ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCE

SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF REPRODUCTIVE, FAMILY AND POPULATION HEALTH

ASSESSMENT OF LONG-ACTING REVERSIBLE CONTRACEPTIVE METHODS USE IN EXTENDED POSTPARTUM PERIOD AMONG WOMEN IN DEBRE-LIBANOS DISTRICT, NORTH SHEWA ZONE, OROMIA REGION, ETHIOPIA, 2023

BY: SALSAWIT DERBE (BSC)

A THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCES SCHOOL OF PUBLIC HEALTH DEPARTMENT OF REPRDUCTIVE, FAMILY AND POPULATION HEALTH GRADUATE PROGRAM IN PARTIAL FULFILLMENT OF REQUIREMENT FOR THE DEGREE OF MASTER OF PUBLIC HEALTH

JUNE, 2023

ADDIS ABABA, ETHIOPIA

ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCE

SCHOOL OF PUBLIC HEALTH

ASSESSMENT OF LONG-ACTING REVERSIBLE CONTRACEPTIVE METHODS USE IN EXTENDED POSTPARTUM PERIOD AMONG WOMEN IN DEBRE-LIBANOS DISTRICT, NORTH SHEWA ZONE, OROMIA REGION, ETHIOPIA, 2023

By: Salsawit Derbe (BSc)

Advisor: **Meselech Assegid (MPH, PHD)**

Hewan Getachew (MD, MPH)

A THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCES SCHOOL OF PUBLIC HEALTH DEPARTMENT OF REPRDUCTIVE, FAMILY AND POPULATION HEALTH GRADUATE PROGRAM IN PARTIAL FULFILLMENT OF REQUIREMENT FOR THE DEGREE OF MASTER OF PUBLIC HEALTH

June, 2023

Addis Ababa, Ethiopia

Statement of the Author

By my signature below, I declare that this is my work. I have followed all the ethical and technical principles of scholarship in the preparation, data collection, data analysis and compilation of this thesis. Any scholarly matter that is included in this thesis has been referenced through citation.

Name: Salsawit Derbe

Date: 15/6/2023

signature: ____  _____

APPROVAL SHEET

ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCE

DEPARTMENT OF REPRODUCTIVE, FAMILY AND POPULATION HEALTH

I hereby certify that I have read and evaluated this thesis prepared on Assessment of Long-Acting Reversible Contraceptive methods use in extended postpartum period among women in Debre-Libanos district, North Shewa zone, Oromia region, Ethiopia, 2023 under my guidance by Salsawit Derbe. I recommended that it should be summited to ethical bored.

Dr. Meselech Assegid	_____	_____
Primary advisor	Signature	Date
Dr. Hewan Getachew	_____	_____
Co-advisor	Signature	Date

Acknowledgment

First and for most I would like to acknowledge Addis Ababa University, College of Health Science, School of Public Health Department of Reproductive, Family and Population Health for giving me this opportunity to experience my research skill which has significant meaning in my future career. My heartfelt gratitude goes to my advisors Dr. Meselech Assegid and Dr Hewan Getachew for their undue supportive and constructive comments to do this thesis. I would like to extend my Acknowledgement to the study participants, data collectors, and supervisors.

Table of contents

List of Acronyms

DHS: - Demographic and Health Survey

FP: - Family planning

IUCD: - Intrauterine contraceptive device

LARC: - Long-acting reversible contraceptive

MOH: - Ministry of Health

UN: - United Nations

WHO: - World Health Organization

AOR: - Adjusted odds ratio

COR: - Crude odds ratio

CI: - Confidence interval

ANC: - Antenatal care

PNC: - Postnatal care

HEWs: - Health extension workers

List of Tables

List of figures

Abstract

Background: - The first 12 month following delivery are known as the extended postpartum period, which is effective way for lowering maternal and child morbidity and mortality by preventing unplanned pregnancy and maximizing the birth space. The most effective method of birth control for preventing unwanted pregnancy during postpartum period is long-acting reversible contraceptive. Despite the efforts to increase the use of modern contraceptives, particularly long-acting reversible contraception in extended postpartum period has still low uptake in Ethiopia.

Objective: - The objective of this study was to assess utilization of long-acting reversible contraceptive among women in extended postpartum period in Debre-Libanos district of North Shewa zone, Oromia region, Ethiopia.

Methods: - A community based cross sectional study was caried out in Debre-Libanos district, North show zone, Oromia region, Ethiopia. A total sample size of this study was determined to be 587. Simple random sampling technique was used to select study participant. Data were collected from study participants using structured questionnaires then the data were entered in EPI data and exported to SPSS 25 version. Data were analyzed using descriptive statistics and binary logistic regression statistical modeling were used to identify associated factors. In bivariate logistic regression those variables with p-value less than 0.20 were the candidate for multivariate logistic regression. Association between dependent and independent variables were assessed and its strength, direction and significance were presented using odds ratios and 95% confidence intervals

Result: - This study revealed that 29.5% of mothers used LARC in extended postpartum period. The odds of using LARC methods were higher among mothers who completed secondary education and higher (AOR=5.801; 95%CI: 2.856- 11.783) compared to uneducated mothers, employed mothers (AOR=6.047; 95%CI: 3.149-11.612) compared to house wife, previous use of LARC (AOR=6.994; 95%CI: 4.303-11.367) compared to mothers who did not use previously, attended PNC services (AOR=2.347; 95%CI: 1.294-4.257) compared to mothers who did not attended, and discussed with husband about LARC (AOR=3.057; 95%CI: 1.876- 4.98) compared to mothers who hadn't discussed were positively associated with use of LARC.

Conclusion: - The prevalence of LARC use was low. Educational status of mother who completed secondary and above, employed mothers, discussion with husband**,** previous use of LARC, and PNC services attendance after last birth were associated with use of long-acting reversible contraception. We recommended that Debre-Libanose district should strengthening the existing health care services which is provided to mothers during extended postpartum period.

Key words: - LARC, extended postpartum, Debre-Libanos, Ethiopia

1. Introduction

1.1 Background

Globally, fertility has declined in recent decades for many countries. Currently, there are 2.1 children born to every woman in the world. However, it has not decreased at the same place everywhere, in sub-Saharan Africa has 4.6 children per women, compared to 3.1 in Australia and New Zealand, 2.8 in Northern Africa and Western Asia, and 2.3 in central and southern Asia (1). Population projection by united nation states that total fertility rate will be decreased from 1.87 births per women to 1.33 in Ethiopia by 2100.(2)

During pregnancy and childbirth, many women face the risk of developing complication. Family planning, which ensure that women and couples have access to contraception based on their decision to limit the number of children they have, and also highly effective strategy to prevent maternal death. It also helps to reduce the risk of poor maternal, perinatal, neonatal and infant health outcomes by extending the interval between pregnancies by at least two years (3,4).

A modern contraceptive method includes short acting contraceptive, long-acting reversible contraceptive methods, and permanent contraceptive methods. Due to their long lifespan, the ability to space use over at least three years, does not require daily use, and able to return fertility after removal, LARC are therefore the most effective method of preventing unintended pregnancy during the postpartum period. These methods only provided by trained health professionals. This method includes copper-containing IUDs, last at least 12 years. The other one is implant, last for up to three years (5).

The world health organization (WHO) describe postnatal period is the most critical time for both mothers and their newborn children. The mother could also develop different complications like postpartum hemorrhage, anemia and infection. If she gets pregnancy immediately the pregnancy could also be ending as preterm birth, or low birth weight. Due to this reason postnatal period is considered as the most critical period, but this is the most forgotten period in the lives of mothers and the new born (6,7)

Preventing unplanned pregnancy as one of the interventions to optimizing birth space during the first year after delivery and also an effective strategy to lower maternal and child mortality. Women are supposed to increase the inter pregnancy interval which is span of time between a

live birth and the start of the next pregnancy because of the health risks associated with too short inter pregnancy interval and also to decrease population growth. So, the long-acting reversible contraception can ensure healthiest timing and spacing pregnancy (7,8).

There is global and national strategy to improve uptake of LARC; in SDGs goal 3, it states that all women in the reproductive age group should have access to contraception despite their difference. Our national RH strategy also sets a goal to increase utilization of LARC by 2020 to 50% (18, 44).

Despite the efforts to improve utilization rate of modern contraceptives, uptake of Implants and IUDs are still low in Ethiopia (9% and 2%, respectively) compare to Injectable (27%) which is the commonly used method (9).

1.2 Statement of problem

Globally, maternal health is still a major problem since pregnancy and childbirth are associated with maternal mortality and most of this death occurred in low-income countries and majority of the cause could have been prevented (11). Family planning enables people to have the number of children they want and to determine time between pregnancies. This is accomplished by using contraceptive methods (12).

Soon after delivery, women are at the risk of unwanted pregnancy. Fifty-seven percent of women claimed to have been engaged in unprotected intercourse before routine 6-week postpartum visit (13). So postpartum contraception is useful in order to optimize birth spacing and reduce unplanned pregnancy (14).

The long-acting reversible contraceptive method is one of the most effective methods to prevent pregnancy for a long period of time without user action. Because once its inserted, the women don't need any action to support ongoing effective utilization of the contraceptive and also it has a higher continuation rate than the short acting (15).

According to analysis of 27 countries Demographic and health survey (DHS), 95% of women who had children with in a year of their last birth had intended to avoid getting pregnant, however 70% of women did not use contraception (16). In Ethiopia 47% of all pregnancy occur within a short birth interval less than 24 months after their last birth (17).

Since 2005, the use of modern contraceptives in Ethiopia has progressively increased, from 14% to 41% in 2019 (9). Despite the significant progress shows on the utilization of contraceptive, still LARC use remained low. Based on EDHS 2019 reports the prevalence rate of implant and IUD is 9% and 1.5 % respectively (9) A women may experience unintended pregnancy as a consequence of not using contraceptive methods despite wanting to avoid pregnancy or as a result of the inefficacy of a contraceptive method being used (48).

In Ethiopia, postpartum long-acting reversible contraceptive is low due to various factors. Some of the factors are educational level of the mother, postpartum period, menses resumption and sexual resumption (10). Therefore, the aim of the study to assess the long-acting reversible contraceptive use among women who gave birth in the last 12 months.

1.3 Rationale and significance of the study

Even though modern contraception use is made accessible in Ethiopia, still long-acting reversible contraceptive method isn't widely used in Oromia region. Due to the majority of the studies being undertaken in urban areas, there are not any studies on the use of LARC in extended postpartum period in Debre-libanose district. Therefore, the aim of the study was to assess long-acting reversible contraceptive in extended postpartum period among women in Debre-Libanos district.

Nationally, Ethiopia works to increase use of modern contraceptives particularly the long-acting reversible contraceptive. The extended postpartum period is the good opportunity for uptake of LARC. Therefore, the result of study will help health facilities, policy makers and other responsible stakeholders to develop effective strategies based on the finding. Additionally, it gives update data on LARC usage among women in extended postpartum period in Debre-libanose district.

2. Literature review

2.1 Long-acting reversible contraceptive method use

The unmet need for family planning and the prevalence of contraception are important to understanding how reproductive health services might be improved which include family planning, information, and education, and also the integration of reproductive health in to national strategies and programs as it is stated in sustainable development goals under goal 3. '' Ensure healthy lives and promote well-being for all at all ages.''(18). According to UN, prevalence of modern contraceptive in all regions had already reached greater than 50%. But the utilization has shown variation around the world, in Oceania 28%, in sub-Sahara region 29%, in western Asia and in northern Africa 34%, in central and southern Asia showing 42%, and in Latin America and the Caribbean showing 58% utilization (19).

Based on different studies, the prevalence of long-acting reversible contraceptive methods varies; higher prevalence in eastern Asia 24.3% while low prevalence was in southern Africa 3.9% (20). According to a study conducted in 26 sub-Saharan African nations, the prevalence of long-acting reversible contraceptives use was 21.73%, with lowest rate found in Namibia and the highest in Benin (21).

Based on Ethiopia demographic and health survey (EDHS) data the prevalence of LARC use in Ethiopia is 10% (17). According to research done in several regions of Ethiopia, the percentage of mothers who used LARC throughout the extended postpartum period varied by town; 36.7% in Durame, 22.6% in Arba Minch, 33% in Hararge zone and 36.5% in Hosana (22–25).

While the study done in Haramaya district found that 7.3% of women used LARC during extended postpartum period (26). Another study which was done in different regions of Ethiopia shows that 56.9% of women did not use family planning method during extended postpartum period (38). Evidence reveal that implant was commonly used compared to IUCD from LARC, in Durame town 95.9% and in Arba-minch town 77.82% were used implants (22, 23).

2.2 Factors associated with the use of long-acting reversible contraceptive

2.2.1 Socio-demographic factors

Studies shows that the prevalence of LARC were high among sexually active women age 20 years and above. In 26 SSA countries 23.74% of women, in Tanzania demographic and health survey data 8.81%, in rural Kenya 23% and in Uganda 63.69% of women were more likely use LARC (21, 28, 27, 39).

Evidence reveals that women who had currently employed were more likely to utilize LARC. In SSA countries 23.13% and in pastoral community of Northeast Ethiopia 14.5% were more likely use LARC (21, 29). Studies shows that religion associated with use LARC. In pastoral community of Northeast Ethiopia orthodox and protestant religion followers, and in rural Kenya protestant religion followers were associated with use of LARC (29, 27).

A woman who completed secondary education, partners with formal education, low socio-economic status and want long inter-pregnancy interval were more likely to utilize LARCs (22,27,28). Similar study done in different regions of Ethiopia revealed that a woman with age between 20-24 (15.4%), more than secondary education (22.2%), living in urban areas (20.6%) and high income (23.1%) associated with high prevalence of LARC method use (38).

2.2.2 Access to information and knowledge towards long-acting reversible contraceptive methods

In united states of America, at California shows that access to contraceptive methods during postpartum period were significantly associated with use of contraceptives (45). Source of information about contraceptive method have a significant role in the utilization of LARCs method. A demographic and health surveys conducted in 26 Sub-Sahara countries reveled that woman with secondary or higher education have increased access to information because most educated women have knowledge about the side effect and benefits of using LARCs methods (21). As study done in Haramaya district, revealed that main source of information were health extension workers and health workers (57.8%) and (19.4%) respectively (26).

Study conducted in Nigeria, 77.2% of the women had awareness about LARCs, and most of the women heard about implants (31). Study done in Wolaita, southern zone Ethiopia shows that

87.8%% and 54% of women know about implant and IUCD, respectively (32). On other hand study done, in Adaba town, west Arsi zone showed that 73.4% of respondent were know about LARCs, majority of the respondent (73%) being aware of the idea that implant prevent pregnancy for three years (33).

According to the study done in Jima Town, showed that 54% have a knowledge about implant and 39.5% known IUCD (34). Study conducted in Harar city, only 23% of respondents had heard about implants, while 52% of respondents had heard of both implants and intrauterine devices (35). Study conducted in Durame town showed that 97.5% of the study participant knew about LARCs and from this 92.1% of the mother were heard about implant followed by 61.9% were about IUCD (22). In pastoral community of Northeast Ethiopia shows that more than half of the participant had knowledge about LARCs and 77.3% stated that IUCD can prevent pregnancies for more than 10 years (29).

2.2.3 Obstetric factor

Studies shows that number of children a mother who had previously associated with LARC use. In Hosanna town, 71% of the mothers had two or more births and 28.3% did not want to have more children for their future life. Majority of the mothers do not want to give birth within 2 years and 28.6% had never discussed with health professional about LARCs (25). Similar study conducted in Durame town, revealed that 22.7% of the respondent currently birth was unplanned, from this 56% of the mother not use any modern contraceptive (22).

Another finding from public hospital in East Hararge zone shows that 56.8% of respondents have more than five children, from this 51.5 % participants had more than three alive children and 2.6 % do not want to have a child for future (24). Generally, based on the study reviewed above shows that number of children had before directly related with LARCs use.

The use of postpartum contraceptives is significantly associated with counseling women on family planning throughout the antenatal, delivery, and postnatal periods. A Women who had antenatal care follow up during pregnancy and receiving counseling service on long-acting reversible contraceptive before delivery were more likely to use LARC method (46).

According to a study done in America family planning counseling during antennal and postnatal period have significant association with utilization of long-acting reversible contraceptives in

extended postpartum period (47). In Jimma university medical center 63.2% and in southern Ethiopia 40.4% of mothers were counseled during ANC visit were more likely use LARC methods (36, 23).

As study conducted in Haramaya district revealed that from the women who deliver at health facility only 14.1% of them get counseling services about LARC methods (26).Similar study in Durame town shows that 62.9% of the women counseled about LARC during delivery (22).

Postnatal care service gives an opportunity in order to get counselling about contraceptive and to use it. A study done in Gondar town reveled that (60.9%) of mothers get family planning counseling during postnatal period (37).A study conducted in Durame town shows that during the postpartum period (84.4%) of mothers were visited health facility. From this (63.2%) of them get counseling services on LARC and (30.6%) of them were use LARC method (22).

Conceptual framework

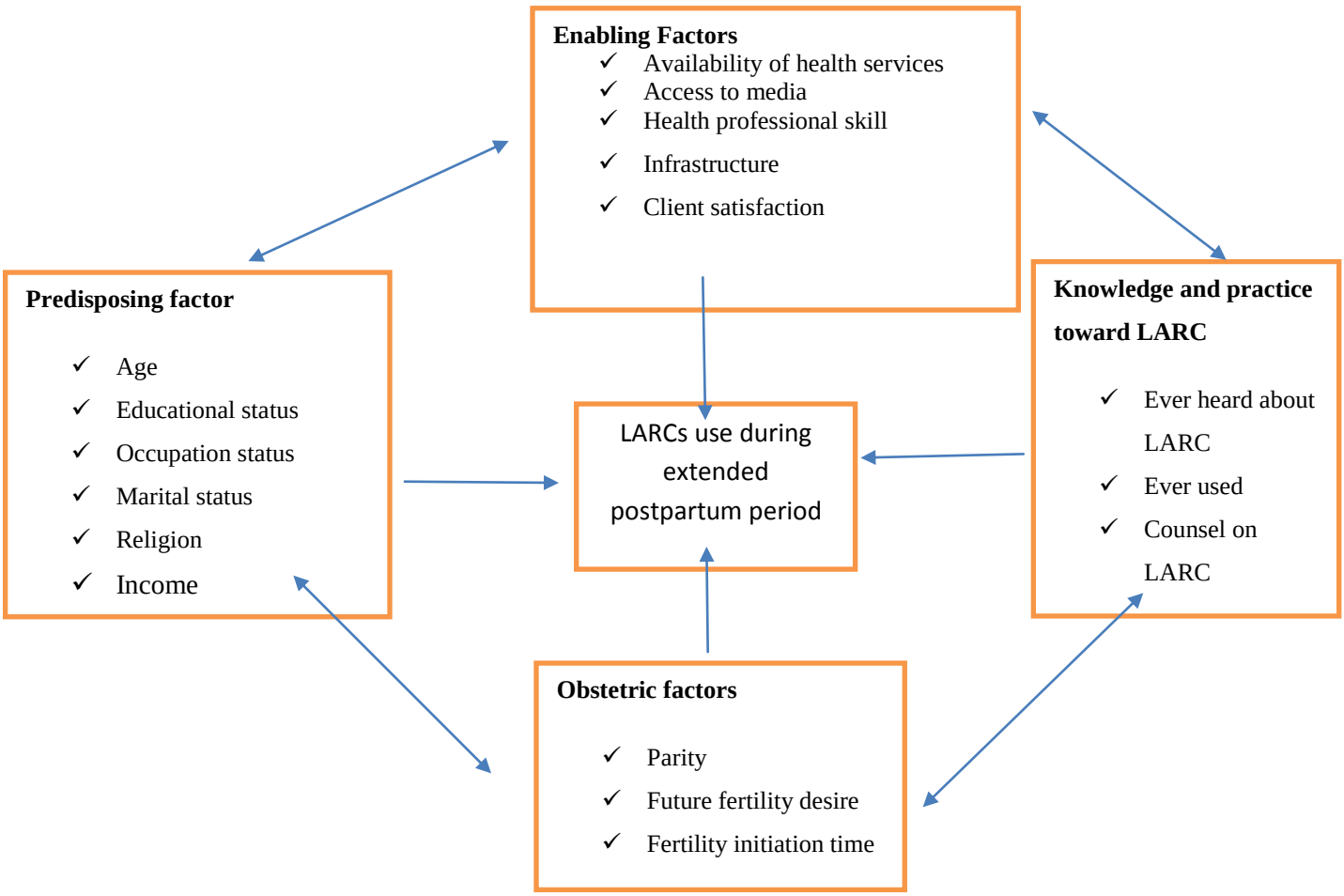

Figure 1: Conceptual framework on long-acting reversible contraceptive use in extended postpartum period among women. Adopted from Andersen and Newman 1990

3. Objective

3.1 General objective

- ✓ To assess utilization of long-acting reversible contraceptive among women during extended postpartum period in Debre-Libanos district of North Shewa zone, Oromia region, Ethiopia from 10 April to 12 May 2023.

3.2 Specific objectives

- ✓ To measure the prevalence of long-acting reversible contraceptive use among women during extended postpartum period in Debre-Libanos district.
- ✓ To identify factors associated with the use of long-acting reversible contraceptive methods among women in Debre-Libanos district.

4. METHODOLOGY

4.1 Study Area

The study area was Debre-Libanos District, North Shewa Zone, Oromia Region, Ethiopia. Debre-Libanos is located 90 km away from Addis Ababa. The 2022 estimated number of populations in the district is 72,362, of whom 36,543 and 35,819 were female and male. In the district, 22.9% of peoples reside in urban area and 77.1% resides in rural area. The district has two urban and ten rural kebeles. There are 2 health centers, 11 health posts, and 3 private primary clinics. There were also 4 health officers, 22 nurses, 4 laboratory technicians, 2 druggists, 5 midwifery nurses, 14 rural and 5 urban health extension workers. About 99.29 % practiced Ethiopia Orthodox Christianity (49).

4.2 Study design and period

A community based cross-sectional study was conducted to assess utilization of LARC and its associated factors among women during extended postpartum period in Debre-Libanos district.

The study was conducted from April 10 to May 12, 2023 in selected kebeles, Debre-Libanos district, Ethiopia.

4.3 Source and study population

4.3.1 Source population

All mother who gave birth in last 12 months prior to the study in Debre-Libanos district are used as source population for the study.

4.3.2 Study population

All selected mothers who gave births in the last 12 months in selected Kebeles' of Debre-Libanos district were used for study population.

4.4 Inclusion and Exclusion Criteria

4.4.1 Inclusion Criteria

All selected mothers who gave birth in the last 12 months before the data collection and age of the mother should be above 15 years.

4.4.2 Exclusion Criteria

Mothers who are unable to communicate and mentally ill participants were excluded from the study.

4.5 Sample Size Determination

The sample size was calculated for both specific objectives. Single population proportion formula for objective one was applied to calculate the sample size. For the first objective: single proportion formula was used and the required sample size was calculated by the following formula by assuming proportion (36.5%) of prevalence of long-acting reversible contraceptive use from previous study(25) , Margin of error 5%, 95% confidence interval, design effect of 1.5 and 10% non-response rate was considered.

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

$$n = \frac{(1.96)^2 \times 0.365(1-0.365)}{(0.05)^2}$$

$$= 356 \times 1.5 = 534$$

Adding non-response of 10%, the total sample size was 587.

For the second objective: the sample size was determined by using double population formula using Epi-info version 7 statical software, by considering factors that were significantly associated with the outcome variable with confidence level of 95%, margin of error 5% and power by 80%. Discussion with health professional about LARC, ever discussed LARC use with husband, ever use LARC were most common factors associated with utilization of LARC.

Table 1: Sample size determination to the second objective for the associated factor to assess utilization of long-acting reversible contraceptive among extended postpartum women in Debre-Libanose district, North Shewa, Oromia Region Ethiopia, 2023

Factor considered	Exposed group	Unexposed group	Total sample size	Reference
1. Discussion with health professional about LARC	30.6%	14.7%	218	Hosanna (25)
2. Ever discussed LARC use with husband	52.6%	26%	232	Harar (24)
3. Ever use LARC	27.5%	4.2%	168	Harar (24)

Therefore, the largest sample size is the one which is calculated for the first objective, so final sample size become **587.**

4.6 Sampling technique

Multi-stage sampling procedure was applied. Probability sampling technique was used at each stage. There are 17 districts in North Shewa Oromia region, Debre-libanose district was selected by simple random sampling method. Then there are 12 kebeles in Debre-libanose district which consists 10 rural kebeles. From this five rural kebele was selected by simple random sampling from ten rural kebeles. The HEWs of specific kebeles provided data that was used to calculate the number of postpartum mothers in each kebeles. Then the calculated sample size was allocated using proportional allocation to size for each selected kebeles based on total number of

postpartum women. Study subjects was selected from each kebeles using simple random sampling. If there are two mothers live in household only one mother was asked. Finally, a total of 587 extended postpartum mother were included by using systematic random sampling technique from the selected kebeles.

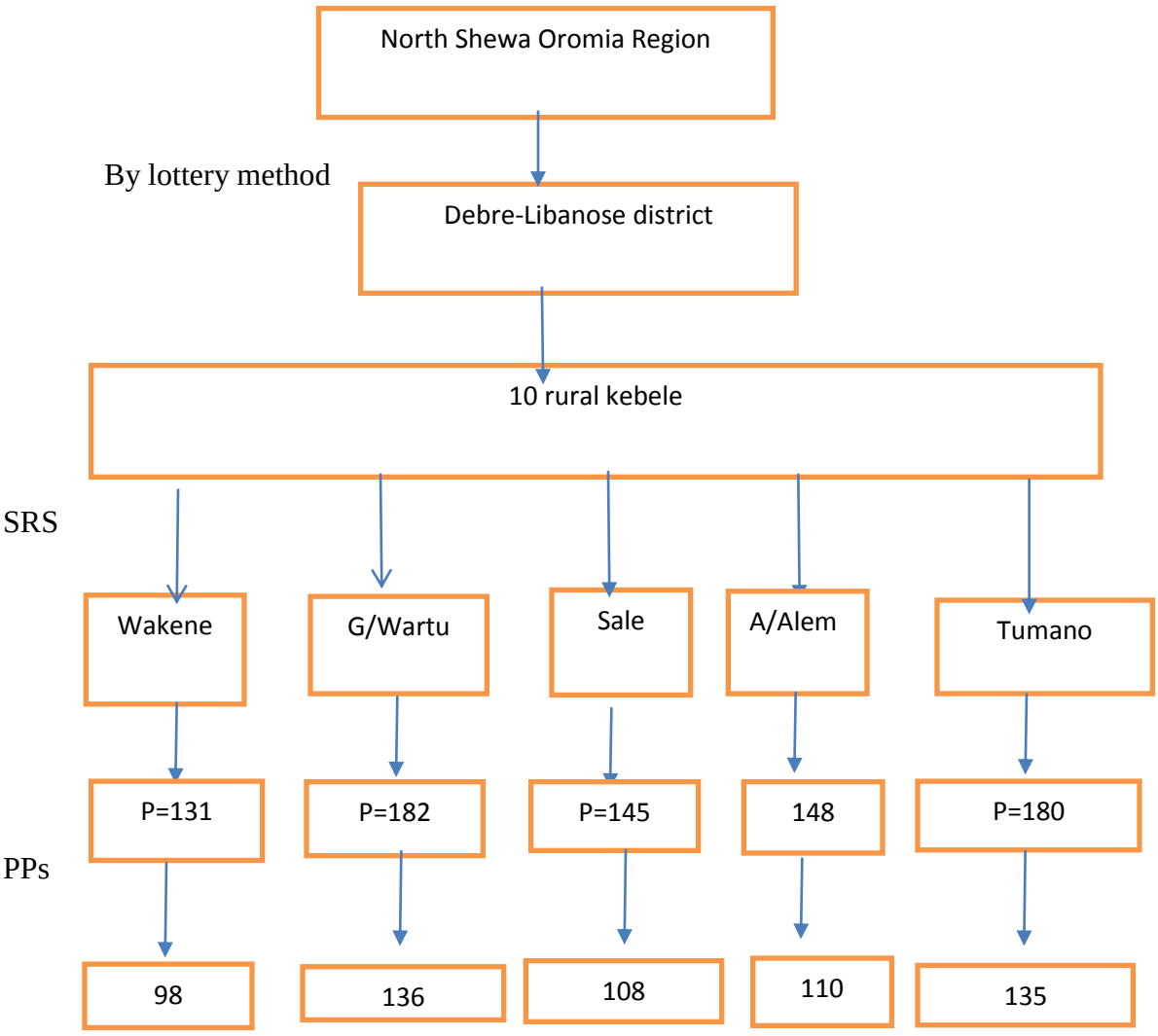

Figure 2: Sampling procedure of study participants for LARCs use in extended postpartum period among women study in Debre-Libanos district, 2023.

PPs- probability proportion sampling

SRS- simple random sampling

4.7 Variables

4.7.1 Dependent variable

Current utilization of long-acting reversible contraceptive methods

4.7.2 Independent variable

Socio-demographic variable

Age, Religion, Income, Maternal educational status, Husband educational status, Occupational status, Marital status and Media use

Knowledge and practice about LARC

Ever heard about LARC, ever used and counseled on LARC

Reproductive factors

Parity, Future fertility desire, Fertility initiation time, Antenatal care visit and Postnatal care visit.

4.8 Data collection methods

The data was collected using structured questionnaires which is prepared in English version and translated into Afan Oromo version to make it clear and then translated back to the English version for consistencies. It consists of thirty-nine questions with four section to assess socio-demographic characteristics, knowledge, reproductive health characteristics and utilization of LARC methods.

4.9 Data quality assurance

The data collection instrument was first pretested on sheraro kebele in order to check its relevance, completeness and clarity to answer the intended research question. It was done with 5% of the total sample size. Data was collected by five trained health extension workers working in selected kebele. The data collection was supervised by two public health officer who have prior data collection experience and communication skills. Training was provided over the course of two days on questionnaire content, interview technique, and ethical issues, with a focus on the importance of participation and interviewer safety as well as the reduction of

underreporting and maintaining confidentiality. Any difficulties and problems had been corrected prior to the actual data collection period. Additionally, the completeness, accuracy, and clarity of the collected data were checked by the principal investigator before they deployed to the field of next day. Any errors and incompleteness encountered were addressed on the following day before starting next day activities.

4.10 Data process and analysis

The collected data were entered into EPI data version 3.5.4 and exported to SPSS 25 version for analysis. Descriptive statistics were caried out to determine frequency, mean and standard deviation of the variables. Logistic regression statical modeling were used to identify associated factors. In bivariate logistic regression those variables with p-value less than 0.20 were included in multivariate logistic regression. Association between dependent and independent variables were assessed and its strength, direction and significance were presented using odds ratios and 95% confidence intervals and Multicollinearity diagnostic test were done for all independent variables before entered to multivariate analysis.

4.11 Ethical consideration

Ethical clearance letter to conduct this survey was obtained from School of Public Health Ethical Review Committee, College of health science Addis Ababa University, Formal letter was written to North Shewa zone Health Bureau and in turn, the permission letter was obtained from North Shewa zone health Bureau and Debre-Libanos health office. During the data collection, the objective of the study was explained for the study participants and informed verbal consent was obtained from participants. The respondents were also informed that the participation is voluntary and can decline any time during the interview. Participant's name was not mentioned in the questionnaire and the interview was conducted in a private place and confidentiality was maintained.

4.12 Operational Definition

Extended postpartum period: is the first 12 months after delivery.

Long-Acting reversible contraceptive methods: is a group of contraception methods which protects pregnancy from three years to twelve years that include implant and IUCD.

Prior use of LARCs: use of LARC contraceptive method currently or within 12 months after delivery.

4.13 Dissemination plan

The result of this study will be presented to School of Public Health, Department of Reproductive, Family and Population, Health College of Health Sciences, Addis Ababa University. The finding also disseminated to North show zone health Bureau. In addition, the findings will be presented in different seminars, meetings and workshops and publication in scientific journals will be considered to enable for wider access.

5. Result

5.1 Socio-demographic characteristics

A total of 569 were included in this study that makes a response rate of 96.9%. The age of the respondents was ranged from 16 to 45 years with the mean age of 28.79 (SD ± 5.36) years. The majority of respondents [225 (39.5%)] were between the age of 25 and 29 years. Most of the respondents were married 527(92.6%) and orthodox 564(99.1) religion followers. Majority of them, 477 (83.8%) were housewives and 277(39.9%) of the women were attended primary level of education. Nearly half 261 (49.2%) of respondent's husband were attended primary level of education.

Table 2: Socio-demographics characteristics of the women in extended postpartum period in Debre-Libanose district, North Shewa, Oromia, Ethiopia, 2023 (n=569)

Variables	Frequency	Percentage
Age of mothers (years)		
15-19	9	1.6%
20-24	116	20.4%
25-29	225	39.5%
30-34	109	19.2%
35 and above	110	19.3%
Ethnicity		
Oromo	530	93.1%
Amhara	39	6.9%
Marital status		
Married	527	92.6%
Others	42	7.4%

Religion		
Orthodox	564	99.1%
Muslim	5	0.9%
Educational status of mothers		
Unable to read and write	279	49.1%
Primary school	213	37.4%
Secondary school	66	11.6%
Higher level	11	1.9%
Educational status of husband (n=531)		
Unable to write and read	156	29.4%
Primary school	261	49.2%
Secondary school	88	16.6%
Higher level	26	4.9%
Occupation status of mother		
House wife	477	83.8%
Farmer	9	1.6%
Governmental employee	32	5.6%
Daily laborer	16	2.8%
Merchant	35	6.2%
Occupation status of husband (n=531)		
Farmer	378	71.2%
Governmental employee	56	10.5%
Daily laborer	27	5.1%
Merchant	70	13.2%

Average monthly income		
<1000 EBR	252	44.3%
1001-3000 EBR	179	31.4%
>3000EBR	138	24.3%
Media use		
Yes	450	79.1%
No	119	20.9%
Type of media use(n=450) describe		
Radio	439	97.6%
television	5	1.1%
social-media	10	2.2%

5.2 Obstetric related characteristics

Half of the respondents 286(51.3%) had three or more births. The median number of alive children was three per women. More than half 354(62.2%) of the mothers did want to have more children in the future. From intended to have more children 104(29.4%) want to give birth within 23 months after the current birth. Majority of the respondents 498 (87.5%) had attended ANC follow up during their current pregnancy. About 54.6% (487) of the respondents were attended antenatal visit at health center. More than two third 412 (72.4%) of the study respondents had attended postnatal care within 12 months after delivery.

Table 2: Obstetric related characteristics of the women in extended postpartum period in Debre-libanose district, North Shewa, Oromia, Ethiopia, 2023 (n=569)

Variables	Frequencies	Percentage
Parity		
1	97	17%
2-4	351	61.7%
5 and more	121	21.3%
Future child need		
Yes	354	62.2%
No	215	37.8%
Number of children want for the future (n=354)		
1	56	15.8%
2-4	290	81.9%
5 and more	8	2.3%
Fertility intention time		

(n=354) 0-23 months >23 months	 104 250	 29.4% 70.6%
ANC follow up during last pregnancy Yes No	 498 71	 87.5% 12.5%
Place of health facilities have visited for ANC (n=498) Health post Health center Hospital	 184 277 37	 36.9% 55.6% 7.4%
Attended PNC services after last delivery Yes No	 412 157	 72.4% 27.6%
Type of health facilities have visited for PNC (n=412) Health post Health center Hospital	 156 248 8	 37.9% 60.2% 1.9%

5.3 knowledge towards LARC methods

Most of the respondents 496 (87.2%) were ever heard about LARC methods. The main source of LARC information were 439 (88.5%) health extension workers. About 86.1% (490) of respondents had been counseled about LARC. From this more than half 62.6% (307) of the respondents were counseled during PNC services.

Table 3: knowledge of LARC among women in extended postpartum period in Debre-libanose district, North Shewa, Oromia, Ethiopia, 2023 (n=569)

Variable	Frequency	Percentage
Ever heard about LARC		
Yes	496	87.2%
No	73	12.8%
Counsel on LARC		
Yes	490	86.1%
No	79	13.9%
First time Counseling service on LARC (n=490)		
At ANC services	93	19%
During labor and delivery time	90	18.4%
At PNC services	307	62.6%
Source of information on LARC (n=496)		
Health extension workers	439	88.5%
Radio or television	31	6.3%
Family or friend	26	5.2%

5.4 Long-acting reversible contraceptive method use

Long-acting reversible contraceptive method was used by 168 (29.5%; CI:(1.67-1.74)) of women in extended postpartum period. Most of them were used implant 141(83.9%) followed by IUCD 27(16.1%). Eighty-three (49.4%) of respondents started to use LARC between six weeks up to twelve months after delivery. Among the current LARC users, half of 109(64.9%) of the respondents used for limiting number of their children while 59(35.1%) of them used for birth spacing. From 531respondents 51% of respondents discussed with their husband on LARC use. Ninety-one (35.7%) of the respondents stated that cultural belief was common reason for not using LARC followed by fear of side effects.

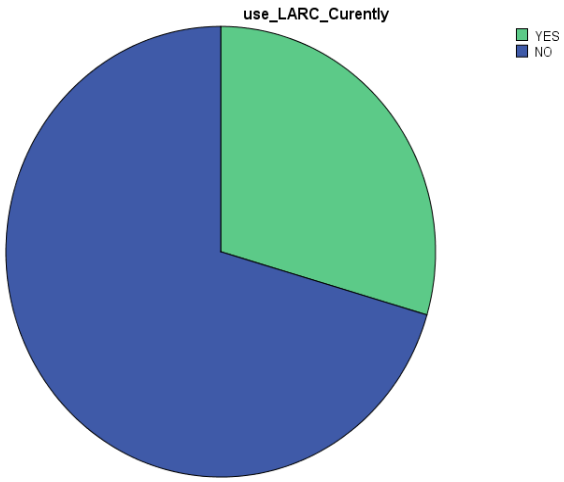

Figure 3: utilization of LARC during extended postpartum period in Debre-libanose district, North Shewa, Oromia, Ethiopia, 2023 (n=569)

5.5 Factor associated with LARC use

In bivariate logistic regression analysis, occupational and educational status of mothers, intention to have more children, ever counselling on LARC, Attended PNC services after last delivery, previous use of LARC and having discussion about LARC with husband were associated with use of LARC. During the multivariate stage of this analysis, gravida and place of last birth were dropped due to multicollinearity as it was highly correlated with parity and attended PNC services.

In multivariate logistic regression educational status of mother, occupational status of mother, ever heard about LARC, attended PNC, ever discuss with husband and previous use of LARC were significantly associated with use of LARC. Women in extended postpartum period who previously used LARC were 6 times more likely to use LARC compared with those who did not use previously (AOR=6.9; CI: 4.30-11.37). Women who had discussion about LARC use with their husband were 3 times more likely to use LARC compared to their counter parts (AOR=3.057; CI: 1.88- 4.98).

Women who had attend PNC during 12 months after delivery were 2 times more likely to use LARC compared to who did not have (AOR=2.347; CI: 1.29- 4.26) such visits. Women who had completed secondary and above level of education were 5 times more likely to use LARC compared to others (AOR= 5.801; 95%CI: 2.86- 11.78). women who were employees 6 times use LARC compare to housewife's (AOR= 6.047; 95%CI: 3.15-11.61).

Table 4: bivariate and multivariate logistic regression of factor associated with LARC method use among women in extended postpartum period in Debre-libanose district, North Shewa, Oromia, Ethiopia, 2023 (n=569)

Variables	LARC Use			
	Yes	No	COR (95%CI)	AOR (95%CI)
Occupation status of mother				
Employee	59(71.1%)	24(28.9%)	8.399(4.990- 14.138)	6.047(3.149-11.612) *
Farmer	1(11.1%)	8(88.9%)	0.427(0.053- 3.453)	0.312(0.031- 3.178)
House wife	108(22.6%)	369(77.4%)	1	
Educational status of mothers				
Primary school	67(31.5%)	146(68.5%)	1.8689(1.237- 2.825)	2.106(1.254- 3.537)
Secondary and Higher level	46(59.7%)	31(40.3%)	6.043(3.513- 10.398)	5.801(2.856- 11.783) *
Unable to write and read	55(19.7%)	224(80.3%)	1	
Media use				
Yes	172(83.1%)	278(76.8%)	1.387(0.872-2.206)	1.164(0.588-2.304)
No	35(16.9%)	84(23.2%)	1	
Future child need				
0	64(29.8%)	151(70.2%)	0.377(0.139-1.020)	0.366(0.098-1.373)
1-3	95(28.2%)	242(71.8%)	0.349(0.131-0.931)	0.425(0.117-1.539)
4 and more	9(52.9%)	8(47.1%)	1	
Ever heard about LARC				

Yes No	152(30.6%) 16(21.9%)	344(69.4%) 57(78.1%)	1.574(0.876-2.830) 1	0.591(0.156-2.243)
Ever Counsel on LARC Yes No	189(91.3%) 18(8.7%)	301(83.1%) 61(16.9%)	2.128(1.22-3.712) 1	1.823(0.490-6.783)
Attended ANC services during last pregnancy Yes No	154(30.9%) 14(19.7%)	344(69.1%) 57(80.3%)	1.823(0.986-3.370) 1	1.425(0.636-3.195)
Attended PNC services after last delivery Yes No	143(34.7%) 25(15.9%)	269(65.3%) 132(84.1%)	2.807(1.749-4.505) 1	2.347(1.294- 4.257) *
Previous use of LARC Yes No	104(63.4%) 64(15.8%)	60(36.6%) 341(84.2%)	9.235(6.098-13.986) 1	6.994(4.303- 11.367) *
Discussed LARC use with husband Yes No	126(43.4%) 42(15.1%)	164(56.6%) 237(84.9%)	4.335(2.900-6.480) 1	3.057(1.876- 4.980) *
*p<0.05				

6. Discussion

This community based cross-sectional study aimed to assess utilization of long-acting reversible contraceptive among women during extended postpartum period in Debre-Libanos district of North Shewa zone, Oromia region, Ethiopia. Educational and occupational status of mother, attended PNC services, previous use of LARC and discussion LARC use with husband were significantly associated with current use of LARC.

This study found that, the prevalence of LARC use was 29.5% during extended postpartum period. This finding was inconsistent with that of prior studies conducted in Ethiopia. It was lower than studies conducted in jimma town (53%), Durame town (36.5%), and Hosana town (36.7%) (36,22,25). However, it was higher than a study conducted in Arba-minch (22.6%) and Haramaya district (7.3%) (23,26). It is mainly due to difference in study participants like Socio-demographic and access to information about family planning.

Secondary education and above were significantly associated with increased use of LARC during extended postpartum period. Similar finding was found in the study conducted in Durame, rural Kenya and Uganda (22,27,39). This could be due to the fact that educated women had an access to the information about side effect, advantage and disadvantage of LARC methods, and also it enabled them to make decision and use contraceptive effectively. Therefore, educating women has a great role for utilizing contraceptive. But the study done in Ghana, women who cannot read and write were more likely to use LARC methods. It was mainly due to literate women knew about the side effect of LARC compare to illiterate. (43)

Employed women were significantly associated with increased use LARC compared to farmer and housewife. This finding was in line with studies conducted in Arise Negele and Adigrat town (41,42). This Implies that women's economic empowerment has a great role on utilizing contraceptive and also most of employed women were educated so they have better understanding about the LARC. So empowering women in economically has importance.

This could be explained as the women who were employed had an access to get information about positive outcome LARC and service.

according to our finding a woman who had attended PNC associated with use of LARC in extended postpartum period. This result is supported by other studies conducted in Haramaya

district and Arba-minch town (26,23). This indicates during postnatal service a women counseled about LARC. So, the responsible stakeholder should strengthen the postnatal service and counseling about contraceptive. The possible reason was women who had counseled during PNC might have a chance to choose LARC based on the available options discussed.

The study revealed that previous use of LARC was significantly associated with extended postpartum LARC current use. The result of the study done in Durame town, Hosana town, Hararge zone and Uganda are consistent with this finding (22,25,24,39). Women who had previous experience in the use of LARC might have better understanding about the type and advantage of LARC that helped them to decide easily on their choice.

This study also found that women who had discussion of LARC use with their husband were more likely to use LARC. This result was in line with a study conducted in Hararge zone (24). This might be related with the role of the husband in decision making and supported the woman choice. This implies that it also needs giving awareness not only women's but also their husband about the importance of LARC.

7. Strength and limitation of the study

7.1 Strength

This study was a community-based study that helps to collect the data from direct beneficiaries.

The data collector were female health extension workers, local language speaker and know the participants socio-cultural beliefs so it is highly beneficial to get the relevant data.

7.2 Limitation

The study design was cross-sectional, cause and effect relationship were not identified.

8. Conclusion and recommendation

8.1 Conclusion

The study concludes that prevalence of LARC use was low in Debre-libanose district, North Shewa Oromia region compared to other study done but better compared to national coverage this might be due to sample size. Secondary education and above, employed mothers, previous use of LARC, discussion with husband about LARC, and attended PNC had significant association with use of LARC.

8.2 Recommendation

To Debre-libanose district

- Increase access to education in remote location
- Promotion of postpartum care services to all mothers that have a contribution to access information during extended postpartum period
- Creating awareness among partners about potential advantage of LARC use

To other researchers

- It uses as baseline for others researcher.

9. Reference

1. BREMNER J. Understanding population projections: assumptions behind the numbers. Population Reference Bureau. 2014 Jun.
2. United Nations. Department of Economic and Social Affairs. Population Division. Contraceptive use by method 2019 : data booklet. 25 p.
3. World Health Organization. World health statistics overview 2019: monitoring health for the SDGs, sustainable development goals. World Health Organization; 2019.
4. World Health Organization. Report of a WHO technical consultation on birth spacing: Geneva, Switzerland 13-15 June 2005.
5. Health G. ISSUE BRIEF on Long-Acting and Permanent Methods of Contraception: Meeting Clients' Needs Cost of Long-Acting and Permanent Contraception the Need for Long-Acting and Permanent Methods of Contraception in Africa. 2006; Available from: www.usaid.gov
6. World Health Organization. WHO recommendations on postnatal care of the mother and newborn. World Health Organization; 2014.
7. Tawfeek RS, Khaleel HA, Mustafa ZM. Spacing Effects on Maternal-Child Health. A Hospital Based Study at Tikrit Teaching Hospital. Tikrit Medical Journal. 2011 Dec 1;17(2):1-6.
8. Tariku M, Legesse B, Tantu T, Duko B. Uptake of Immediate Postpartum LARCs and Associated Factors among Mothers Who Gave Birth at Hawassa University Comprehensive Specialized Hospital, Hawassa, Ethiopia. International Journal of Reproductive Medicine. 2022 Jul 7;2022.
9. EDHS. Ethiopia Mini - demographic and Health Surveys. Ethiopia 2019.
10. Gejo NG, Anshebo AA, Dinsa LH. Postpartum modern contraceptive use and associated factors in Hossana town. PloS one. 2019 May 22;14(5):e0217167.
11. World Health Organization. Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division: executive summary. World Health Organization (2019).
12. World Health Organization. Family planning method.2020

13. Connolly A, Thorp J, Pahel L. Effects of pregnancy and childbirth on postpartum sexual function: a longitudinal prospective study. International Urogynecology Journal. 2005 Aug;16:263-7.

14. Oduyebo T, Zapata LB, Boutot ME, Tepper NK, Curtis KM, D'Angelo DV, Marchbanks PA, Whiteman MK. Factors associated with postpartum use of long-acting reversible contraception. American journal of obstetrics and gynecology. 2019 Jul 1;221(1):43-e1.

15. Stoddard A, McNicholas C, Peipert JF. Efficacy and safety of long-acting reversible contraception. Drugs. 2011 May; 71:969-80.

16. Ross JA, Winfrey WL. Contraceptive use, intention to use and unmet need during the extended postpartum period. International family planning perspectives. 2001 Mar 1:20-7.

17. United states agency for international development. Family Planning Needs during the First Two Years Postpartum in the Ethiopia.2011.

18. Dockalova B, Lau K, Barclay H, Marshall A. Sustainable development goals and family planning 2020. International Planned Parenthood Federation. London. 2016 Jun.

19. United Nations Department of Economic and Social Affairs PD. World Fertility and Family Planning 2020: Highlights (ST/ESA/SER. A/440).

20. United Nations Department of Economic and Social Affairs PD. World Fertility and Family Planning 2020: Highlights (ST/ESA/SER. A/440).

21. Bolarinwa OA, Nwagbara UI, Okyere J, Ahinkorah BO, Seidu AA, Ameyaw EK, Igharo V. Prevalence and predictors of long-acting reversible contraceptive use among sexually active women in 26 sub-Saharan African countries. International health. 2022 Sep;14(5):492-500.

22. Tamrie YE, Hanna EG, Argaw MD. Determinants of long-acting reversible contraception method use among mothers in extended postpartum period, Durame Town, Southern Ethiopia: a cross sectional community-based survey. Health. 2015;7(10):1315.

23. Mesfin Y, Wallelign A. Long-acting reversible contraception utilization and associated factors among women in extended postpartum period in southern Ethiopia. Archives of Public Health. 2021 Dec;79(1):1-7.

24. Negash D, Dheresa D. long-acting reversible contraceptives use and associated factors among extended postpartum women attending public hospitals in east Hararge zone, eastern Ethiopia (Doctoral dissertation, Haramaya university). 2020

25. Woldu BF, Ermolo TL, Lemu LG, Gejo NG. Long-acting reversible contraception utilization and associated factors among women in extended postpartum period in Hossana town, southern Ethiopia: cross sectional study. Contraception and reproductive medicine. 2020 Dec;5(1):1-6.

26. Aliyi A. Long Acting Reversible Contraceptive Use and Associated Factors Among Extended Postpartum Mothers in Haramaya District, Eastern Ethiopia (Thesis): Haramaya university; 2017.

27. Orwa J, Gatimu SM, Ngugi A, Agwanda A, Temmerman M. Factors associated with use of long-acting reversible and permanent contraceptives among married women in rural Kenya: A community-based cross-sectional study in Kisii and Kilifi counties. Plos one. 2022 Oct 6;17(10):e0275575.

28. Kikula AI, Moshiro C, Makoko N, Park E, Pembe AB. Low Use of Long-Acting Reversible Contraceptives in Tanzania: Evidence from the Tanzania Demographic and Health Survey. International Journal of Environmental Research and Public Health. 2022 Apr 1;19(7):4206.

29. Mare KU, Abrha E, Mohammed Yesuf E, Birara Aychiluhm S, Tadesse AW, Leyto SM, Sabo KG, Mulaw GF, Mohammed OA, Ebrahim OA. Factors affecting utilization of long-acting reversible contraceptives among sexually active reproductive-age women in the pastoral community of Northeast Ethiopia: a community-based cross-sectional study. Women's Health. 2022 Aug;18:17455057221116514.

30. Gujo AB, Kare AP. Utilization of long-acting reversible contraceptives and associated factors among reproductive age women attending governmental health institutions for family planning services in Wondo Genet District, Sidama, National Regional State, Southern Ethiopia. Health services research and managerial epidemiology. 2021 Mar 16;8:23333928211002401.

31. Aduloju OP, Akintayo AA, Adefisan AS, Aduloju T. Utilization of Long-Acting Reversible Contraceptive (LARC) Methods in a tertiary hospital in southwestern Nigeria: A Mixed Methods Study. The Journal of Obstetrics and Gynecology of India. 2021 Apr;71:173-80.

32. Meskele M, Mekonnen W. Factors affecting women's intention to use long acting and permanent contraceptive methods in Wolaita Zone, Southern Ethiopia: A cross-sectional study. BMC women's health. 2014 Dec;14:1-9.

33. Fekadu H, Kumera A, Yesuf EA, Hussien G, Tafa M. Prevalence and determinant factors of long acting contraceptive utilization among married women of reproductive age in Adaba Town, West Arsi Zone, Oromia, Ethiopia. Journal of Women's Health Care. 2017;6(1):2167-0420.

34. Tebeje B, Workneh D. Prevalence, perceptions and factors contributing to long acting reversible contraception use among family planning clients, Jimma Town, Oromiya Region, South-West Ethiopia. Journal of Women's Health Care. 2017;6:1-0.

35. Shiferaw K, Musa A. Assessment of utilization of long acting reversible contraceptive and associated factors among women of reproductive age in Harar City, Ethiopia. Pan African medical journal. 2017;28(1).

36. Arero WD, Teka WG, Hebo HJ, Woyo T, Amare B. Prevalence of long-acting reversible contraceptive methods utilization and associated factors among counseled mothers in immediate postpartum period at Jimma University medical center, Ethiopia. Contraception and Reproductive Medicine. 2022 Sep 2;7(1):17.

37. Abera Y, Mengesha ZB, Tessema GA. Postpartum contraceptive use in Gondar town, Northwest Ethiopia: a community based cross-sectional study. BMC women's health. 2015 Dec;15(1):1-8.

38. Qian J, Wood S, Dozier J, Amogne A, Desta S, Ejigu B, et al. PMA Ethiopia One-Year Postpartum Maternal and Newborn Health Technical Report, 2019-2021 Cohort: One-Year Postpartum Data Collected on Women's Sexual and Reproductive Health, Postnatal Care, and Child Health Executive Summary Background and Objective.

39. Anguzu R, Tweheyo R, Sekandi JN, Zalwango V, Muhumuza C, Tusiime S, Serwadda D. Knowledge and attitudes towards use of long acting reversible contraceptives among women of reproductive age in Lubaga division, Kampala district, Uganda. BMC research notes. 2014 Dec;7:1-9.

40. Mesfin Yesgat Y, Gultie Ketema T, Abebe Dessalegn S, Wallelign Bayabil A, Argaw Enyew M, Habte Dagnaw E. Extended post-partum modern contraceptive utilization and associated factors among women in Arba Minch town, Southern Ethiopia. Plos one. 2022 Mar 16;17(3):e0265163.

41. Hibstu DT, Alemayehu A. Long acting reversible contraceptives utilization and associated factors among women of reproductive age in Arsi Negele town, Southeastern Ethiopia. Contraception and Reproductive Medicine. 2020 Dec;5(1):1-7.

42. Melka AS, Tekelab T, Wirtu D. Determinants of long acting and permanent contraceptive methods utilization among married women of reproductive age groups in western Ethiopia: a cross-sectional study. Pan African Medical Journal. 2015;22(1).

43. Dassah ET, Odoi AT, Owusu-Asubonteng G. Prevalence and factors predictive of long-acting reversible contraceptive use in a tertiary hospital in urban Ghana. The European Journal of Contraception & Reproductive Health Care. 2013 Aug 1;18(4):293-9.

44. Federal Democratic Republic Of Ethiopia Ministry Of Health.

45. Bocanegra HT, Chang R, Howell M, Darney P. Interpregnancy intervals: impact of postpartum contraceptive effectiveness and coverage. American journal of obstetrics and gynecology. 2014 Apr 1;210(4):311-e1.

46. Tulu AS, Gebremariam T. Utilization of reversible long acting contraceptive methods and associated factors among women getting family planning service in governmental health institutions of Gondar city administration, Northwest Ethiopia. Int J Health Sci Res. 2018 Feb;8(2):178-87.

47. Zapata LB, Murtaza S, Whiteman MK, Jamieson DJ, Robbins CL, Marchbanks PA, D'Angelo DV, Curtis KM. Contraceptive counseling and postpartum contraceptive use. American journal of obstetrics and gynecology. 2015 Feb 1;212(2):171-e1.

48. World Population Prospects 2022 World Population Prospects 2022 Summary of Results.

49. Debre-Libanos District Health Office report, 2022

9. ANNEXES

Annex I: English version Information Sheet

Introduction

Hello, my name is ----------. I am working as data collector for the study conducted in long-acting reversible contraceptive method in extended postpartum period by Salsawit Derbe (BSc in public health), who is studying her master's degree at Addis Ababa University, College of Health Sciences, School of public health, department of Reproductive, Family and Population Health. I kindly request you to lend me your attention to explain you about the study and being selected as the study participant.

Purpose

The main aim of the study is to assess utilization of long-acting reversible contraceptive among women during extended postpartum period in Debre-Libanos district of North show zone, Oromia region, Ethiopia. Additionally, the result of study will improve programme planners and health centers to increase utilization of these methods.

Procedure and duration

First of all, you were selected by lottery method. I will be interviewing you using a questionnaire to provide me with pertinent data about long-acting reversible contraceptive in extended postpartum period that is helpful for the study. There are about 37 questions to answer where I will fill the questionnaire by interviewing you. The interview will take about 20-30 minutes, so I kindly request you to spare me this time for the interview.

Risks

The risks of being participating in this study are very minimal, but only taking few minutes from your time. Other than this the interview will not cause any physical and psychological harm on you and your family.

Benefit

There would not be any direct payment for participating in this study. But the findings from this research may reveal important information for the local health planners to improve utilization of these method.

Confidentiality

The information that you provide us will be confidential. There will be no information that will identify you. The findings of the study will be general for the study population and will not reflect anything particular of individual persons or housing. The questioner will be coded to exclude showing names; no references will be made in oral reports that could link participants to the research.

Rights

Participation in this study is fully voluntary. You have the right to declare for your family and community to participate in this study. You may refuse to answer any question or choose to stop the interview at any time. However, we hope you will answer the questions, which will benefit for the study.

Contact address

If there are any questions or enquires about the study, please contact and speak to principal investigator any time.

Name: Salsawit Derbe

Phone number: 09 11171500 or 09 67327182 and

Email: salsawit01@gmail.com

Annex II: English version Consent form

I have read (was read to me) the participant information sheet. I have clearly understood the purpose of the research, the procedure, risks and benefits, issues of confidentiality, rights of participating and contact address for any queries. I have given the opportunity to ask questions for things that may have been unclear. I was informed that I have the right to withdraw from the study at any time or not to answer any question that I do not want. Therefore, I declare my voluntary consent to participate in this study with my initials (signature) as indicated below. Interviewer's name and signature _____date _____/_____/2015

May I begin the interview? Yes ☐ No ☐

Socio-demographic			
	Questions	Response	Skip
1.1	Age	In years ----------	
1.2	Ethnicity	a) Oromo b) Amhara c) Tigray d) Other, specify--------	
1.3	Marital status	a) Single b) Married c) Divorced d) Widowed e) Separated	
1.4	Religion	a) Orthodox b) Protestant c) Muslim d) Other, specify ----------	
1.5	Education status of mother	a) Unable to write and read b) Primary school c) Secondary school d) Higher level	

1.6	Husband educational status	a) Unable to write and read b) Primary school c) Secondary school d) Higher level	
1.7	Occupation of mother	a) House wife b) Farmer c) Governmental employed d) Daily laborer e) Merchant f) Other, specify--------	
1.8	Occupation of husband	a) Farmer b) Governmental employed c) Daily laborer d) Merchant e) Other, specify--------	
1.9	Average monthly income	--------	
2.0	Do you use any media?	a) Yes b) No	If no, go to Q#2.2
2.1	If question #2.0 is yes, what type of mass media do you use currently?	a) Radio b) Television c) Social-media d) Other, specify ----------	
Knowledge related question			
2.2	Have you ever heard of about LARC method?	a) Yes b) No	If no, go to Q#2.9
2.3	If Q# 2.2 is yes, which types of LARC do you heard?	a) Implant b) IUCD	
2.4	From where do you get the information?	a) Health workers b) Radio/ television	

		c) Family/ friend d) Other, specify	
2.5	Have you ever counseled about LARC method in health facility you visited?	a) Yes b) No	If no, go to Q#2.7
2.6	At what services point did you counsel?	a) ANC services b) During labor and delivery time c) PNC service	
Obstetric related characteristics			
2.7	Number of pregnancy? (gravida)	----------	
2.8	How many children have you given birth? (parity)	----------	
2.9	Total number of alive children?	----------	
3.0	Do you want to have more children?	a) Yes b) No	If no, go to Q#3.3
3.1	How many children do you want to have in the future?	----------	
3.2	For how long do you want to space the next pregnancy?	a) Between 0-23 months b) >23 months	
3.3	Have you ever attended ANC follow up during your last pregnancy at health facility?	a) Yes b) No	If no, go to Q#3.5
3.4	Which type of health facilities have	a) Health post	

	you visited?	b) Health center c) Hospital d) Private clinic	
3.5	Where did you give birth of your last pregnancy?	a) Health post b) Health center c) Hospital d) Private clinic e) Home	
3.6	Have you ever visited health facility within 12 months after your last delivery?	a) Yes b) No	If no, go to Q#3.9
3.7	Which type of health facilities have you visited?	a) Health post b) Health center c) Hospital d) Private clinic	
Utilization of LARC methods			
3.8	Have you ever used long-acting FP methods before your last pregnancy?	a) Yes b) No	If no, go to Q#4.0
3.9	If Q#4.0 is yes, which type of long-acting FP method?	a) Implant b) IUCD	
4.0	Have you ever discussed on utilization of LARC methods with your husband? (For married women)	a) Yes b) No	
4.1	Are you currently using long-acting FP methods?	a) Yes b) No	If no, go to Q#4.5
4.2	If Q#4.2 is yes, which type of long-acting FP methods do you use now?	a) Implant b) IUCD	
4.3	When do you star to use long-acting	a) First ten minutes after delivery of	

	FP methods?	placenta b) First seven days after delivery c) One to six weeks after delivery d) Six weeks to twelve months after delivery	
4.4	For what purpose do you use LARC methods?	a) Birth spacing b) Limiting number of children	
4.5	Do you want to use long-acting FP methods in the future?	a) Yes b) No	If no, go to Q#4.7
4.6	If yes Q#4.5 which type of long-acting FP methods want to use in the future?	a) Implant b) IUCD	
4.7	If no Q# 4.5Reason for not using LARC?	a) Fear of side effect b) Lack of information c) Preferred methods are not available d) Spousal disapproval e) Cultural belief f) Other, specify	

Dabalata I: Afaan oromifa Waraqaa Odeeffannoo

Seensa

Duraan dursee nagaan koo haaga'u kabajamtoota koo akkam jirtu, maqaan koo--------jedhama. Barattuu yuunivaarsiitii Addiis Ababaa kolleejjii saayinsii Fayyaa kutaa Walhormaataa, maatii fi Ummataa kan taateef Saalsaawit Daribee digrii lammaffaa tumuruuf qorannoo 'mala ittisa ulfaa duubatti danda'u da'uumsaa boodaa' irratti ta'a. Kaayyoon qoranichaa digrii lammaffaa xumuruuf qofa kan tajaajilu yommuu ta'u xiyyeeffannoo keessan yeroo muraasaaf akka naa laattan kabajaan isiin gaafadha.

Dhimma

Kaayyoon qorannichaa inni guddaan Itoophiyaa naannoo Oromiyaa, zoonii agarsiisa Kaabaa aanaa Debre-Libanos keessatti yeroo dahumsa boodaa yeroo dheeraa dubartoota biratti itti fayyadama qoricha ulfa ittisuu yeroo dheeraa kan duubatti deebi'uu danda'u madaaluudha. Dabalataanis, bu'aan qo'annoo karoora sagantaa fi buufataalee fayyaa fooyyessuudhaan itti fayyadama maloota kanneenii akka dabalu ni taasisa.

Hojimaataa fi yeroo turtii

Duraan dursee mala lootariitiin filatamte. Waa'ee qoricha ulfa ittisuu yeroo dheeraa da'umsa boodaa duubatti deebi'uu danda'u yeroo dheeraa da'umsa boodaa keessatti imala barbaachisaa ta'e kan qorannichaaf gargaaru naaf kennuudhaaf gaaffilee fayyadamuun isin gaafachuuf jira. Gaaffilee gara 37 ta'an deebisuuf jiru bakka ani gaaffii fi deebii isiniif godheen guuta. Gaaffii fi deebii gara daqiiqaa 20-30 waan fudhatuuf yeroo kana gaaffii fi deebii kanaaf akka na qusattan kabajaan isin gaafadha.

Balaawwan

Balaan qorannoo kana irratti hirmaachuu baayyee xiqqaadha, garuu yeroo keessan irraa daqiiqaa muraasa qofa fudhachuudha. Kanaan alatti gaaffiifi deebiin sun miidhaa qaamaa fi xiinsammuu siifi maatii kee irratti hin geessisu.

Bu'aa

Qorannoon kana irratti hirmaachuuf kaffaltiin kallattiin hin jiraatu ture. Garuu argannoon qorannoo kanarraa argame itti fayyadama mala kanaa fooyyessuuf karoora fayyaa naannoo sanaaf odeeffannoo barbaachisaa ta'e mul'isuu danda'a.

Iccitii eeguu

Odeeffannoon isin nuuf kennitan iccitii ta'a. Odeeffannoon eenyummaa isin baasu hin jiraatu. Argannoon qorannichaa ummata qorannichaaf waliigalaa kan ta'u yoo ta'u, namoota dhuunfaa ykn mana jireenyaa adda ta'e kan hin calaqqisiifne ta'a. Gaaffii gaafataan maqaa agarsiisu akka hin daballeef koodii ni kennama; gabaasa afaaniin hirmaattoota qorannicha waliin walqabsiisuu danda'u keessatti eeruun hin kennamu.

Mirga

Qorannoon kun hirmaannaan guutummaatti fedhii ofiitiin kan raawwatamudha. Maatiin kee fi hawaasni kee qorannoo kana irratti akka hirmaatan labsuuf mirga qabda. Gaaffii kamiyyuu deebisuu diduu ykn yeroo barbaaddetti gaaffii fi deebii dhaabuu filachuu dandeessa. Haata'u malee, gaaffilee qorannichaaf faayidaa akka qabaataniif deebii akka kennitan abdii qabna.

Teessoo quunnamtii

Waa'ee qorannichaa gaaffiin ykn gaaffiin yoo jiraate, maaloo yeroo barbaaddanitti qorataa muummee qunnamaa fi haasa'aa.

Maqaa: Salsawit Derbee

Lakkoofsi bilbilaa: 09 11171500 ykn 09 67327182 fi

Imeelii: Salsawit02@gmail.com irratti ergaa

Dabalata II: Afaan oromoifa Waraqaa Odeeffannoo

Waraqaa odeeffannoo hirmaattotaa dubbiseera (naaf dubbifameera). Kaayyoo qorannichaa, hojimaata, balaa fi faayidaa, dhimmoota iccitii, mirga hirmaachuu fi teessoo quunnamtii gaaffii kamiifuu sirriitti hubadheera. Wantoota ifa hin taane ta'uu danda'aniif gaaffii akkan gaafadhu carraa kenneera. Mirga ofirraa baasuu akkan qabu naaf himame yeroo barbaadetti qo'achuus ta'e gaaffii ani hin barbaanne kamiyyuu deebisuuf. Kanaafuu, qorannoo kana irratti hirmaachuuf fedhii kootiin akka armaan gaditti ibsametti qubee jalqabaa (mallattoo) kootiin nan ibsa.

Maqaa fi mallattoo gaafataa_____ Guyya _____/_____/2015

Gaaffii fi deebii jalqabuu nan danda'aa? Eeyyee ☐ Lakki ☐

Hawaas-dimoogiraafii			
	Darbuu	Deebii	Gaaffiiwwan
1.1	Umurii Waggaa keessatti		
1.2	Sabummaa	a) Oromoo b) Amaaraa c) Tigraay d) Kan biroo, ibsi---------	
1.3	Haala gaa'elaa	a) Tokkicha b) Fuudhaa fi heeruma c) Kan gaa'ela godhate d) Dubartii abbaan manaa irraa du'e e) Addaan bahuu	
1.4	Amantaa	a) Ortodoksii b) Pirootestaantii c) Muslima d) Kan biroo, ----------ibsi.	
1.5	Haala barnootaa haadha	a) Barreessuu fi dubbisuu dadhabuu b) Mana barumsaa sadarkaa tokkoffaa c) Mana barumsaa sadarkaa lammaffaa	

		d) Sadarkaa olaanaa	
1.6	Haala barnoota abbaa warraa	a) Barreessuu fi dubbisuu dadhabuu b) Mana barumsaa sadarkaa tokkoffaa c) Mana barumsaa sadarkaa lammaffaa d) Sadarkaa olaanaa	
1.7	Hojii haadha	a) haadha manaa b) Qonnaan bulaa c)Qaxara mootummaa d) Hojjetaa guyyaa guyyaa e) Daldalaa e) Kan biroo, ibsi---------	
1.8	Hojii abbaa warraa	a) Qonnaan bulaa b) Qaxara mootummaa c) Hojjetaa guyyaa guyyaa d) Daldalaa e) Kan biroo, ibsi---------	
1.9	Galii ji'aa giddu galeessaa	a) Galii gadi aanaa (<=1000). b) Galii giddu galeessaa (1001-3000). c) Galii olaanaa (>3000).	
2.0	Miidiyaa kamiyyuu fayyadamtuu?	a) Eeyyee b) Lakk	Yoo lakki ta'e gara G#2.2 deemaa

2.1	Gaaffiin #2.0 eeyyee yoo ta’e, yeroo ammaa kana miidiyaa hawaasaa gosa akkamii fayyadamtu?	a) Hojjetoota fayyaa b) Raadiyoo c) Televijiinii d) Miidiyaa-hawaasummaa e) Kan biroo, ibsi ---------	
Gaaffii beekumsaan walqabatu			
2.2	Waa'ee mala qoricha ulfa ittisuu yeroo dheeraaf hojjetu kan duubatti deebi’uu danda’udhageessanii beektuu?	a) Eeyyee b) Lakk	Yoo lakki ta’e gara G#2.9 deemaa
2.3	Yoo Q# 2.2 eeyyee ta’e, gosoota qoricha ulfa ittisuu yeroo dheeraaf hojjetu kan duubatti deebi’uu danda’ukam dhageessanii?	a) Implant gochuu b) IUCD c) Lamaanuu	
2.4	Odeeffannoo eessaa argattu?	a) Hojjetoota fayyaa b) Raadiyoo/ televijiinii c) Maatii/ hiriyyaa d) Kan biroo, ibsi	
2.5	Dhaabbata fayyaa daawwattan keessatti waa’ee mala qoricha ulfa ittisuu yeroo dheeraaf hojjetu kan duubatti deebi’uu danda’ugorsitanii beektuu?	a) Eeyyee b) Lakk	Yoo lakki ta’e gara G#2.7 deemaa

2.6	Bakka tajaajilaa kamitti gorsite?	a) Tajaajila ANC b) Yeroo dahumsaa fi da'umsaa c) Tajaajila PNC	
2.7	Waa'ee maloota qoricha ulfa ittisuu yeroo dheeraaf hojjetu kan duubatti deebi'uu danda'ufaayidaa akkamii beektu?	a) Adda fageenya dhalootaa b) Lakkoofsa daa'immanii daangeessuu c) Ani hin beeku d) Kan biroo, adda ta'e ----------	
2.8	Itti fayyadama mala qoricha ulfa ittisuu yeroo dheeraaf hojjetu kan duubatti deebi'uu danda'uirratti abbaa warraa keessan waliin mari'attanii beektuu? (Dubartoota fuudhaniif)	a) Eeyyee b) Lakk	
Amaloota fayyaa walhormaataa			
2.9	Ijoollee meeqa deesse? (walqixxummaa)		
3.0	Lakkoofsa waliigalaa ijoollee lubbuun jiran?		
3.1	Ijoollee dabalataa godhachuu barbaaddaa?	a) Eeyyee	Yoo lakki ta'e gara G#3.5 deemaa

		b) Lakk	
3.2	Gara fuulduraatti ijoollee meeqa godhachuu barbaadda?		
3.3	Adda fageenyaaf qoricha ulfa ittisuu fayyadamuu barbaadduu?	a) Eeyyee b) Lakk	
3.4	Ulfa itti aanu yeroo hammamiif addaan baasuu barbaadda?	a) Ji'a 0-23 gidduutti b) >ji'a 23	
3.5	Yeroo ulfa dhumaa dhaabbata fayyaa keessatti hordoffii kunuunsa dahumsa duraairratti argamtanii beektuu?	a) Eeyyee b) Lakk	Yoo lakki ta'e gara G#3.8 deemaa
3.6	Dhaabbilee fayyaa gosa kam daawwattan?	a) Buufata fayyaa b) Buufata fayyaa c) Hospitaala d) Kilinika dhuunfaa	
3.7	Ulfa kee isa dhumaa eessatti deesse?	a) Buufata fayyaa b) Buufata fayyaa c) Hospitaala d) Kilinika dhuunfaa e) Mana	
3.8	Erga yeroo dhumaaf da'umsa keessanii booda ji'oota 12 keessatti dhaabbata fayyaa daawwattanii beektuu?	a) Eeyyee b) Lakk	Yoo lakki ta'e gara G#4.0 deemaa

3.9	Dhaabbilee fayyaa gosa kam daawwattan?	a) Buufata fayyaa b) Buufata fayyaa c) Hospitaala d) Kilinika dhuunfaa	
Fayyadama malawwan qoricha ulfa ittisuu yeroo dheeraaf hojjetu kan duubatti deebi'uu danda'u			
4.0	Ulfa kee isa dhumaa dura mala karoora maatii yeroo dheeraaf hojjetu fayyadamtee beektaa?	a) Eeyyee b) Lakk	Yoo lakki ta'e gara G#4.2 deemaa
4.1	Yoo Q#4.0 eeyyee yoo ta'e, gosa mala FP yeroo dheeraa hojjetu isa kami?	a) Implant gochuu b) IUCD	
4.2	Yeroo ammaa kana mala karoora maatii yeroo dheeraaf hojjetu fayyadamaa jirtaa?	a) Eeyyee b) Lakk	Yoo lakki ta'e gara G#4.5 deemaa
4.3	Q#4.2 eeyyee yoo ta'e, amma malawwan karoora maatii yeroo dheeraa hojjetan gosa kam fayyadamta?	a) Implant gochuu b) IUCD	
4.4	Mala karoora maatii yeroo dheeraa hojjetu fayyadamuuf yoom urjii goota?	a) Daqiiqaawwan kurnan jalqabaa erga gadameessa da'ee booda b) Erga da'umsa booda guyyoota torba	

		jalqabaa c) Da'umsa booda torban tokkoo hanga jahaa d) Erga da'umsa booda torban jahaa hanga ji'a kudha lamaa booda	
4.5	Gara fuulduraatti mala karoora maatii yeroo dheeraaf hojjetu fayyadamuu barbaadduu?	a) Eeyyee a) Lakk	Yoo lakki ta'e gara G#4.7 deemaa
4.6	Yoo eeyyee ta'e G#4.5 gara fuulduraatti malawwan karoora maatii yeroo dheeraa hojjetan gosa kam fayyadamuu barbaadu?	a) Implant gochuu b) IUCD	
4.7	Yoo hin jiru ta'e Q# 4.5Sababni qoricha ulfa ittisuu yeroo dheeraaf hojjetu kan duubatti deebi'uu danda'u fayyadamuu dhiisuu?	a) Sodaa miidhaa cinaa b) Hanqina odeeffannoo c) Malli filatamaa ta'e hin jiru d) Hiriyaa gaa'elaa fudhatama dhabuu e) Amantii amantii f) Kan biroo, ibsi	