

Demand for Long Acting and Permanent Contraceptives Methods and Associated Factors Among Married Women Visiting Assosa Town Health Institution for Family Planning

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Abstract: *Background:* Demand for long acting and permanent contraceptive method is one of the key factors that determine the fertility and the reproductive health of the women. These demand for LAPM was not consistent with and the utilization of LAPM. The objective of this study is therefore, to assess demand for LAPM and associated factors among married women visiting Assosa governmental health institution for family planning service. Method used to conduct the study was, institutional based cross sectional study were conducted to assess demand for LAPM and its associated factor from April 12-May 10/2019 for total of 251 sample size. Data was collected by using pretested structured questionnaire. For the qualitative study, in-depth interview was conducted on purposively selected key informant. Data was analyzed by using SPSS 24. The study result indicates, the demand for LAPM at the study area was 158 (62.9%). Awareness about LAPM (AOR=2.503 95%CI =1.188-5.2274), knowledge of LAPM (AOR=2.62, 95%CI =1.295-5.299), previous utilization of LAPM (AOR= 3.369, 95%CI =1.805-5.291) and couple discussion about any LAPM (AOR=2.067, 95% CI =1.027-4.163) were associated with demand for LAPM. Fear of the side effect was the main reason for non-utilization of LAPM. *Conclusion:* demand for LAPM was not consistent with the utilization. The finding shows that, 62.9% of the respondent had demand for LAPM. On the basis of the finding, It needs to do more on the limiting factors to utilize LAPM. So the recommendation goes to MOH, RHB, the institution manager together with health care provider and different NGO work more to meet the increasing demand for LAPM.

Keywords: Demand for Long Acting, Permanent Contraceptive Methods, Married Women

1. Introduction

1.1. Background

The health of women is closely related to their reproductive role and pregnancies which are either too early, too close, too many or too late, exposing mothers to high morbidity and mortality at the time of pregnancy and/ during parturition. Family planning one of the key elements of reproductive health that would prevent 67 million unintended pregnancies and reduce induced abortions from 48 million to 13 million, maternal deaths by 76,000 per year, newborn deaths from 2.9 million to 660,000 per year and HIV infections in newborns from 130,000 to 9,000. estimated 214 million women in the developing world want to delay or

prevent pregnancy but are not using a modern method of contraception [1-3]

Through the use of Family planning, young women can delay or space the pregnancy. After a live birth, family planning helps a woman space her next pregnancy for at least two years or approximately three years between births. With such spacing, children are more than twice as likely to survive infancy and are healthier and allow the mother to provide the benefits of breast feeding longer and spend more time with each child which contributes to the child's physical health and mental and emotional development. It has saved the lives of millions of mothers and their children through the prevention of high-risk pregnancy or unplanned pregnancy [1, 4-6].

For these women who want to prevent unplanned pregnancy, long acting and permanent contraceptive methods (LAPM) are

very safe, effective and affordable methods which do not require daily use or repeated visits to get the supply. These LAPM include contraceptive methods like Implants and intrauterine contraceptive device (IUCDs) and tubal ligation which are the most effective contraceptive (99% or more unplanned pregnancy protection rate). Their effectiveness vary based on their type (effective for 12 years (IUCDs), for three to five years based on the type (Implants) and for permanent prevention of pregnancy (tubal ligation)[4, 6-9].

Provision of LAP methods are central to meet growing levels of demand for family planning and address sexual and reproductive health needs of women's as it saved the lives of millions of mothers and their children through the prevention of high-risk pregnancy or pregnancy which is not planed [5, 7, 9, 10].

Worldwide, around 10 million adolescent girls marry each year. These young brides are not fully matured physically and their body is not prepared for pregnancy however they are pressured to begin to have children. Study show that the age at which a woman has her first pregnancy affects the health and life of a mother and her baby. The percentage of teenagers who have given birth or are pregnant with their first child be 13% in Ethiopia, 14% at study area and 3% at Addis Ababa which can leads to obstetric complication during, intra-partum and after pregnancy to both mother and new born [8, 11, 12].

High fertility directly or indirectly affects environment, socio-economic and the health of country which can be prevented by contraceptive use. The global fertility rate is 2.5 United States of America, 1.9 Sub-Saharan Africa, 4.7 Asia and Latin America and the Caribbean (2.2), Europe 1.6, while the total fertility rate (TFR) in Ethiopia is 4.6 children per woman [12, 13].

The average contraceptive prevalence rate of sub-Saharan Africa was 22% and South Asia (53%) [2]. Kenya has CPR 50%, Ethiopia has 36% CPR (8% implant, 2% IUCD and <1% tubal ligation). the percentage of currently married women aged between 15-49 who wants no more children (including women who are sterilized) were 37% [13, 14].

The total demand for family planning increase with time periods but Substantial gaps still persist the utilization and demand for modern methods among couples who want to prevent pregnancy and demand for contraception. In 2015, less than half of total demand for family planning was being met with modern methods in 54 countries (34 of which are in Africa). In an additional 76 countries, less than 75% of total demand was met by use of modern methods. In Ethiopian 58% women age 15-49 have a demand for family planning; 35% want to space births, and 23% want to limit births [8, 13, 15].

The contraceptive prevalence rate varies throughout the world. The finding shows that, CPR was much lower in the least developed countries (40%) and Africa has CPR 33% [8]. Study conducted in Iran revealed that 21.4% CPR among married women (14.1% IUCD and 6% tubal ligation) [16]. study conducted in Bungoma East Sub-County of Kenya indicates 7.9%, 1.2% and 0.8% for implants, sterilization, and IUCD respectively. The finding of Study conducted in

Pakistan shows CPR 35% of which 17% used IUCD) [17, 19].

1.2. Knowledge of LAPM

The result of the study conducted in Uganda shows that 25.8% of the respondent knows LAPM [21]. Study conducted in The Jabalpur city located in Madhya Pradesh state of India 93.6% knew about female sterilization and 48.3%IUCD[22].

The report from 2010 Malawi Demographic and Health Survey indicates that 72% of participants have knowledge about IUCD[23] and the finding conducted on LARC in Luanda Angola, shows 39.6% of married women knew about IUDs and 38.6% knew about implants respectively [23, 24].

Study conducted in Bale Goba (Ethiopia) show that 47.7%, 15.8%, 3.85% knew implant, IUCD and tubal ligation respectively. The finding of the study conducted in western Ethiopia indicates 82.5% knew LAPM. The result of study done in Debre-markose shows that 74.4%, and 44.4% knew the advantage of implant and IUCD respectively and more than half didn't knew the advantage of tubal ligation [5, 20, 25].

1.3. Source of Information

Report of Malawi DHS indicates that, 84.9% married women heard about implant, 39.9% about female sterilization and 38.4% IUCD. This report indicates that, 93% of women obtained information from health institution [24].

The result of the Study conducted in The Jabalpur city located in Madhya Pradesh state of India indicates Television/Radio) has influential effect on the contraceptive use [22]. Study in Pakistan highlight as health workers as source of information about contraceptive [26].

The finding of the Study done at Bale-Goba revealed that, HEW(89.9%), friends (28.1%), health workers provider (24.2%) and radio (22.1%) were the main source of information related to LAPM. study done at debre-markose indicates that Health care provider (63.8%) and television (61.5%) were the most commonly mentioned source of information related to LAPM. The finding of the study done in west Ethiopia shows that 82.5% of the study participant was ever heard about LAPM and main source of information are health care provider, Radio/TV and friends (78.2%. 72.5% and 24.2% respectively) [5, 20, 25]

1.4. Factors Affecting Long Acting and Permanent Contraceptive Methods

The promotion of information, counseling and services for a range of methods are necessary to ensure that different pregnancy prevention methods (for limiting, delaying pregnancy, preventing pregnancy) in the post-partum period and so are met with the most appropriate and effective methods [8].

Study conducted in Uganda and resource limited setting indicates that fear of side effects, lack of knowledge of related to Contraceptive methods were barriers for LAPM

utilization. The finding also indicates that, Husband opposition, Myths /misconception related to the contraception, age of married women, and desired numbers of children were factors for non-use of contraception. This study finding pointed out that, the utilization of LAPM were affected by educational level (14% in those with primary or no education, 16% in those with secondary education, and 40% in those with tertiary education) [9, 21]. From the study finding in Mwanza, Tanzania shows as fear of side-effects and lack of information related to LAPM were barriers for LAPM for utilization of LAPM [27].

The result study conducted in Malawi indicates that number of living children, religion, household wealth status, partners' education and heard about family planning are factors for contraceptive methods [24]. The result of Study conducted in Congo on LARC shows provider bias, low clinical competency, lack of knowledge among users, and the influence of partners and other family members in family planning decision making are barriers for contraceptive use [28].

Study conducted in Bale-eco-region shows that religious opposition (55.9%), husband opposition (17.5 and fear of side effect (25.5%) are main reason women didn't intend to use RLAC. The result of study conducted at Debreworkose show that, inter pregnancy spacing (55.9%) and limiting (28.2%) were the main reason the respondent were intending to use LAPM. The result of this finding shows that, 45.3% of the couple discussed about LAPM together and 54.1% of their husband allow them to use LAPM. From the result of this finding, Fear of side effect (58.4%), preferring short term (36.3%) and religious prohibition (24.2%) are reason for not to use LAPM. The finding done in the West Ethiopia shows that, 81.5% of the participant ever discussed about LAPM and decided jointly and Side effect (38.9%). The finding shows that, rumors about LAPM (49%) were main reason for not using LAPM in the future.[20, 25, 29].

EDHS 2016 report indicates the CPR of the region as (28% benishangule-gumuz, 50% Addis Ababa, 47% Amara, 40% SNN, 35% Tigray, 35% Gambella and 29% Harari [13].

1.5. Problem Statement

Despite the complication/ death related to pregnancy, the utilization of contraceptive method especially LAPM were remain the least utilized method among reproductive age women. Study shows that 120 million women worldwide want to prevent unwanted pregnancy but they and their partner do not the contraception of their choice. Utilization of LAPM prevent 67 million unintended pregnancies and reduce induced abortions from 48 to 13 million, maternal deaths by 76,000 per year, newborn deaths from 2.9 to 0.66 million per year [3, 8].

While current challenges to health throughout the world are many and serious, the need to control one's own fertility probably touches more lives than any other health issue. Report show global fertility rate of 2.5, USA 1.9, Asia 2.8 and Africa 5.6, Ethiopia 4.6 and Benishangule-Gumuz 4.4% [1, 8, 13].

Short-term and reversible methods are more common in Africa and Europe whereas long-acting or permanent methods are more common in Asia and Northern America. Less than 10 per cent of married or in-union women of reproductive age were using contraception in Chad, Guinea and South Sudan and five countries in Eastern Africa (Kenya, Malawi, Rwanda, Zambia and Zimbabwe) had CPR of 50% or more in 2015 [4, 15].

Ethiopia Demographic Health Survey 2016 (EDHS 2016) indicates CPR of 36% (8% implant, 2% IUD and <1% tubal ligation). The total demand for family planning in Ethiopia were 58% (35% want to space births, and 23% want to limit births). It is known that despite the increased demands of women for LAPM to long term spacing or even limiting the child bearing, the utilization of short term remain high in the country despite their lower effectiveness rate of unplanned pregnancy protection. In the study area, the fertility rate and teenage pregnancy were higher compared to the other region of Ethiopia. This has its own effect on rapid population growth, malnourishment and negative impact on the environment and reproductive organ related morbidity and mortality. However the reason for higher demand especially at the study area and lower utilization of contraception were remain unknown. There for this study aims to assess demand for long acting and permanent contraceptives methods and associated factors among married women visiting Assosa governmental health institution for family planning. Mixed study.

2. Methods

2.1. Study Setting and Sample

The study was conducted in Assosa town governmental health institution which is located 561 km west from Addis Ababa. The town is bounded in the south by mao-komo special wereda, on the West by Sudan, on the north-east by kamashi. The town has one university, one poly Technique College, one health center and hospital. Based on the 2013 major town population estimation, Assosa town has 35,752 total populations (17,669 male and 18, 084 female).

Assosa Hospital provides service for client referred from Assosa zone and Oromya region like Mendi and Begi. It provides family planning service, ANC, delivery service, postnatal service and comprehensive abortion service and other medical and surgical care service. Cross sectional institutional based study was used to conduct the study in Assosa hospital and Assosa health center from April 12-May 10/2019 to assess demand for long acting and permanent methods and associated factors among reproductive age women visiting the two institution. Source population was all married women found in Assosa town aged 15-49 years and study population was Married woman's aged 15-49 who visits Assosa governmental health institution for family planning service

2.2. Sampling Procedure and Sample Size

The sample size was calculated by using single population

proportion formula by considering 0.181 proportion for demand for LAPMs[5], 95% confidence level, 5% Margin of error and 10% non-response rate i.e.

$$n = \left(z \frac{\alpha}{2}\right)^2 \frac{p(1-p)}{d^2}$$

$$= 1.96^2 \frac{0.181(1-0.181)}{0.05^2} = 228$$

Where

n= sample size

Z =is the level of significance corresponding to 95% confidence interval (1.96)

P = proportion for demand for LAPMs=0.181

D= the absolute precision required =5%

So the total sample size was 251 with 10% non-response rates. The samples were allocated to the health center and hospital proportionally based on their monthly plan of family planning under the coverage. All married women who visit the two health institution were selected randomly to get 251 total sample size (102 Hospital and 149 Health center). Sample size for qualitative method was based on the saturation of information.

2.3. Operational Definition

Demand for LAPM: according to this study, it is defined as an expressed need of married women to utilize LAPM.

Reversible Long acting contraceptive: contraceptive methods which used temporarily

Permanent methods of contraceptive: contraceptives methods used to limit pregnancy

To delay pregnancy: contraceptive used to prevent the first pregnancy (implant and IUCD).

To space pregnancy: contraceptive methods used to make gap between the first pregnancy and the next pregnancy (implant and IUCD).

To limit pregnancy: contraceptive methods used to control pregnancy permanently (tubal ligation).

2.4. Variable

2.4.1. Dependent Variable

Demand for LAPM

2.4.2. Independent Variable

Socio demographic and economic characters (age, religion, occupational status).

Behavioral characteristics (method awareness, partner involvement, myths and misconception, intention to use LAPM).

Source of information about LAPM (health professionals, Media, health extension workers) printout materials

Method factors (ease of use, side effects, fear of the method used).

2.5. Inclusion Criteria

All married women's of reproductive age group who visit family planning unit and volunteer to participate.

2.6. Data Collection Procedures

Data was collected by face to face in-depth interview by using structured questionnaire adapted from the literature review. The questionnaire was prepared in English and translated in to Amharic and back to English. Four trained health care provider (two BSC midwife and two diploma midwives) were used for data collectors. Two BSC midwives, one from each health institution was used as supervisor during data collection period. Pre -test of the questionnaire was done on 5% of the sample on married women at Bambasi health center (nearby Assosa town health center) to identify any ambiguity, consistency and acceptability of questionnaire, and then necessary corrections was made before the actual data collection.

For the qualitative method, a total of seven in-depth interviews were conducted with purposively selected key informant to explore the barriers for non-use of LAPM. These key informants were selected based on the socio demographic variation. The interview was conducted by principal investigator (PI) and supervisor. Both audio record and note was taken.

2.7. Data Quality Control

Quality of the data was controlled through continuous checking questionnaires for the completeness. The questionnaire was transferred to Amharic language to maintain consistency and pre-test was given before actual data collection to check any difficulty and then after the possible correction, data collection was started. Data collectors and supervisors were trained intensively for one day on the title of the study, objective, data collection tool, procedure, informed consent and methods of sample selection.

The in-depth interview were conducted on the selected key informant in the private room selected for the interview purpose. The interview was started after the participants were informed about the aim of the study and the privacy was assured. The principal investigator and one supervisor conducted the interview. The recorded data were translated to the note after repeated listening and coding of the data to ensure a degree of standardization. Final transcripts were compared against note takers' notes to ensure quality. Finally, the report was done to support the quantitative data based on the participant report after coding and checking the similarity and difference between the note taken from coded data and note takers note.

2.8. Data Analysis

The collected data was cleaned, coded, and entered in to EPI info 7 and then exported to SPSS version 24 for further analysis. Bivariate analysis was done to determine factors influencing demand for LAPM and variables which was found to have significant association at p-values <0.2 in bivariate analysis was taken to multivariate regression to test effect of independent variables on dependent variable. Proportion, percentage, frequency distribution, logistic regression, odds ratio with 95% confidence interval at P<0.05% was used in describing the data. The results were displayed using text, tables and figures.

Qualitative data was transcribed verbatim, coded and analyzed using thematic analysis to support quantitative

analysis and presented in the narrative. Finally the findings were triangulate with the quantitative result during write up.

2.9. Ethical Consideration

Formal letter of cooperation was written from Addis Ababa University to Assosa town health institution administrator and informed consent was obtained from each study participant after the objectives of the study were fully explained by their local languages. The participant was informed the aims of data collection and informed as the sensitive issue was kept secret and after getting consent and insuring confidentiality, the data collectors start to collect the data. Also they informed as they have the right not to participate and failure to participation do not affect any care and service they get now and in the future and the collected data was stored in a file, without the name of study participant (anonymously), but code will be assigned for each and was not disclosed to others except to the principal investigator.

2.10. Dissemination of the Study Result

The result of the study will be presented to School of Nursing and Midwifery. Dissemination of result will be made through Addis Ababa University College of health science, CHs library, Assosa health bureau, MOH and Assosa health institution administration. Also effort will be done to publish in peer review journal

3. Result

3.1. Socio Demographic Characteristics of Study Participant

From the total of 251 participant, 96 (38.2%) were at age group of 25-29 years. The result shows that, 104 (41.4%) of the respondent completed secondary education. Table 1

Table 1. Socio demographic characteristics of married women who visited Assosa governmental health institution.

Variable		Frequency	%
Age	15-19	23	9.20
	20-24	83	33.1
	25-29	96	38.2
	30-34	25	10
	35-39	21	8.4
	40-44	3	1.2
Ethnicity	Berta	45	17.9
	Shinasha	32	12.7
	Oromo	71	28.3
	Tigre	22	8.8
	Amara	67	26.7
	Others	14	5.6
Religion	Orthodox	116	46.2
	Muslim	93	37.1
	Protestant	42	16.7
Participant educational status	Cannot read and write	20	8
	Primary education	41	16.3
	Secondary education	104	41.4
	Above secondary education	86	34.3
occupational status of study participant	house wife	102	40.6
	Governmental employee	66	26.3
	Merchant	21	8.4
	Farmer	17	6.8
	daily laborer	11	4.4
	Others	34	13.5
Husband educational status	cannot read and write	15	6.0
	Primary school	55	21.9
	Secondary school	35	13.9
	Above secondary school	146	58.2
	Governmental employee	117	46.6
Husband occupational status	Merchant	53	21.1
	Farmer	24	9.6
	daily labourer	39	15.5
	Others	18	7.2
Participant average monthly income	<100	12	4.8
	<100-499	20	8
	500-1400	52	20.7
	>1400	167	66.5

3.2. Awareness, Source of Information and Knowledge About LAPM

The finding of this study shows that, majority 197 (78.5%) of the participant had information related to LAPM and health care provider was the main source of information 78 (31.1%). The result shows that, 182 (72.5%) knows any of the LAPM and

tubal ligation was least known at the study area 69 (27.5%). Table 2

Table 2. Awareness of LAPM among married women who visited Assosa governmental health institution.

Variable		Frequency	%
Ever heard LAPM	Yes	197	78.5
	No	54	21.5
Source of information	From healthcare provider	78	31.1
	From HEW	63	25.1
	From friends	30	12.0
	From TV/radio	26	10.4
Know any LAPM	Yes	182	72.5
	No	69	27.5
Know implant	Yes	182	72.5
	No	0	
Know Use of implant	To limiting pregnancy	21	8.4
	To delaying pregnancy	7	2.8
	To spacing pregnancy	154	61.4
Know IUCD	Yes	126	50.2
	No	58	23.1
Know Use of IUCD	To limit pregnancy	14	5.6
	To delaying pregnancy	6	2.4
	To spacing pregnancy	106	42.6
Know BTL	Yes	69	27.5
	No	117	46.6
Know Use of BTL	To limit pregnancy	49	19.5
	Spacing pregnancy	20	8

Note:-BTL- bilateral tubal ligation IUCD- intrauterine device.

3.3. Reproductive History of Study Participant

The finding shows that, 172 (68.5%) of the study participant had desire for more child in their future and 147 (58.6%) of the participant want to have children after 2-5 years. Table 3

Table 3. Reproductive history of married women who visited Assosa governmental health institution.

Variable		Frequency	%
Ever given birth	Yes	200	79.7
	No	51	20.3
Numbers of child	One	24	9.6
	Two	40	15.9
	Three	79	31.5
	Four	47	18.7
	>=five	11	4.4
Desire for additional numbers of children	Yes	172	68.5
	No	28	11.2
Time period to have child	After one year	29	11.6
	After 2-3 years	75	29.9
	After 4-5 years	72	28.7
	Not yet decided	51	20.3

The result of this finding shows that, more than half 147 (58.6%) of the study participant ever used at least one of the LAPM and 116 (46.2%) of participant utilized contraceptive implant. Figure 1

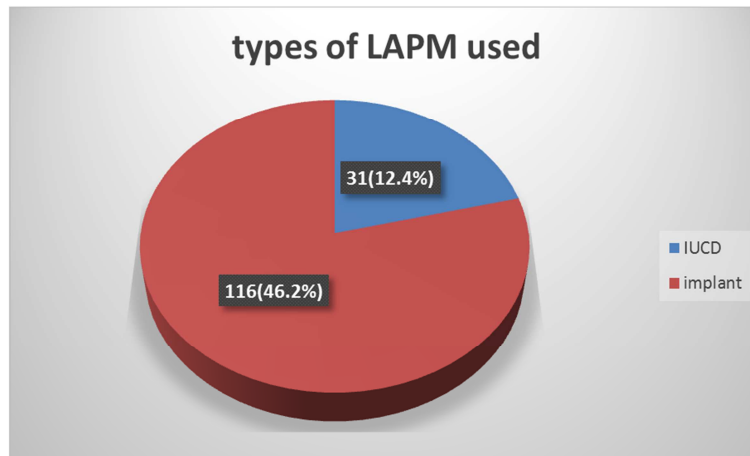


Figure 1. Utilization of LAPM by married women who visited Assossa governmental health institution.

3.4. Demand for LAPM, Reason for Use, Reason for Nonuse and Couple Discussion About Any LAPM

From this study result, 157 (62.5%) of married women had demand for LAPM. 135 (53.7%) of the participants want to space inter-pregnancy. Fear of side effect 34 (13.5%) and preferred short term methods were main reason for non-utilization of LAPM. Majority of the respondent 188 (74.9%) were ever discussed about any of LAPM with their husband. Table 4

The result of in-depth interview also revealed that, client had an expressed need to utilize LAPM but they failed to utilize it as contraceptive methods of their choice due to some reasons like fear of side effect, prefer short term

method, religious prohibition and fear of husband. "I do not want to use LAPM due to its side effect. Currently I am using contraceptive implant, it cause menses irregular, I faced headache after I started it, it weaken my hand and influence my daily work so why I come to remove it today." /I4, client / "They reported that, using implant cause menses irregularity, cause headache/dizziness, brings about weight gain/loss and brings about behavioral change."/I2. health care provider / "Most of the time client takes contraception without the permission of their husband, due to this they want to use the invisible type of contraceptive methods like Depo-Provera." /I1. Health care provider /

Table 4. Demand for LAPM, reason for use and non-use and participant discussion about LAPM, among married women visiting Assosa governmental health institution.

Variable		Frequency	(%)
Intention to use LAPM	YES	157	62.5
	No	94	37.5
Reason to use LAPM	To delay pregnancy	22	8.8
	To space pregnancy	135	53.7
	Prefer short term method	22	8.76
	Fear of side effect	34	13.5
Reason for non-use of LAPM	Fear of husband	11	4.4
	Religious prohibition	11	4.4
	Went to become pregnant	2	0.8
	Lack of adequate knowledge	14	5.57
Ever discussed about LAPM with husband	Yes	188	74.9
	No	63	25.1
Husband attitude toward LAPM use	Allow to use	147	58.6
	Do not allow to use	43	17.1
Decision maker from both couple to use LAPM	Wife only	81	32.3
	Both couple	161	64.1

3.5. Myth/Misconception Reported by Study Participant

The result of this study shows that, 65 (25.9%) of the respondent belief as using implant cause weakness of hand/arm and 42 (16.7%) belief as using implant brings about behavioral change. These the finding revealed that, 27 (10.8%) of the respondent belief that, using IUCD interfere with sexual activity and 14 (5.6%) belief that IUCD cause reproductive organ infection. also this study shows that, 53

(21.1%) of the participant belief as tubal ligation need major operation and 49 (19.5%) belief as tubal ligation procedure cause severe pain. Table 5

The study finding was supported by the result of in-depth interview. The key informant pointed out that, client has an expressed demand to utilize LAPM but did not want to utilize due to some perceived misconception/rumors related to LAPM they heard from the community.. "IUCD is not preferred by client due to different misconception related to

the contraceptive methods. They belief as IUCD cause infertility, the procedure need major operation, cause severe pain during and after insertion, do not give comfort during sexual activity, cause reproductive organ infection and may disappear after insertion.” /11, health care provider / “Some client said that implant needs major operation and the operation site takes long healing duration. It also move to the other body part like to brain and heart. Implant cause

numbness/weakness of hand which can interfere with daily work.”/M2. Health care provider/ “There where client who want to limit the pregnancy permanently but utilize short term methods due misconception/rumors heard from the community. They belief that tubal ligation need major operation, its wound healing take long time, it decrease sexual desire and its procedure cause severe pain.”/13, health care provider/

Table 5. Myth/misconception related to LAPM among married women who visit Assosa governmental health institution.

Variable		Frequency	(%)
Myth/belief about implant	Using implant brings menstrual abnormalities	Yes 79	31.5
		No 172	68.5
	Using implant cause weakens, tingling & numbness of arm/hand	Yes 65	25.9
		No 186	74.1
	Using implant cause infertile	Yes 28	11.2
		No 223	88.8
	Using implant cause irritable or brings behavioral change	Yes 42	16.7
		No 209	83.3
	Using implant Brings hypertension or raises blood pressure	Yes 17	6.8
		No 234	93.2
Myth/belief about IUCD	Using implant causes headache and blurring of vision	Yes 42	16.7
		No 209	83.3
	Using implant brings Weight loss	Yes 40	15.9
		No 211	84.1
	using IUCD cause infertile	Yes 10	4.0
		No 241	96
	Using IUCD brings/causes genital infection	Yes 14	5.6
		No 237	94.4
	Using IUCD Causes menstrual irregularity	Yes 33	13.1
		No 218	86.9
Myth/belief about BTL	IUCD may decompose within the womb/uterus	Yes 13	5.2
		No 238	94.8
	IUCD Interferes with sexual activity	Yes 27	10.8
		No 224	89.2
	Tubal ligation needs major operation	Yes 53	21.1
		No 198	78.9
	Tubal ligation Predispose to uterine infection	Yes 42	16.7
		No 209	83.3
	Tubal ligation Decreases sexual desire	Yes 44	17.5
		No 207	82.5
Myth/belief about BTL	Tubal ligation cause severe Pain during the procedure	Yes 49	19.5
		No 202	80.5
	Tubal ligation wound takes long healing duration	Yes 48	19.1
		No 203	80.9

Table 6. factor associated with demand for LAPM among married women visiting Assosa governmental health institution.

Variable		Demand for LAPM		Bivariate		Multivariate	
		yes	No	Crude OR 95%CI	P-value	Adjusted OR 95%CI	p-value
Participant education	Cannot read and write	12	8	2.20(.789-6.131)	.132	0.482 (0.143-1.627)	0.24
	Primary education	26	15	1.904(.848-4.274)	.119	0.622 (0.249-1.558)	0.311
	Secondary school	54	50	3.175(1.69-5.968)	.00	.289(0.137-.608)*	0.001
Heard LAPM	Yes	135	62	.349(.188-.646)	0.001	2.503(1.188-5.23)*	0.016
	No	23	31	1		.	.
Know any LAPM	Yes	132	50	.215(.119-.388)	0.000	2.62(1.295-5.299)*	0.007
	No	26	43	.		.	.
Ever used LAPM	Yes	112	35	.257(.15-441)	0.00	3.37(1.805-5.29)**	0.00
	No	46	58	1		.	.
Couple discussion about any LAPM	Yes	132	56	.306(.169-552)	0.00	2.07(1.027-4.163)*	0.042
	No	26	37	1		1	.
Husband occupation	Governmental employee	80	37	0.37(0.135-1.014)	0.153	7.269(1.096-11.6)	0.054
	Merchant	29	24	0.662(0.226-1.94)	0.452	1.911(0.543-6.725)	0.313
	Farmer	16	8	0.40(0.114-1.408)	0.154	4.588(1.042-20.19)	0.44
	Daily laborer	24	15	0.50(0.50-1.51)	0.23	3.468(0.97-13.267	0.069

Note *=significant at p<0.05 **=significant at p=0.00, reference =no.

3.6. Associated Factor's Bivariate and Multivariate Result

The result of this finding show that, Respondent who had secondary school education were 71.1% lower odds of demand for LAPM (AOR=.289, 95%CI= (0.137-.608)). Women's who had information about any of the LAPM from different source of information were significantly associated with demand for LAPM (AOR=2.503, 95% CI=1.188-5.2274). Women's who knows any LAPM were significantly associated with demand for LAPM (AOR=2.62, 95% CI=1.295-5.299). From this study finding, women's who had ever used any LAPM were significantly associated with demand for LAPM (AOR=3.369, 95% CI=1.805-5.291). Respondents who ever discussed about any LAPM with their husband were significantly associated with LAPM (AOR=2.067, 95% CI=1.027-4.163). Table 6

4. Discussion

The finding of this study shows that, Demand for long acting and permanent method was 62.5%. The result was higher when compared to the result reported by EDHS 2016 (58%), study done in north-west Ethiopia (17%), Debre-markose (52.4%) and Bale Goba (18.1%). These discrepancies might be due to increased client access to information regarding to the contraception especially LAPM and their use through time or might be due to different study periods [5, 13, 20, 25].

The finding of this study show that, the main reason that client want to utilize LAPM were to space inter-pregnancy (54.2%). The finding Was higher than the result of study done in north-western Ethiopia (16.4%) [20] and report of EDHS 2016 (35%). These the possible justification for the discrepancy between the findings might be due to increased service delivery setting with respect to trained service providers. Also, the variation may be due to the different study period.

Fear of side effect (13.5%), preferred short term method (8.8%), religious prohibition (4.4%), want to become pregnant (0.8%) and lack of adequate knowledge about LAPM (5.6%) were some of the reason for non-utilization of LAPM as contraceptive methods of their choice. On the other hand perceived misconception related to LAPM developed from the community or from past self-experience were other challenging factors to utilize LAPM despite the expressed demand for those contraceptive methods. The result of this study shows that the prevalence of misconception related to utilizing contraceptive implant (cause infertility (11.2%), cause numbness of hand/arm (25.9%), cause behavioral change (16.7%)) and IUCD related misconception as (cause infertility (4%), decompose in the uterus (5.2%), interfere with sexual activity (10.2%) and misconception related with BTL as (cause severe pain during the procedure (19.5%), need major operation (21.1%) and decrease desire for sexual activity (17.5%)). These, the fore mentioned above misconception/rumors related to the utilize LAPM were

supported by the result of qualitative in-depth interview.

But there where discrepancies between this study result and the result of the study done in Bale-Goba (religious opposition (55.9%), husband opposition (17.5 and fear of side effect (25.5%) [5], Debre-markose (Fear of side effect (58.4%), preferring short term (36.3%) and religious prohibition (24.2%) [20] and western Ethiopia (Side effect (38.9%), rumors related with LAPM (49%)) [25]. These, LAPM related misconception/rumors were also mentioned by the study result conducted in Iran [16]. The possible reason for such discrepancies between the studies may be due to the fact that, there might be increased provision of information related to misconceptions about LAPM in the study area. Also the variation may be due to different study period.

The finding of this study shows that, majority of the study participant had ever given birth (79.7%) and more than half of those who gave birth (41.5%) didn't want to have child within three years. This may indicates as there is need for assessing client contraceptive need inline with their reproductive plan. Also this may indicates as there be need for disseminating the adequate information related with the types LAPM and their duration of services.

The result of this study shows that, the majority (78.5%) of the participant had ever heard about any of the LAPM which is significantly associated with demand for LAPM (AOR=2.505, 95% CI=1.192-5.265). The result of this study were higher than the result reported by Malawi DHS (74.6%) [24] And Amuru district, Northern Uganda (76.3%) [21]. The possible reason for the variation might be due to different study area and periods. But result of this finding was lower than the result of the study done in west Ethiopia (82.5%) [25]. The discrepancies might be the fact that client in the study area has limited accessibility to the information related to contraception especially LAPM or might be there were limited source of information at the study area.

Different study shows that, Client can get information from different source that help them to choose the contraceptive methods of their choice easily [26, 28]. The finding of this study result indicates that, health care provider (31.1%) and health extension workers (25.1%) were the main source of information related to LAPM. There where discrepancy between the result of this study finding and the result of study finding conducted in the West Ethiopian which shows that (health care provider (78.2%), Radio/TV (72.5%) [25] and study result of Debre-markose (Health care provider (63.8%) and television/radio (61.5%)) [20]. These the possible reason for such variation might be, there were limited client access to the source of information in the study area. Also it might be an indication that, there were limited source of information related to LAPM in the study area.

The increased knowledge about contraceptive method help client to easily choose the contraceptive methods of their choice according to their reproductive plan to prevent unplanned pregnancy. The result of this study shows that, majority (72.5%) of the study participant knew any of long acting and permanent methods which also positively

associated with demand for LAPM (AOR=2.809, 95%CI=1.41-5.595). This result was higher than study conducted in Uganda (25.8%) [21]. The possible reason for the variation of the result might be due to different geographical location, increased globalization and may also due to different study period. But the result of this finding was lower than the result of the study conducted in the western Ethiopia (82.5%) [25]. This discrepancies might indicate that, there were limited access of client to the education related to LAPM given by different concerned body like health extension worker in the community, at the health post or it might be indication that, there were limited provision education related to LAPM by any concerned body in the study area.

Knowing the types contraceptive help client who want to use family planning to easily choose the contraceptive methods which correspond with their reproductive plan. This finding revealed that, 72.5%, 61.4% and 27.55% knows contraceptive implant, IUCD and tubal ligation respectively. This result was higher than the result of study done in Angola (39.6% IUD and 38.6% implants) [30], India (48.3% IUCD) [22] and Bale-Goba (47.7% implant, 15.8% IUCD and 3.85% tubal ligation) [5]. The discrepancy might be due to different study period.

In this study finding, the utilization rate of LAPM were 58.6% which is positively associated with demand for LAPM use (AOR= 3.201, 95% CI=1.731-5.917). The result of this finding was higher than the result of study conducted in Iran (21.4%) [16], Kenya (9.9%) [14], Bangladesh (6.9%) [18], Pakistan (35%) [26], EDHS 2016 (36%) [13] and Northwest Ethiopia (9.2%) [31]. The possible reason for the variation might be, there were increase client access to the reproductive health related information and the role of LAPM to maintain reproductive organ health or might be an indication that, increased client decision making related to family planning utilization especially LAPM.

The result of this study finding indicates that, 46.2% and 12.4% of the study participant utilized contraceptive implant and IUCD respectively. There were variation between the result of this finding and other study result such as study conducted in Iran (14.1% used IUCD) [16], Kenya (7.9% implant and 0.8% IUCD) [14], Bangladesh (4.6% implant and 0.6% IUCD) [18], 2016 EDHS (8% implant, 2% IUD and <1% female sterilization) [13] and Northwest Ethiopia shows (8.2% Implanol and 1% IUCD) [31] and Bale-Goba town (IUCD 1.5%, implant 6.5%) [5]. The reason for this variation might be due to, increased service provision setting, increased supply and increased trained health care providers. Also those variation may be happened due to different study period.

Partner discussion and approval play role in the selecting and utilizing the contraceptive method of choice. The result of this finding shows that, majority (74.9%) of the participant ever discussed about any LAPM which is positively associated with demand for LAPM (AOR= 2.071, 95% CI=1.031-4.16). The result of this study was lower than the result of study done in the West Ethiopia (81.5%) and study conducted in northern district of Kenya (79%) [25, 32]. The

possible justification for such discrepancies may be, there were limited involvement of husband in the reproductive health related matters in the study area. Also it might be due that, couple in the study setting has limited knowledge on the importance of joint decision making related to family planning utilization.

5. Limitation of the Study

The limitation of this study was cross-sectional nature of the data that temporal relationship between exposure and outcome variable could not be established and also this study do not include health care provider role to meet the demand for LAPM during the service provision session.

6. Conclusion and Recommendation

6.1. Conclusion

The finding shows that 62.9% of the participant had demand for LAPM. Factor which are associated with demand for LAPM were ever use of LAPM, couple discussion about LAPM, awareness about LAM and know LAPM. The client who comes for family planning services had expressed demand for LAPM but due to certain reason they like Fear of the contraceptive side effect and misconception related with LAPM hindered married women from utilizing LAPM as contraceptive methods as choice.

6.2. Recommendation

From the study result, it can be recommended that:

6.2.1. To MOH

- Expected to work more to increase working day of the family planning like other health unit (emergency, labor ward...) to avoid/reduce missed opportunity and increase the utilization rate of LAPM.
- Expected to do more to meet the increase demand over time by motivating the community leaders, religious leaders, husband and give education related to contraceptive misconception and break them so as to increase the acceptance of LAPM by married women like that of short acting contraceptive methods.

6.2.2. To Assosa Regional Health Bureau

- Expected to do more to increase married women awareness related to contraceptive tubal- ligation in the study setting through HEW, media and community education as when to use and how to use the methods and motivate the married women to make tubal-ligation as contraceptive methods of their choice.
- Expected to do more to increase the involvement of husband on shared decision making and give them education related to the role of family planning to maintain reproductive health at different setting like social meeting area in the community (Idir, conference and the like).

6.2.3. To Assossa Governmental Health Institution Administration

- a) Expected to do more to Arrange time and place where short and brief health education related to family planning especially LAPM can be given for those client who come to the institution for family planning, ANC, safe abortion care service and postnatal mother come for vaccine.
- b) Assign and continuously follow those health care provider who were assigned to provide health education related to reproductive health mainly LAPM family planning.
- c) To do more by assigning health care provider to provide the outreach health education program related to the role of LAPM family planning and counseling's session to the community reproductive women's, husband and any concerned body who play role in the contraceptive utilization.

6.2.4. To Assosa Governmental Health Institution Midwives/Nurse

- a) Expected to do more too continuously provide counseling related to all contraceptive type and duration of the services, possible side effect and what to do if contraceptive side effect happened and whom to consult to manage the side effect to increase the utilization of LAPM as contraceptive methods of choice.
- b) Expected to do more by further probing client reproductive plan and reason for non-utilization LAPM and tell them what's fact about LAPM and try more to reduce misconception/rumors related to contraceptive method of their choice.
- c) Work more on the Provision of continuous short and brief health education related to contraceptive method and their role to maintain reproductive health for all client who come for the service, in the community and in the meeting conference of reproductive women.

6.2.5. To Researchers

A more intense qualitative and quantitative studies especially in the community settings are needed to gain further insight on acceptance of Long term/acting and permanent methods of family planning by reproductive women, their husband and community religious leaders.

List of Acronyms

BTL-bilateral tubal ligation
 CPR- Contraceptive Prevalence Rate
 FP- Family Planning
 IUCD- Intra-Uterine Contraceptive Device
 LAPM- Long Acting and Permanent Methods
 LARC- Long Acting Reversible Contraceptives
 MOH- Ministry of Health
 RHB- Regional health bureau
 SSA- sub-Saharan Africa
 TFR- Total Fertility Rate
 UN- United Nation
 WHO- World Health Organization

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