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Utilization of long acting and permanent contraceptive methods and associated factor among women of reproductive age in west Guji zone, Southwest Ethiopia

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Abstract

Background: Increasing access to family planning helps to ensure the reproductive right, decrease unintended pregnancy, improve the health and nutritional status of children, reduction of maternal mortality, and enhance longer birth spacing. However, there is continually low utilization of long acting and permanent contraceptive methods among low and middle-income countries. This study aimed to assess the utilization of long acting and permanent contraceptive methods (LAPMs) and associated factors among women of reproductive age in the West Guji Zone, Ethiopia.

Methods: An institution-based cross-sectional study was carried out among 507 women of reproductive age in the West Guji Zone, Southwest Ethiopia from April 15 to May 15, 2018. Data were collected by a structured, pretested, and interview-based questionnaire with open ended and closed ended questionnaire, then entered, and analyzed by SPSS Version 20. Bivariable and multivariate logistic regression analyses were carried out. A 95% confidence interval (CI) AND P-value < 0.05 was considered to declare statistically significant variables.

Result: The current utilization of LAPMs at West Guji zone among the reproductive-aged group was found to be 51.1%. More than the median of participants had negative attitude (72.4%) and poor knowledge (57%) towards the LAPMs. Educational status of women, the number of alive children, acceptance of utilization of LAPMs, how treated by other staff, and waiting time during service delivery are significant determinant factors of LAPMs.

Conclusion: Overall, more than half of women had a negative attitude and poor knowledge of LAPMs. Educational status of women, the number of alive children, acceptance of utilization of LAPMs, how treated by other staff, and waiting time during service delivery were factors affecting utilization of LAPMs. Therefore, sustained, and appropriate information on LAPMs should be provided to raise knowledge and build the attitude of women and the community. Treating the clients with respect, reducing the waiting time, and collaborative work with health extension worker will enhance utilization of LAPMs.

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Plain language summary

Low utilization of LAPMs has been continually reported in low- and middle-income countries. Unintended pregnancy and unsafe abortion might be related with unmet need of contraceptive.

This study aimed to assess level of utilization of LAPMs among reproductive aged women in West Guji Zone Ethiopia. The findings from this research will help different stake holder by providing the level of current utilization of LAPMs and help them on planning how to strength the utilization by refereeing the associated factors.

507 Respondents were selected systematically: of which 51.1% of them utilize one of LAPMs currently.

In conclusion the utilization may be affected by educational status of women, number of alive children, acceptance LAPMs by women, how treated by other staff during service delivery, and waiting time to get the service.

Keywords: Utilization, Family planning, Contraception, Long acting and permanent contraceptive methods

Background

Family planning allow people to exercise their basic human right to freely decide when to have children, improve families nutrition outcome by limiting their number of children, promote their health and wellbeing, inhibit the distribution of sexually transmitted disease like HIV/AIDS, support women's and girl's education and empowerment and contribute to economic development of the country [1].

Reproductive age women have been facing enormous challenges related to unmet need of contraceptive which might be because of lack of awareness to protect their health, unavailability of service, lack their decision-making role on post ponding childbearing. These obstacles might abort their future promising opportunities and it vast from complications during pregnancy and birth because of unintended pregnancy to lower their education accomplishment which affects their future plan and lead to facing risk for their child [2]. Africa records the highest proportion (45%) of unintended pregnancy next to Latin America (74%) [2]. Although about half of unintended pregnancies in Latin America and 46% in Africa results in subsequent unsafe abortion [3]. In Ethiopia the unmet need of contraceptive is 15.1% and only 62.5% (median) demand for family planning was satisfied with modern methods [4]. Large proportion of unintended pregnancy also revealed in urban and rural areas of Ethiopia, i.e. 34% in Debre Markos [5], Arsi Negele Woreda 41.5% [6] and 23.5% in Debre Birhan [7], 36.4% Addis Ababa [8], and also 29% in sub-Saharan Africa [9]. According to different studies unintended pregnancy might related with not using contraceptive [10], their knowledge regarding intrauterine device [8] and women autonomy on deciding to use contraceptive [5, 6]. Unintended pregnancy could be caused by failure to use modern contraceptive methods.

According to WHO 2019 report, global 270 million adolescent have unmet need for contraceptive [11]. Greater unmet need of contraceptive showed

in sub-Saharan countries compared to the globe. A recent study also shown that there is continually low utilization of long acting and permanent contraceptive method in low- and middle-income countries [10].

To ensure the reproductive right, decrease unintended pregnancy, improve health and nutritional status of children, reduction of maternal mortality, and enhance longer birth spacing, increasing access to family planning plays a significant role [4] and also decreases the need for unsafe abortion [12]. Furthermore, it has promising effect on ensuring long time protection without need of any further responsibility by the user once applied. However, even though the modern contraceptive use was improved in Ethiopia, the utilization of long acting and permanent family planning services is still low because of numerous factors. Thus, there is a need to assess utilization of LAPMs and associated factor among women of reproductive age in West Guji Zone. The finding of this study will be useful for governmental and non-governmental organizations to take intervention measures and set appropriate plans to improve the existing utilization of LAPMs and health managers at a higher level and health professionals to understand the extent of the utilization level of LAPMs. The findings will also enhance the capacity of planning and decision making to look for possible solutions to solve the problem in collaboration with concerned stakeholders to provide future appropriate LAPMs services in the district as well as in the west Guji Zone.

Objectives

General objective

- To assess utilization of long acting and permanent contraceptive methods and associated factor among women of reproductive age in west Guji Zone, 2018.

Specific objectives

- To determine levels of utilization of long acting and permanent family planning methods.
- To identify factors associated with utilization of long acting and permanent family planning methods.

Method

Study area

The study was conducted in governmental health institutions which are found in Oromia west Guji zone. In west Guji zone there are three hospitals in which two of them were functional (Bule Hora General Hospital & Kercha primary hospital) & one is not (Melka Soda Hospital) at the time of study. There were 44 health centers in the zone, of those 3 were nonfunctional.

Study period

The study was conducted from April 15 to May 15, 2018.

Study design

Hospital based cross sectional design was employed.

Inclusion and exclusion criteria

Inclusion criteria

- All women of reproductive age come to the selected health facilities to get Family planning service.
- Women whose age from 15 to 49.

Exclusion criteria

- Women who were not willing to answer.
- Women who were not come to get family planning service.

Variables

Dependent variable

- Utilization of long acting and permanent family planning methods.

Independent variable

- Age
- Education
- Access to service
- Parity
- Husband opinion

Table 1 Socio-demographic characteristics of respondent (N = 507)

| Variable | Frequency(number) | Percent |
|-----------------------------|-------------------|---------|
| Age of the women | | |
| 15–24 | 182 | 35.9 |
| 25–34 | 283 | 55.8 |
| 35–49 | 42 | 8.3 |
| Religion | | |
| Orthodox | 142 | 28 |
| Muslim | 66 | 13 |
| Protestant | 294 | 58 |
| Catholic | 5 | 1 |
| Educational level of women | | |
| Informal | 47 | 9.3 |
| Grade 1–8 | 131 | 25.8 |
| Grade 9–12 | 143 | 28.2 |
| College and university | 40 | 7.9 |
| Illiterate | 146 | 28.8 |
| Marital status | | |
| Married | 462 | 91.1 |
| Single | 24 | 4.7 |
| Divorced | 7 | 1.4 |
| Widowed | 8 | 1.6 |
| Separated | 6 | 1.2 |
| Occupation | | |
| Government employee | 189 | 37.3 |
| NGO employee | 2 | 0.4 |
| Private business (merchant) | 72 | 14.2 |
| Housewife | 162 | 32.0 |
| Student | 40 | 7.9 |
| Daily laborer | 32 | 6.3 |
| Farmer | 10 | 2 |
| Monthly income (ETB) | | |
| < 499 | 84 | 16.6 |
| 500–1499 | 192 | 37.9 |
| 1500–2499 | 111 | 21.9 |
| 2500–3499 | 84 | 16.6 |
| 3500–4499 | 14 | 2.8 |
| > 4500 | 22 | 4.3 |

ETB Ethiopian Birr

- Satisfaction with information given
- Method accepted
- Knowledge and
- Attitude towards LAPMS of method

Population

Source population All women come to health institution.

Study population All women come to get family planning service in selected health institution.

Table 2 Obstetric characteristics of the respondents in west Guji zone (N = 507)

| Variables | Frequency(number) | Percent |
|---------------------------------|-------------------|---------|
| Age at time of marriage | | |
| 14–24 | 404 | 79.7 |
| 25–35 | 79 | 15.6 |
| Yet not married | 25 | 4.7 |
| Age at time of first birth | | |
| 14–24 | 374 | 73.8 |
| 25–35 | 81 | 16 |
| Yet not give birth | 52 | 10.3 |
| Gravidity (number of pregnancy) | | |
| 1 | 108 | 21.3 |
| 2–5 | 262 | 51.7 |
| 6 and above | 87 | 17.2 |
| No pregnancy | 50 | 9.9 |
| Parity (no of birth) | | |
| 1–2 | 160 | 31.6 |
| 3 and above | 295 | 58.2 |
| No children | 52 | 10.3 |
| Future desire of more babies | | |
| 1–2 | 33 | 6.5 |
| 3–4 | 152 | 30 |
| 5–6 | 125 | 24.7 |
| > 6 | 93 | 18.3 |

Table 3 Utilization of long acting and permanent methods in west Guji zone (N = 507)

| LAPMs | Frequency | Percentage |
|-------------------------------|-----------|------------|
| Are you currently using LAPMs | | |
| Yes | 259 | 51.1 |
| Implant | 229 | 45.2 |
| IUCD | 25 | 4.9 |
| Tubal ligation | 5 | 1 |
| Vasectomy | 0 | 0 |
| No | 248 | 48.9 |

IUCD Intrauterine contraceptive device, LAPMS long acting and permanent contraceptive method

Sample size determination and sampling procedure

Sample size quantitative data

A single population proportion formula was used to determine the prevalence of LAPMs by taking proportion of long acting and permanent contraceptive methods in Mekele town, Tigray region, Ethiopia (P = 12.3%) [13]. Other inputs considered was 95% confidence level, margin of error of 3% and 10% non-response rate: giving a final sample size of 507.

Sampling technique/procedures

West Guji zone health facilities were divided in to two (the hospitals & the health centers). One hospital & 21 health centers were selected randomly.

Data collection instruments

A structured and pretested interview-based questionnaire with open ended and closed ended questions was used to collect the data.

Data processing and analysis

Data was entered cleaned, coded, and analyzed using SPSS versions 20. Both descriptive and analytical statistical procedures were utilized. Bivariable and multivariate logistic regression analyses were carried out. P-value < 0.05 was considered to declare statistically significant variables.

Quality control

The principal investigator was given introduction for the data collectors and supervised all activities for the collected data completeness and clarity if there was any problem; it was addressed on the next day.

Operational definitions

Very good knowledge: those who scored 80% and above distinct features of LAPMs from knowledge questions.

Good knowledge: those who scored 60 up to 79% distinct features of LAPMs from knowledge questions.

Poor knowledge: those who scored less than 60% features of any of the LAPMs from knowledge questions.

Positive attitude: those who scores above mean to the correct answers from attitude measuring LAPMs questions.

Negative attitude: those who score mean and below mean to the correct answers from attitude measuring LAPMs questions.

Acceptance of utilization of LAPMs: respondents' willingness to use LAPMS.

Results

A total of 507 reproductive age women were interviewed from 21 health centers and 1 hospital that found in west Guji zone with 100% response rate. Majority of the respondents' 283 (55.8%) were between the age of 25 and 34 years, Table 1.

Obstetric characteristics of the respondents in west Guji zone

Majority of the respondents 404 (79.7%) were found to have married between the age of 14–24 and at their first

Table 4 Knowledge of the respondent on long acting and permanent method in west Guji zone (N = 507)

| Do you know any modern family planning methods? | Frequency | Percent |
|--|-----------|---------|
| Yes | 337 | 66.5 |
| Pill as modern family planning | 197 | 38.9 |
| IUCD as modern family planning | 132 | 26 |
| Injectable as modern family planning | 323 | 63.7 |
| Tubal ligation as modern family planning | 58 | 11.4 |
| Vasectomy as modern family planning | 48 | 9.5 |
| Implant as modern family planning | 265 | 52.3 |
| Lactation as modern family planning | 52 | 10.3 |
| Condom as modern family planning | 133 | 26.2 |
| Do you know about LAPMs? | 280 | 55.2 |
| IUCD as long acting & permanent method | 126 | 24.9 |
| Implant as long acting and permanent method | 277 | 54.6 |
| Tubal ligation as long acting and permanent method | 59 | 11.6 |
| Vasectomy as long acting and permanent method | 45 | 8.9 |

IUCD - Intrauterine contraceptive device, *LAPMS* - long acting and permanent contraceptive method

Table 5 Knowledge of the respondent on LAPMs in west Guji zone

| | Yes | No | Don't know |
|---|------------|------------|------------|
| Does IUCD can prevent pregnancies for more than 10 years | 215(42.4%) | 150(29.6%) | 142(28%) |
| Do you think IUCD appropriate for female at high risk of getting STI | 128(25.2%) | 223(44%) | 156(30.8%) |
| IUCD don't interference with sexual intercourse or desire? | 190(37.5%) | 166(32.7%) | 151(28.9%) |
| Do you think IUCD is immediately reversible? (become pregnant quickly when removed) | 196(38.7%) | 156(30.8%) | 155(30.6%) |
| IUCD does not can cause cancer? | 212(41.8%) | 142(28%) | 153(30.2%) |
| Do you think Implant can prevent pregnancies for 3–5 years? | 276(54.4%) | 80(15.8%) | 151(29.8%) |
| Do Implants require minor surgical procedure during insertion and removal? | 265(52.3%) | 90(17.8%) | 152(30.0%) |
| Do you think Implants is immediately reversible? | 242(47.7%) | 101(19.9%) | 164(32.3%) |
| Does female sterilization need an operation to be performed? | 215(42.4%) | 117(23.1%) | 175(34.5%) |
| LAPMs do not cause ectopic pregnancy? | 201(39.6%) | 123(24.3%) | 183(36.1%) |

IUCD intrauterine contraceptive device, *LAPMS* long acting and permanent contraceptive method, *STI* sexually transmitted infection

Table 6 Attitude of respondents on utilization of LAPMs in west Guji zone, 2018 G.C

| | Disagree | Not sure | Agree |
|--|-------------|-------------|-------------|
| The insertion and removal of implant is highly painful | 187 (36.9%) | 131 (25.8) | 189 (37.3%) |
| Insertion of IUCD causes loss of pregnancy | 122 (24.1%) | 167 (32.9%) | 218 (43%) |
| Using IUCD prevents from doing heavy work | 170 (33.5%) | 165 (32.5%) | 172 (33.9%) |
| Operation for female sterilization is dangerous | 128 (25.2%) | 203 (40%) | 176 (34.7%) |
| IUCD and implant cause infertility | 196 (38.7%) | 186 (36.7) | 125 (24.7%) |
| The IUCD will get stuck in my uterus | 183 (36.1%) | 179 (35.3%) | 145 (28.6%) |
| Nulliparous women shouldn't have used an IUCD | 138 (27.2%) | 172 (33.9%) | 197 (38.9%) |
| IUCD will not fit in my uterus | 196 (38.7%) | 191 (37.7%) | 120 (23.7%) |

IUCD Intrauterine contraceptive device

Table 7 Practice of respondents on long acting and permanent contraceptive methods of west Guji Zone (N= 507)

| Practice of respondents | Frequency | Percent |
|---|-----------|---------|
| Have you ever used LAPMs? | | |
| Yes | 217 | 42.8 |
| No | 290 | 57.2 |
| If yes, Have you ever used implant? | 205 | 40.4 |
| If yes, Have you ever used IUCD? | 12 | 2.4 |
| If yes, Have you ever used vasectomy? | 0 | 0 |
| If yes, Have you ever used tubal ligation? | 0 | 0 |
| Reason for stop using LAPMs | | |
| Fear of side effect | 109 | 21.5 |
| Partners disapprove | 111 | 21.9 |
| Medical problem | 20 | 3.9 |
| Shift to other method | 34 | 6.7 |
| I want a child | 25 | 4.9 |
| Religious opposition | 22 | 4.3 |
| Don't know | 43 | 8.5 |
| Reason for currently using long acting and permanent contraceptive method | | |
| Have enough child | 59 | 11.6 |
| Pressure from my husband | 37 | 7.3 |
| Want to space | 123 | 24.3 |
| Advice from health professional | 144 | 28.4 |
| Reason for not practicing LAPMS | | |
| Fear of side effect | 113 | 22.3 |
| Service unavailability | 9 | 1.8 |
| Partner disapprove | 147 | 29 |
| Medical problem | 32 | 6.3 |
| Shift to other method | 40 | 7.9 |
| Lack of knowledge | 79 | 15.6 |

IUCD - intrauterine contraceptive device, LAPMS - long acting and permanent contraceptive method

birth 374 (73.8%) of the respondents were 14–24 years old with mean ± SD of age 22 ± (3.65) years old, Table 2.

Utilization of long acting and permanent methods in west Guji zone

During the study period 259 (51.1%) of the respondent were using LAPMs. Most of the respondent 229 (45.2%) were currently using Implant, followed by IUCD 25(4.9%), Table 3.

Knowledge of the respondent on long acting and permanent method

Three hundred thirty-seven (66.5%) of women know at least one method of modern family planning method. Injectable followed by implant was the most known method and male sterilization (vasectomy) is the least known among the modern family planning which was

323(63.7%), 265(52.3%), and 48(9.5%) respectively. Two hundred eighty (55.2%) of women know at least one LAPMs among which implant was the most known, Table 4.

Furthermore, majority of the respondents (43%) were believed that long acting and permanent contraceptive method have used for child spacing and 147 (29%) have good knowledge on long acting and permanent contraceptive. However, 71 (14%) of them had a very good knowledge and 289 (57%) of them had poor knowledge respectively, Table 5.

Altitude of the respondent toward LAPMS

Three hundred eighty-one (75.1%) of the respondent accept long acting and permanent family planning methods and 276 (54.4%) were supported by their husband. However, three hundred thirty-seven (72.4%) of the respondent had poor altitude toward long acting and permanent family planning methods and one hundred forty (27.6%) of the respondent have good altitude, Table 6.

Practice of long acting and permanent methods

Utilization of long acting and permanent contraceptive method summarized on Table 7.

One hundred seventy-nine (35.3%) of the respondent were get the service from health center which is followed by sixty-four (12.6%) were get from hospital. The rest were get the service from NGO clinic four (0.8%) and health post twelve (2.4%).

Perceived service quality of respondents on long acting and permanent contraceptive methods

Participant’s response on service quality summarized on Table 8.

Factors associated with utilization of LAPMs among women of reproductive age group in west Guji zone, 2018

In the binary logistic regression analysis family size, educational level of women, parity, accept long acting and permanent contraceptive methods, ever use LAPMs, husband opinion, how treated by other staff, service satisfaction, reasonable waiting time, and level of knowledge were statistically associated with utilization of LAPMs.

After controlling the effect of other variables (confounders), the likelihood of a utilization of LAPMs was 88.3% less likely for women who have attended high school than women who have attended informal education. Besides, the likelihood of a utilization of LAPMs was 91.8% less likely for women’s who had more than three children than women who had less than three children.

Table 8 Perceived service quality of respondents on long acting and permanent contraceptive methods of West Guji zone in 2018 (N = 507)

| | | Frequency | Percent |
|--|--------------------------|-----------|---------|
| During your visit to health facility how were you treated by the other staff? | Very well | 236 | 46.5 |
| | well | 110 | 21.7 |
| | Not very well/poorly | 159 | 31.4 |
| | There was no other staff | 2 | 0.4 |
| How long did you wait to get service at the facility? | < 15 min | 14 | 2.8 |
| | 16–30 min | 129 | 25.4 |
| | 31–45 min | 122 | 24.1 |
| | 46–60 min | 67 | 13.2 |
| | 61–90 min | 66 | 13 |
| | 91–120 min | 66 | 13 |
| | > 120 min | 38 | 7.5 |
| | Don't know | 5 | 1 |
| How do you feel about your waiting time? | No waiting time | 73 | 14.4 |
| | Reasonable/short time | 218 | 43 |
| | Too long | 209 | 41.2 |
| | Don't know | 7 | 1.4 |
| Did the provider ask if you were having a problem with the method that you used? | Yes | 460 | 90.7 |
| | No | 47 | 9.3 |
| Have you had a problem with your method?, that you wanted to discuss with your provider | Yes | 421 | 83 |
| | No | 86 | 17 |
| Did the provider try to understand the nature of your problem? | Yes | 332 | 65.5 |
| | No | 175 | 48.3 |
| Did the provider suggest what you should do (action you should take) to resolve the problem? | Yes | 302 | 59.6 |
| | No | 205 | 40.2 |
| Were you satisfied with the advice or treatment that you received for your problem? | Yes | 443 | 87.4 |
| | No | 64 | 12.6 |

However, the likelihood of a utilization of LAPMs was 97.1% less likely for women's who haven't accepted LAPMs than women who accepted. Consistently, the likelihood of a utilization of LAPMs was 26% less likely for women were not treated well by service provider than women who were treated well. Additionally, the likelihood of a utilization of LAPMs was 78% and 90.2% less likely for women who have waited to get service for reasonable and long time, respectively than women who got the service on arrival, Table 9.

Discussion

The finding of these study indicate that educational status women, number of alive children (parity), accept utilization of LAPMs, how treated by other staff during service delivery and waiting time for service are significant determinant factor of long acting and permanent family planning method.

In this study the overall the current use of LAMP at west Guji zone was 51.1%. This is very high when

compared to research done in Bombe district, Gonder City, Dendi district and Janamora District which were 16.3%, 34.7%, 17.6% and 12.9% respectively [14–17] and which is less than the study done in Ilu Aba Bor Zone, Aksum city, and Lay-Armachiho district, Amhara regional state, Ethiopia that was 62.2%, 52.1%, and 65.4% respectively [18–20]. This difference could be in study setting, time of the study, the deployments of health extension worker which strengthen the awareness of LAPMs at community level and the government attention towards these methods increases the utilization [21].

Another factor affecting utilization of long acting and permanent family planning method is educational level of women. Women who join high school (Grade 9–12) 88.3% (AOR 0.116(0.023–0.593)) less likely to use long acting and permanent contraceptive method than women with informal education. This is result contradict with the result from a study done at Bombe district women who have educational level primary (1–8)/above AOR 3.7 95% CI (1.7–7.9) more likely to use LAPMs than

Table 9 Factors associated with utilization of LAPMs among women of reproductive age group in west Guji zone, 2018

| Variables | Utilization of LAPM | | COR(95% CI) | AOR(95% CI) |
|----------------------------|---------------------|-----|--------------------|-----------------------|
| | Yes | No | | |
| Family size | | | | |
| 1–3 | 210 | 225 | 1 | 1 |
| ≥ 4 | 49 | 23 | 0.438(0.258–0.744) | 1.54(0.21–11.34) |
| Educational level of women | | | | |
| Informal | 21 | 26 | 1 | |
| Grade 1–8 | 70 | 61 | 0.704(0.36–1.375) | 0.78(0.172–3.53) |
| Grade 9–12 | 115 | 28 | 0.197(0.097–0.399) | 0.116 (0.023–0.593) * |
| College or university | 30 | 10 | 0.269(0.12–0.674) | 0.446(0.055–3.644) |
| Parity | | | | |
| 1–2 | 45 | 115 | 1 | 1 |
| ≥ 3 | 192 | 103 | 0.210(0.138–0.319) | 0.082(0.026–0.253)* |
| Accept LAPMs | | | | |
| Yes | 239 | 142 | 1 | 1 |
| No | 20 | 106 | 0.112(0.067–0.189) | 0.029(0.005–0.162)* |
| Husband opinion | | | | |
| Support | 164 | 112 | 1 | 1 |
| Oppose | 56 | 90 | 0.425(0.28–0.64) | 0.74(0.179–3.1) |
| How treated by other staff | | | | |
| Well | 234 | 112 | 1 | 1 |
| Not very well | 25 | 136 | 0.088(0.054–0.143) | 0.06(0.017–0.213)* |
| Reasonable waiting time | | | | |
| No waiting time | 42 | 31 | 1 | 1 |
| Reasonable/short | 182 | 36 | 0.038(0.023–0.064) | 0.022(0.005–0.087)* |
| Too long | 35 | 181 | 0.143(0.079–0.257) | 0.098(0.026–0.376)* |
| Service satisfaction | | | | |
| Yes | 222 | 187 | 0.511(0.325–0.803) | 1.1(0.28–4) |
| No | 37 | 61 | 1 | 1 |
| Ever use LAPM | | | | |
| Yes | 130 | 87 | 0.536(0.375–0.766) | 0.94(0.33–2.68) |
| No | 129 | 161 | 1 | |
| Level of knowledge | | | | |
| Poor knowledge | 115 | 174 | 1 | 1 |
| Good knowledge | 41 | 30 | 0.484(0.286–0.819) | 1.04(0.21–5.2) |
| Very good knowledge | 103 | 44 | 0.282(0.185–0.432) | 0.5(0.166–1.58) |

AOD adjusted odds ratio, CI confidence interval, COR crude odds ratio, LAPMS long acting and permanent contraceptive method, *Significant P value < 0.05

women had no formal education, Gonder city, and Lay-Armachiho district, Amhara regional state, Ethiopia [14, 17, 19].

In this study 337 (65.5%) of women know at least one method of modern family planning method which is very low when compared to the study done at Debre Berhan Town which is (459) 92% of the respondents were able to mention at least one method of modern family planning method [22]. The least known method as LAPMs is vasectomy (8.9%) and implant were very known method under LAPMs (54.6%) which is followed by IUCD 24.9%

and tubal ligation (11.6%), the result was consistent with a result reported from a study conducted in Indonesia, which was positioned closest to the attributes ‘easy to use’ and ‘easy to get’ [23]. These is very low when compared to the study done at Gesuba town in which vasectomy is least known (16.6%) and Implant is most known which is followed by IUCD and tubal ligation which is 69.3%, 47.9% and 18.8% respectively [24].

In this study women who didn’t accept utilization of long acting and permanent methods 97.1% less likely to use LAPMs AOR 0.029 95% CI (0.005–0.162) than

women who accept. women with more than three live children 91.8% less likely to use LAPMs than those who had 1–2 live children with AOR 0.082 95% CI (0.026–0.253) which was consistent with a study done in a rural kebeles of Nunu Kumba District [25]. But, contradicted with a study done at Debre Berhan District, women with 3 and above and 1 child is 2 times more likely to use LAPMs than who had no children with AOR 2.41 (0.14–41.43 and AOR 2.74 95% CI (0.22–34.62), respectively [26].

Regarding quality of service, women who were treated not very well with other staff 94% less likely use long-acting permanent contraceptive method than those treated very well with AOR 0.06 95% CI (0.017–0.213). Women who believes there were no waiting time and reasonable waiting time for getting the service 0.098 and 0.022 time use long acting and permanent contraceptive method than women who believed waiting time was too long with AOR 0.098 95% CI (0.026–0.376) and AOR 0.022 95% CI (0.005–0.087). Regarding the altitude of participants towards long acting and permanent contraceptive method, our finding was higher than finding from Debre Berhan District in which 52.5% had negative altitude [26].

Conclusion

Overall, more than half of women had a negative attitude and poor knowledge of LAPMs. Educational status of women, the number of alive children, acceptance of utilization of LAPMs, how treated by other staff, and waiting time during service delivery were factors affecting utilization of LAPMs. Therefore, sustained, and appropriate information on LAPMs should be provided to raise knowledge and build the attitude of women and the community. Treating the clients with respect, reducing the waiting time, and collaborative work with health extension worker will enhance utilization of LAPMs.

Abbreviations

AOR: Adjusted odds ratio; COR: Crudes odds ratio; FGD: Focused Group Discussion; IUCD: Intrauterine contraceptive device; LAPMs: Long acting and permanent methods; SD: Standard deviation; STI: Sexually transmitted infection; WHO: World Health Organization.

Acknowledgements

We would like to thank Bule Hora University for supporting this study.

Authors' contributions

EDZ conceptualized the study, EDZ, DGA, RG, TTW, NM, and WM developed the protocol, collect and coordinated data collection, and carried out the statistical analysis and drafted the manuscript. All authors read and approved the final manuscript.

Funding

This research was financially supported by Bule Hora University.

Availability of data and materials

Data will be available upon request from the correspondence authors.

Declarations

Ethics approval and consent to participate

Ethical clearance was obtained from Bule Hora University, Research, and publication directorate. Verbal consent was obtained from individual participants. All the participant in the questionnaire survey was told about their participation could be on a voluntary basis and their information will be kept confidential and the name of the participants was not taken.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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Received: 20 September 2021 Accepted: 10 January 2022

Published online: 31 January 2022

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