of resources for LARC procedures, clients' misunderstanding about LARC and husbands influence are the major factors hindering LARC use. Similarly from the client's point of view, side effects related to LARC, partner discomfort and lack of privacy and discomfort for IUCD insertion were the major reasons hindering use of LARC. Age, previous use of LARC and educational status of women were the main predictors having statistically significant association with the current use of LARC based on multivariable logistic regression analysis ($P < 0.05$).

Therefore, male involvement, women empowerment on contraceptive use, negotiation skills, providers training on LARC counselling skills, promoting long-acting reversible methods, centering on increasing knowledge and correcting misinformation about LARC, emphasize these methods' with greater effectiveness than short-acting methods and highlight their association with fewer and relatively

minor side effects without ignoring the treatment of side effects were recommended.

Competing Interest

The authors declare that they have no competing interests.

Authors' Contributions

Bosena Tebeje Gashaw, designed the study, collect, analyses and interprets the data and also drafted the manuscript.

Desta Workneh Selbana, designed the study, collect, analyses and interprets the data and also drafted the manuscript.

All authors read and approved the final manuscript.

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