UTILIZATION OF LONG-ACTING REVERSIBLE CONTRACEPTIVES AND ASSOCIATED FACTORS AMONG FEMALE HEALTH CARE PROVIDERS IN GAMO AND GOFA ZONE HOSPITALS, SOUTHERN ETHIOPIA: CROSS-SECTIONAL STUDY, 2021

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ABSTRACT

BACKGROUND: Female health care providers' use of family planning is critical for the community, as it encourages the use of long-acting family planning methods. But there is a paucity of studies on the utilization of long-acting reversible contraceptives (LARCs) and associated factors among female health professionals.

OBJECTIVE: To assess the utilization of LARCs and associated factors among female health care providers in Gamo and Gofa Zone Hospitals in 2021.

METHOD: An institution-based cross-sectional study was conducted among randomly selected 464 female health care providers working at Gamo and Gofa Hospitals, Southern Ethiopia. The data was collected by a pre-tested interviewer-administered questionnaire. Binary logistic regression analyses with a p-value <0.05 was used to declare statistical significance.

RESULT: The utilization of LARCs among female health care providers was 28.8%. Earning ≥5000 family monthly income [AOR=2.005; 95% CI: 1.236-3.251], desire to have 0-2 children [2.147; 1.249-3.693], good knowledge on LARCs [2.320; 1.236-3.251], age 25-34 years [2.407; 1.240-4.672], being ≥18 age at first sexual intercourse [0.401; 0.219-0.734] and being trained on family planning methods [3.460; 1.203-4.589] were positively associated with utilization of LARCs.

CONCLUSION: The study revealed that utilization of LARCs among female health care providers in Gamo and Gofa zone hospitals was low. Age 25-35 years, earning ≥5000 families monthly income, having good knowledge of LARCs, desire to have 0-2 children, being trained on family planning, and starting sexual intercourse ≥18 years were significantly associated with the utilization of LARCs. Providing training and intensifying information dissemination on LARCs is essential.

KEYWORDS: Long-acting reversible contraceptives, Utilization, Female health care provider

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INTRODUCTION

Long-acting reversible contraceptives (LARCs) are birth contraceptives that prevent pregnancy for a long period without requiring user activity. Implants and intrauterine contraceptive devices (IUCDs) are examples of these approaches [1]. Globally in 2019, 44 percent of women of reproductive age were using a modern method of contraception. Although the use of modern contraception in 2019 was lower in Sub-Saharan Africa (SSA) compared to other regions, several countries in this region have seen a significant increase in recent years [2]. According to several researchers, the utilization of long-acting reversible contraceptives is low, with 13 percent of the world's population using them and 2 percent in Sub-Saharan Africa. [3]. The utilization of modern contraceptives was steadily increased over the last two decades in Ethiopia. But the utilization of long-acting reversible contraceptives (LARCs) is still low compared to short-term contraceptives [4].

In Ethiopia, the maternal mortality ratio is still too high with 412 per 100,000 live births in 2016. Also shares a high burden on infant and neonatal mortalities with 48 and 29 per 1,000 live births, respectively. Also, Ethiopia is one of the most populated countries in Africa making it the second nation in Africa with a total fertility rate of Ethiopia is 4.6 children per woman [5,6]. One major reason for the persistent high fertility level and high maternal and child mortality rate across SSA including Ethiopia is the low level of contraceptive uptake and high unmet needs for contraceptives [7].

A study done in Ethiopia Gojjam town showed that the utilization of long-acting reversible contraceptives among female health care providers was 22.7% which is low. A supportive attitude of their husbands/partners, low economic status, supportive attitude towards the utilization of long-acting contraceptive methods, and the desire to have 0–2 children were associated factors for the utilization of long-acting contraceptive methods [8].

The Ethiopian reproductive health strategy prioritizes the provision of all family planning (FP) methods, with a particular focus on long-acting reversible contraceptives (LARCs), as a key strategy for achieving the strategy's primary goals of reducing unwanted pregnancies and enabling individuals to have desired family size [9]. Based on a study conducted in the United States peers and providers strongly influence women's decision to use (IUCD) and disclosure of personal use of IUCD by a provider increased choosing of methods during counseling of clients [10]. The use of health services, particularly family planning, by female health care professionals is very essential for the community and encourages the use of health services, particularly long-acting family planning methods. But there is a scarcity of study that shows the utilization of LARCs and factors affecting it among female health care providers. So this study aimed to assess the utilization of LARCs and associated factors among female health care providers in Gamo and Gofa Zone, Southern Ethiopia.

METHOD

Study design

An institution-based cross-sectional study design was conducted.

Study setting and Population

The study was conducted in Gamo and Gofa zone hospitals, in Southern Ethiopia. Gamo and Gofa zone are in the Southern Nations, Nationalities, and Peoples' Region of Ethiopia. Based on the 2007 Census conducted by the Central Statistical Agency of Ethiopia (CSA), this Zone has a total population of 1,659,310 of whom 779,332 are men and 879,782 women; with an area of 18,010.99 square kilometers [11]. There are around five and two hospitals in Gamo and Gofa zone respectively. The hospitals provide preventive and curative services for the community and comprise all types of health professionals, like physicians, specialized doctors, nurses, health technology technicians, lab technicians, pharmacies, etc. The total number of female health care providers in these hospitals was 641. This study was conducted from March 18 to May 18, 2021. The source populations were all female health care providers who were working in Gamo and Gofa zone hospitals. Whereas, the study

population was all female health care providers who were working in selected Gamo and Gofa zone hospitals during the data collection period.

Inclusion criteria

All female health care providers were in the reproductive age group (15-49).

Exclusion criteria

All female health care workers who were pregnant, unmarried, and infertile during the data collection period were excluded.

Sample size determination

A total of 464 sample size was calculated by using single population proportion formula based on the following assumption; the proportion of 22.7 % for utilization of long-acting reversible contraceptives among female health care providers in east Gojam district (8), 95% confidence interval, 4% margin of error and 10% non-response rate.

Sampling procedure and technique

All the seven hospitals in Gamo and Gofa zone were included in the study. Proportional allocation was made to all hospitals based on the number of female health care providers available. The lists of female health care providers were obtained from the hospital human resource management office and the identification number was given to each provider and a simple random sampling technique by using a computer generating method was used to select study participants (Figure 1).

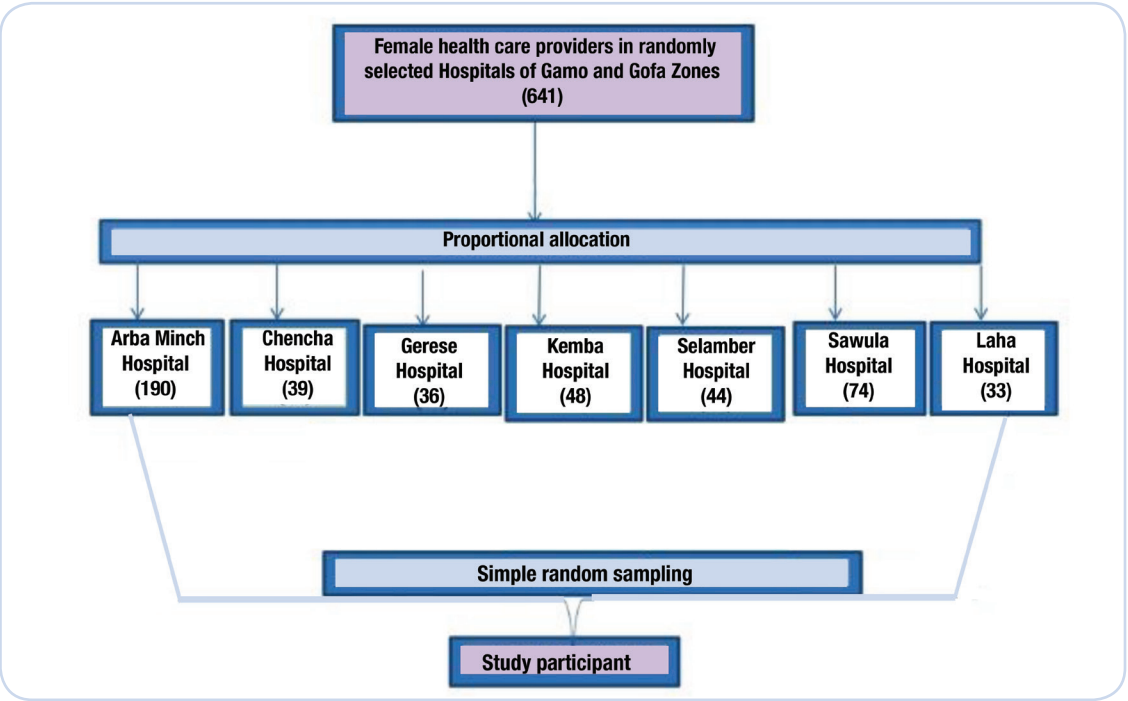

Figure 1: Presentation of sampling procedure on utilization of long-acting reversible contraceptive methods and its associated factors among female health care providers in Gamo and Gofa Zone Hospitals Southern Ethiopia in 2021.

Operational definition

Utilization of Long-acting reversible contraceptive: Currently a woman who uses at least one of the long-acting reversible family planning methods [12].

Long-acting reversible contraceptives: are methods of birth control that provide effective contraception for an extended period without requiring user action and return fertility after the removal which are implants and IUCD [1].

Positive Attitude: From six attitudes measuring questions those who scored mean and above mean the correct answers from attitude measuring of LARCS [12].

Negative Attitude: From six attitudes measuring questions those participants who scored below mean to the correct answers [12].

Good knowledge: From eight knowledge measuring questions those who scored mean and above mean

the correct answers from knowledge measuring of LARCS [13].

Poor Knowledge: From eight knowledge measuring questions those who scored below mean to correct answers from knowledge measuring of LARCS [13].

Data collection tool and technique

A structured self-administered questionnaire adopted from different works of literature was used to collect the data [12,13]. The questionnaire contains socio-demographic characteristics, reproductive health factors, Knowledge and attitude-related factors, and utilization of long-acting contraceptive parts. The questions and statements were grouped and arranged according to the particular objectives that they have to address. Seven diploma nurses and one BSC level health professional were recruited and trained as data collectors and supervisors, respectively.

Data quality assurance

The questionnaire was translated from English to Amharic and then back to English with language experts to keep consistency. A pretest was conducted on 23 female health care providers (5%) of the sample before collecting the data on Gidole Hospital. The data collection training was given for one day concerning the aim of the study, the contents of the questionnaire, the definition of terms in the questionnaire, and issues of confidentiality and privacy. Collected data was checked for incompleteness and inconsistency by the supervisors and principal investigators. The necessary feedback was given to the research team before the actual procedure was started. Data clean-up and cross-checking were done before analysis.

Data processing and Analysis

The data obtained from each respondent was entered using Epi-data version 7.1 and exported to SPSS version 24 for analysis. Data were coded, cleaned, and analyzed using SPSS version 24 software. Descriptive statics (frequency, mean and standard deviation) was used to describe the study population with relevant variables. Bivariate and multivariate regression was performed to assess the presence of an association between the independent variable and dependent variable. Those candidate variables at Bivariate logistic regression with a p-value <0.25 were moved to the Multivariate logistic regression model for the dependent variables to control potential confounding variables and model fitness (goodness of fit) was checked by the Hosmer Lemeshow test. P-value<0.05 at multivariate analysis was considered statically significant to this study.

Ethical approval

Ethical clearance letters were obtained from the institutional review board (IRB) of Arba Minch University, College of Medicine and Health Sciences with IRB number IRB/1096/21. Official letters were received from the department of public health and were submitted to the selected hospital management office. The aim of the research was explained to the study participants. Written Informed consent was obtained from respondents during data collection. Respondents were informed that participating in the research is not harming them. The right to withdraw their consent whenever they want was also respected. All data collectors and supervisors used personal protective equipment based on WHO standards during the training and data collection period to prevent the COVID 19 pandemic disease transmission. Besides, this study was conducted following the Declaration of Helsinki, and all ethical and professional considerations were followed throughout the study to keep participants' data strictly confidential.

RESULT

Socio-demographic characteristics

A total of 464 female health care providers were included in the study with a response rate of 100%. The mean age of female health care providers was 30.47 with a standard deviation (SD) ± 5.73 years. More than half 262(56.5%) of study participants were from Gamo ethnic group and 207(44.6%) were orthodox religious followers. Among study participants 403 (86.85%) were married and 266 (57.3%) had a diploma level of education. Regarding the occupation of their husbands, 255(55%) were governmental employers. The majority of the study participants were nurses 150 (32.3) and followed by midwifery 94 (20.2%) a profession (Table 1).

Table 1: Socio-demographic characteristics of female health care providers in Gamo and Gofa zone hospitals, southern Ethiopia in 2021(N=464)

Variables (464)	Categories	Frequency	Percent
Age (years)	15-24	54	11.60
	25-34	296	63.80
	35-49	114	24.60
Religion	Orthodox	207	44.60
	Protestant	212	45.60
	Muslim	27	5.80
	Other	18	3.70
Ethnicity	Gamo	262	56.50
	Wolayta	57	12.30
	Amhara	37	8.00
	Gofa	93	20.00
	Others	15	3.23
Marital status	Married	403	86.85
	Others	61	13.15
Educational status	Diploma	266	57.30
	Degree and above	187	40.30
	Others	11	2.40
Profession	Nurses	150	32.30
	Midwifery	94	20.20
	Laboratory	70	15.00
	Health officer	54	11.70
	Pharmacy	40	8.60
	HIT	39	8.40
	Other	17	3.70
Occupation of the husband	Governmental employer	255	55.00
	Self-employer	102	22.00
	Merchants	97	21.00
	Others	10	2.00
Monthly income of family (Ethiopian Birr)	<5000	211	45.50
	>=5000	253	54.50

Reproductive health history

Of 464 study participants majority 302 (65.09%) of the respondents started their first sexual intercourse 18 years and above. Of a total of respondents who gave birth 338 (72.83%) of them give birth after the age of 18 years. About 121 (26.1%) of the participants had given birth 3-to 4 times (Table 2).

Table 2: Reproductive health history of female health care providers in Gamo and Gofa zone hospitals, Southern Ethiopia in 2021(N=464)

Variables (464)	Categories	Frequency	Percent
Age at first sex	<18 years	162	34.91
	>=18 years	302	65.09
Ever gave birth	Yes	376	81.03
	No	88	18.97
Age at first birth	<18 years	38	8.20
	>=18 years	338	72.83
Number of birth given	1-2	225	48.46
	3-4	121	26.10
	>=5	30	6.47
Number of alive children	<=2	235	50.60
	>2	141	31.00
Ever had abortion	Yes	57	12.28
	No	407	87.72

Knowledge and attitude toward long-acting reversible contraceptive

Concerning the knowledge of study participants to ward LARCs 366 (78.9%) of respondents had good knowledge about LARCs and 281 (60.6%) of female health care providers had a favorable attitude toward the utilization of LARCs.

Ever use of modern contraceptives and training

Of a total of 464 female health care providers, 304 respondents ever used different types of modern family planning methods. The majority 36.6% of respondents had ever used implants. One hundred ninety-nine respondents had ever used long-acting reversible contraceptives and most of the method ever used by respondents was implants 36.6%. About 331(71.35%) respondents were not trained on family planning methods (Table 3).

Table 3: Ever use of modern family planning methods among female health care providers in Gamo and Gofa zone hospitals, southern Ethiopia, in 2021(N=464)

Variables (464)	Categories	Frequency	Percent
Had ever used modern family planning methods?	Yes	304	65.51
	No	160	34.48
What type of modern contraceptive did you use	Pills	52	1.20
	Injectable	111	24.00
	Implants	91	19.60
	IUCD	13	2.80
	Condoms	37	7.90
The shift from one method to another?	Yes	98	32.20
	No	206	67.80
Methods shift	Long to long contraceptives	12	8.05
	Long to short contraceptives	30	20.13
	Short to long contraceptives	38	8.19
	Short to short contraceptives	18	12.08
Reason to change from one contraceptive to another	For the inconvenience of previous methods	59	18.73
	For the convenience of previous methods	37	11.75
	Lack of access to previous methods	6	2.00
	Due to side effects	51	16.20
	Need for long-acting methods	22	6.90
	Provider advise me	16	5.07
	Partner influence	9	2.86
Had trained on family planning methods	Yes	133	28.70
	No	331	71.30

Utilization of long-acting reversible contraceptive

The current utilization of long-acting reversible contraceptives among female health care providers was 28.8%. Most female health care providers used implants 118 (25.8%) and followed by IUCD 14 (3%) (Figure2).

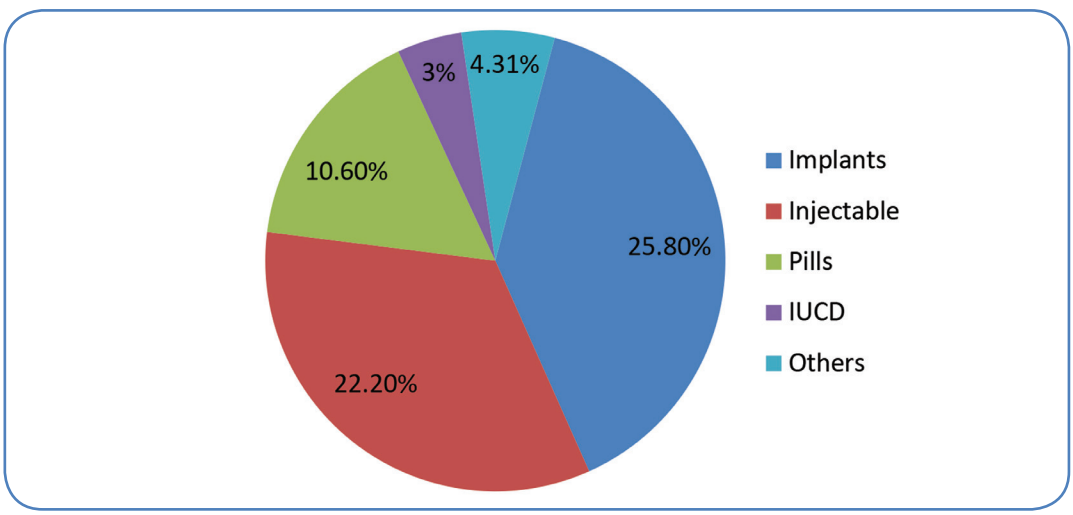

Figure 2: Current utilization of modern family planning methods among female health care providers in Gamo and Gofa zone hospital, southern Ethiopia in 2021

Factors associated with the utilization of long-acting reversible contraceptive

In the study age, women's level of education, monthly income of the family, age at first sexual intercourse, number of birth given, number of children alive, the desired number of children, knowledge of LARCs, ever use of long-acting contraceptives and training on methods of family planning were associated with utilization of long-acting reversible contraceptives in bivariate analysis. Finally, age, age at first sexual intercourse, the desired number of children, knowledge about LARCs, and training on family planning methods were significantly associated with the utilization of long-acting reversible contraceptives.

Female healthcare providers with the age category of 25-34 years and 15-24 years were 2.407 [AOR=2.407; 95% CI: 1.240-4.672] and 2.105 [AOR=2.105; 95% CI: 0.668-6.632] times more likely use LARCs than that of 35-49 age category respectively. Respondents who had 5000 and more family monthly income were 2 times [AOR=2.005; 95% CI: 1.236-3.251] more likely to utilize LARCs than women with a monthly income of less than 5000. Those who started sexual intercourse at 18 and above years 60% [AOR=0.401; 95% CI: 0.219-0.734] are less likely to utilize LARCs than those who started first sexual intercourse before 18 years. Participants who want to have 0-2 children were 2 times [AOR=2.147; 95% CI: 1.249-3.693] more likely to utilize LARC than women who want to have 5 and more children. Those who had good knowledge about LARCs were 2 times [AOR= 2.320; 95% CI: 1.236-3.251] more likely to utilize LARCs than that female health care providers who had poor knowledge about long-acting reversible contraceptives. Female health care providers who had training on family planning methods were 3 times [AOR= 3.460; 95% CI: 1.203-4.589] more used long-acting reversible contraceptives than female health care providers who had no training on family planning methods (Table 4).

Table 4: Factors associated with long-acting reversible contraceptive utilization among female health care providers in Gamo and Gofa zone hospitals, SNNPR in 2021

Variable	Categories	Utilization of LARC		OR(95% confidence interval)		P-Value
		Yes	No	COR (95%CI)	AOR (95%CI)	
Age	15-24	8	46	0.318[0.485-1.370]	2.105[0.668-6.632]	0.204
	25-34	102	194	0.788[0.311-1.383]	2.407[1.240-4.672]	0.009*
	35-49	22	92	1		1
Monthly income	<5000	72	139	1		1
	>=5000	60	193	1.660[0.102-1.901]	2.005[1.236-3.251]	0.005*
Age at first sex	<18 years	32	127	1		1
	>= 18 years	100	205	0.510[0.128-1.062]	0.401[0.219-0.734]	0.003*
Knowledge about LARCs	Poor	33	65	1	1	
	Good	99	267	1.360[0.150-1.752]	2.320[1.326-3.512]	0.034*
Number of birth given	1-2	83	142	1	1	
	>=3	44	107	1.120[0.237-2.622]	0.650[0.079-3.619]	0.522
Desired number of children	0-2	8	23	0.650[0.340-1.160]	2.147[1.249-3.693]	0.006*
	3-4	80	120	0.716[0.298-1.210]	1.357[0.494-3.725]	0.554
	>=5	44	189	1	1	
Level of education	Level III	1	10	1	1	
	Diploma	83	183	1.239[0.390-2.000]	0.050[0.007-0.931]	0.129
	Degree & above	48	139	0.230[0.132-0.715]	0.948[0.515-1.746]	0.865
Number of the child alive	<=2	83	142	1	1	
	>2	44	107	1.424[0.037-1.921]	1.449[0.318-6.598]	0.632
Had ever used LARCs	Yes	124	145	19.990[14.310-23.700]	0.048[0.021-0.113]	0.570
	No	8	187	1	1	
Trained on FP	Yes	56	77	2.440[1.020-3.349]	3.460[0.203-0.589]	0.001*
	No	76	255	1	1	

*significantly associated variables with p-value <0.05

DISCUSSION

The study finding showed that the current utilization of LARCs was 28.5% at 95% CI (24.8%-32.5%) which is low. This finding was in line with the study done in Gojjam (22.7%) (8). The possible reasons for this could be due to fear of side effects, religious prohibition, and cultural beliefs. However, it was lower than the studies done in Gambia (43%) and Harar city (38%) [14,15]. But higher than the findings in Kenya (20.6%), Gondar town (20.4%), and Arba Minch town (13.1%) [13,16,17]. These discrepancies can be due to differences in the target population, sample size, study setting, and participant's knowledge.

Female health care providers who had 5000 and more monthly family incomes were 2 times more likely to utilize the LARCs than women who had less than 5000 families' monthly income. This finding was in line with the study conducted in Nepal [18]. The possible reason for this could be women with high economic status may have a wider opportunity for special training in family planning and media exposure. But it was the opposite with the finding in Gojjam [8]. This was reasoned as families with lower monthly income can't afford the costs of raising children; as a result, they may be forced to utilize long-acting contraceptives for effective and long-term pregnancy prevention. Those women who want to have 0-2 children were 2 times more likely to utilize the LARCs than women who want to have 5 and more children. This is supported by studies conducted in Gojam [8], Adama town [12], and Arsi Negele [19]. The possible reason for this might be women who wish to have more children tend to utilize short-acting contraceptives to satisfy their needs, while those who only require a few children can use LARCs to stop or extend their fertility. Female health care providers in the age group of 25-35 years were 2 times more likely to use LARCs than the age group of 35-49 years. This finding is consistent with the study conducted in Jinka town [20] and Nepal [18]. The possible justification for this could be women of younger age may have a desire to have children than older age women. Female health care providers who had good knowledge of LARCs were 2 times more likely to utilize them than that with poor knowledge of LARCs. This finding is supported by the study conducted in Adama town [12], Arba Minch town [13], and Jinka town [20]. This is the fact that female health care providers who had good knowledge of long-acting reversible contraceptives will avoid the misconception about LARCs and also understand their effectiveness and utilize it. Respondents who were trained in family planning were 3 times more likely to utilize LARCs than female health care providers who were not trained on family planning methods. This can be explained by those female health care providers who were trained on family planning methods may have detailed knowledge and this may affect their attitude to be supportive of LARCs and utilize them. Participants who started their first sexual intercourse at 18 years and above were 60% times less likely to utilize LARCs than those started who started their first sexual intercourse below 18 years. The relationship between age at first intercourse and utilization of LARCs needs further study. It is recommended that the local health planner should consider the modifiable factors from the study findings during planning. Also further studies should be done to dig other unexplored factors that were not included in the current study by mixing with qualitative study design.

The study's limitation was being a self-report, which could lead to bias. The strength of the study was the huge sample size, which was representative of the target population.

CONCLUSION

The study revealed that utilization of long-acting reversible contraceptives among female health care providers in Gamo and Gofa zone hospitals was low. Age 25-35 years, earning ≥5000 families monthly income, having good knowledge of LARCs, desire to have 0-2 children, being trained on family planning, and starting sexual intercourse ≥18 years were significantly associated with the utilization of long-acting reversible contraceptives. Providing training and intensifying information

dissemination on LARCs for female health care providers is essential.

Abbreviations

AOR: Adjusted Odds Ratio; CI: Confidence Interval; COR: Crude Odds Ratio; FP: Family Planning; IUCDs: Intrauterine Contraceptive Devices; LARCs: Long Acting Reversible Contraceptives; SSA: Sub Saharan Africa

DECELARATIONS

Competing interests

The authors declare that there is no conflict of interest regarding the publication of this paper

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Authors' contributions

All authors contributed to data analysis, drafting, and revising of the article, gave final approval of the version to be published, and agree to be accountable for all aspects of the work.

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