ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCES
SCHOOL OF PUBLIC HEALTH

INTENTION TO USE LONG ACTING AND PERMANENT CONTRACEPTIVE METHODS AND FACTORS AFFECTING IT AMONG MARRIED WOMEN IN ADIGRAT TOWN, TIGRAY, ETHIOPIA, JANUARY 2012

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Intention to use long acting and permanent contraceptive methods and factors affecting it among married women in Adigrat town, Tigray, Ethiopia, January 2012

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List of Acronyms

AAU	Addis Ababa University
AOR	Adjusted Odds Ratio
CI	Confidence Interval
COR	Crude Odds Ratio
DHS	Demographic Health Survey
ERA	Ethiopian Road Association
ETB	Ethiopian Birr
FGD	Focus Group Discussion
FP	Family Planning
IUD	Intra Uterine Device
HAPCO	Prevention and Control Office
HH	Household
HIV/AIDS	Human Immunodeficiency Virus/Aquaired Immunodeficiency Syndrom
LAPM	Long Acting and Permanent Contraceptive Methods
OR	Odds Ratio
RH	Reproductive Health
SD	Standard Deviation
SPSS	Statistical Package for Social Sciences
SSA	Sub-Saharan Africa
TDA	Tigray Development Association
UNFPA	United Nations Population Fund

Abstract

Introduction: Despite the increase in contraceptive use worldwide over the last decade, there is still discrepancy in the need to limit birth and utilization of modern contraceptives specifically long acting and permanent contraception methods in sub-Saharan Africa including Ethiopia. Intention to use long acting and permanent methods of contraception is an important indicator of the potential demand for family planning services.

Objective: To assess intention to use long acting and permanent contraceptive methods and factors affecting it among married women in the reproductive age group in Adigrat town

Method: A quantitative cross sectional study design complemented by qualitative method was conducted. The total 594 sample size was proportionally allocated to each of the three selected kebeles. Systematic random sampling was used to reach at the study subjects. Structured questionnaire and guides were used for the quantitative and qualitative method respectively. Data was entered in to Epi Info version 3.5.1 and analyzed using Statistical Package for Social Sciences version 16. Multivariate logistic regression was done to control effect of confounders. Open code software was used to carry out content analysis of the qualitative data.

Result: Intention to use LAPMs was 48.4%. The main reasons for not intending to use were fear of side effect and infertility after use. Participants perception on husbands support for LAPMs use (AOR=0.2, 95% CI=0.09, 0.45) and LAPMs can harm the womb (AOR=0.24, 95% CI=0.14, 0.41), knowledge of LAPMs (AOR=4.7, 95% CI=1.58, 14.01) were significantly associated with intention to use LAPMs. Desire to have birth within the next 2 years (AOR=1.9, 95% CI=1.22, 3.13), ideal desired number of children (AOR=0.7, 95% CI=0.62, 0.88), partner's education and participants occupation status were also significantly associated with intention.

Conclusion: The magnitude of intention to use LAPMs in the study area was low. The main limiting factors were fear of side effect and infertility after LAPMs use, knowledge on LAPMs and perception on partner's support. This needs more effort from the family planning providers and program facilitators to address misconceptions that exist about LAPMs and highlight the benefits of LAPMs and not only women but also their spouses should be included in family planning programs.

1. Introduction

1.1. Background of the study

Family planning (FP) is a process that usually involves a discussion between a woman, a man and a trained FP service provider focusing on family health and the desires of the couple to either limit or space their family (1).

There are different methods used for FP. Contraceptive methods used for FP can be grouped into two categories. These are long-acting and permanent methods (intrauterine devices, implants and sterilization), and short-term methods (pills, condoms, spermicides, injectables, other modern methods and all traditional methods). Long-acting and permanent methods are usually used to limit childbearing, whereas short-term methods are better suited for women who want to delay but not forfeit having a child (2).

Women and couples who want safe and effective protection against pregnancy would benefit from access to more contraceptive choices, including long acting and permanent contraception methods (LAPMs). Long acting and permanent contraception methods are convenient for users and effectively prevent pregnancy and are cost-effective for programs over time. They can result in substantial cost savings for couples, governments, and contribute directly to reaching national and international health goals by providing long-lasting contraceptive protection (3).

1.2. Statement of the problem

Contraceptive use has increased worldwide over the last decade even though contraceptive preferences, endorsement of different methods and contraceptive method mix may vary in every region and country (4). Yet, Africa has a high unmet need for FP. Approximately 25 percent of women and couples in sub-Saharan Africa (SSA) who want to space or limit their births are not using any form of contraception (5). This may result in abortions or unintended pregnancies.

Long acting and permanent methods (such as implants, intrauterine devices and voluntary sterilization) are the most effective contraceptives, and they require little action by the client. Despite the advantages of LAPMs, utilization remain small, and sometimes missing component of many national reproductive health (RH) and FP programs and it has not kept pace with that of short-acting methods, such as oral contraceptives and injectable (3) .

Many potential clients in SSA lack information or have misconceptions about LAPMs. Even in countries where most people know about FP, fewer people have knowledge of the intra uterine device (IUD) and vasectomy than of other methods. Myths and misconceptions are also widespread for these methods (6, 7).

A discrepancy exists between the proportion of women who wish to stop having children and the proportion who are using LAPMs. Study in SSA between 2003 and 2005 show that more than 20% of women in nine of the 11 countries including Ethiopia surveyed do not want any more children. However, in each of the nine countries, fewer than 7 percent of the women are using LAPMs (8).

In a country like Ethiopia with high fertility rate and unmet need of contraceptives as well as difficulty to sustain services and ensure constant supply of contraceptives, shifting towards LAPMs is an important strategy to ensure continuity of services. But the issue is controversial; and the contraceptive method mix is dominated by short term methods like pills and injectables and the knowledge on LAPMs was very low (9-11). About 27 % of currently married women are currently using a modern method of FP. Thirty seven percent of women want no more children but only 3.4% of married women reported using implants, 0.3% IUD and less than 1% reported sterilized. Specifically in Tigray the contraceptive prevalence rate of modern contraceptives among the currently married women was 21.2%; with 5.6% implants, 0.3% of female sterilization and none of them were using IUD (12).

A study in Mojo town indicated that only 38.3% of the respondents were using and 68% have intention to use FP methods. Injectable was the most frequently used (55.45%) followed by pills (26.06%), condom (7.1%), IUD (5.21%) and Norplant (0.95%) (13).

A given behavior is more likely to occur if the intention to practice it is strong, no environmental barriers to performing it, and individual has the skills and ability to perform the behavior (14). Intention to use a method of contraception is an important indicator of the potential demand for FP services (9, 10).

The Ethiopian ministry of health has planned and is working on the provision of all FP methods, especially LAPMs in the lowest service delivery level. This is through ensuring the presence of at least two health extension workers and/or community-based agents in every Kebeles, with training,

knowledge, and skills needed to provide basic FP services and refer for LAPMs. In addition to this pre-service training to all mid-level health workers on LAPMs (15). Despite this and the presence of all modern contraceptive methods (16), utilization is very low especially LAPMs and intention to use is very low and limited to the short-term methods such as pills and injectable (12).

1.3. Rationale of the study

The Ethiopian Ministry of Health has set target to increase contraceptive prevalence rate to 60 percent by the year 2010 (15). But the country has still a long way to go in fertility reduction and raise of the contraceptive prevalence rate to fulfill the target.

Despite the fact that modern contraceptive services are made accessible nearly at all major urban areas in Ethiopia (including the study area, Adigrat town) and in most instances at lower or no cost (16), the utilization and intention to use LAPMs is low (12).

Understanding the characteristics of women with intention to use may provide further insight to demand and future use of LAPMs. Intention naturally precedes use and therefore those women who use contraception also intended to use before they actually began using contraception. In Ethiopia in general and in Tigray regional state in particular, very few studies have ever been conducted to assess the main factors responsible for intention to use LAPMs. It is, therefore essential to examine the magnitude of intention to use and identify the associated factors affecting intention to use LAPMs so that well targeted interventions could be undertaken.

This study is, thus conducted to assess the magnitude of intention to use LAPMs and factors affecting it in Adigrat town, North Ethiopia. The study area (Adigrat) is selected because this town is the zonal town of Eastern Zone of Tigray with public hospital and health centers on which women have access of LAPMs service but the utilization of LAPMs is low (Personal communication). In addition to this there are no previous studies done in the area regarding contraceptive needs and practices of women. Therefore; the result of this study can be used as a baseline information for further studies in that area and provide important information for program managers and other concerned bodies to enable them provide appropriate contraceptive services to these segments of the population and the community at large.

2. Literature review

2.1. Long acting and permanent contraceptive methods

Family planning contributes to family health, that is, to the mental and social well-being of mothers, fathers and their children by enabling the couples to achieve their reproductive goals, and therefore adapt some measures of control over the pattern and direction of their lives (1).

Among the contraceptive methods used for FP, LAPMs are a contraception methods that provide pregnancy protection for many years and /permanently if used once and include methods like implant, IUD, and sterilization. Implants are a small plastic rods or capsules, each about the size of a matchstick, that release a progestin in a woman's body. It is inserted by trained provider with a minor surgical procedure to place the implants under the skin inside of a woman's upper arm. There are different types of implants; Implanon, Jadelle, Sinoplant, and Norplant which are 1, 2, 2, and 6 rods and effective for 3, 5, 5, and 5 respectively. It prevents pregnancy very effectively through thickening cervical mucus, disrupting the menstrual cycle, and preventing ovulation (17).

Intrauterine Device (IUD): the copper-bearing IUD (TCu-380A) and levonorgestrel IUD (LNG-IUD) is a small, flexible plastic frame with copper sleeves or wire around it with one or two strings, or threads, tied to them. It is inserted by a specifically trained health care provider into a woman's uterus through her vagina and cervix. TCu-380A is effective for 12 years but it is labeled for up to 10 years of use which Works primarily by causing a chemical change that damages sperm and egg before they can meet. LNG-IUD steadily releases small amounts of levonorgestrel each day which is very effective for 5 years by suppressing the growth of the lining of uterus (17).

Female sterilization (also called tubal sterilization, tubal ligation, voluntary surgical contraception, tubectomy, bi-tubal ligation, tying the tubes, minilap, and "the operation"). Vasectomy (also called male sterilization and male surgical contraception). Both are permanent contraception methods through blocking the release of the egg and closing off each vas deferens keeping sperm out of semen through a safe and simple surgical procedure with no long-term side effects for women and men respectively. Vasectomy needs 3-month delay in taking effect (17).

2.2. Knowledge and perceptions about LAPMs

A qualitative study done in Scotland indicated that women were poorly informed about Long-acting reversible contraception. They had firm but incorrect beliefs about their safety and side effects, disliked any method which involved an invasive procedure and/or vaginal examination, and had rather a low opinion of advice given by health professionals. For many of the participants, insertion and removal of implants in the arm were not comfortable. Intra uterine device was also perceived negatively (18).

The young people in Uganda believed that contraceptives interfered with fertility, resulted to frighten to use it. Most of the married and unmarried women believed that pills burned the woman's eggs. Both male and female participants believed that pills accumulate in the body causing swellings, such as fibroids, cancer, destruction of the fallopian tubes, and when used they can cause abortion and IUD could pierce the uterus (6)**.**

The 2011 Ethiopian DHS showed that the knowledge of any modern method among currently married women was high (97%). But selectively knowledge on LAPMs was very much low; female sterilization (39.8%), male sterilization (10.8%), IUD (26.4%) and implants (69.2%) (12) .

About 99% of women in Butajira district knew at least one method of contraception. Dipo-Provera and Pills were known by more than 97% of married women (19).

2.3. Intention to use LAPMs

A given behavior is more likely to occur if the intention to practice it is strong, no environmental barriers to performing it, and individual has the skills and ability to perform the behavior (14). Intention to use a method of contraception is an important indicator of the potential demand for FP services (9, 10). A study from 27 countries DHS on extended postpartum period, explored the extent to which intention to practice contraception predicted actual levels of contraceptive use. On average, for each increase of 1% in intention, there is nearly a 1% rise in contraceptive adoption (20). A Longitudinal Study in India, indicated that those who had intended to use contraceptives were significantly more likely to use a method than were those who had not planned to do so ($p<0.01$) (21).

A study conducted in Pakistan showed that woman's intention to use IUD and tubal ligation was strongly associated with the belief in the health benefits of child spacing (OR= 1.51), access to perceived choice of methods (OR = 1.48), among women below age 35, women with four or more children and education. Woman who belief that the use of FP was the husband's decision and could harm the womb was negatively associated with intention to use IUD and tubal ligation (22).

A Study in Nigeria indicated that; of those who were using a method but stopped, 54.6% intend to use it again in future whereas among those who have never used a method, 42.7% intend to use it later (23).

Fewer than half of women, who had not been exposed to FP messages, intended to use contraceptives in the near future. The proportion of intended users exposed to FP messages on television was 26% followed by radio and television (13%) and only radio (6%). Age, number of living children, discussion with husband, husband's approval, and desire for more children emerged as significant predictors of future intention to use contraceptives (24).

The 2005 Ethiopian DHS showed that, 52% of currently married women said that they intend to use FP in the future. But their preferred method was injectable and pill. The reason for not intending to use were fertility-related reasons (38%), desire for as many children as possible (18%), and religious prohibition (10).

A study in Oromia indicated that; more than 50% of women with intention to limit childbearing were older (ages 35-49), have 4 or more living children (72.5%), have no formal education (78.4%) and live in rural areas (89.9%). More than half have no exposure to any source of media but almost all (96.6%) know some form of FP methods. Intention to limit childbearing was significantly associated with women age, number of living children, education, wealth, experiences of child death, exposure to media, and knowledge and use of FP ($P<0.05$) (25).

Study conducted in Gonder indicated that; nearly two-thirds of the married women reported their intention to use contraceptives in the future (26). Similarly in Hossana; 62.1% respondents intended to use contraceptives in the future with injection (40%), oral contraceptive (12.2%), norplant (6.7%), male condom (5.2%), IUD (0.5%), and female sterilization (0.4%). About 66% of the respondents reported that they had discussion on FP matters with their wives during the last year of the survey (27).

A community based cross-sectional study done in Butajra indicated that, among the subjects who support the use of LAPMs, 395(65.8%) have intention to use it and 51.3% of them said that their husbands or friends support the use of LAPMs (28). A similar study in Ambo among women attending FP clinics showed that intention to use LAPMs was 291(56.1%). Of those who intended, 72.2% was for implants (29). Women's knowledge, attitude on LAPMs, total number of alive children and communication with husband were significantly associated with future intention to use LAPMs (29).

2.4. Long acting and permanent contraceptive methods utilization

From 2000 to 2005 contraceptive use among married women of reproductive ages has risen gradually in all areas of the developing world and has reached nearly 66% in Asia and 73% in the Caribbean and Latin America (4). Yet, Africa has a high unmet need for FP especially LAPMs (5, 8). In Nigeria, IUD (18.4%), condoms (18.4%), injectable (13.1%) and pill (12.3%) were the most common methods used. The least was male sterilization (23).

In Ethiopian demographic health survey (DHS) 2011, injectables (21%) was the most popular methods with implants (3.4%), 0.3% IUD and less than 1% sterilization (12).

About 48% of the married women in urban areas of the Gonder zones were using contraceptive, compared to only 18.8% of married women in rural areas (26). Another study in Southern Ethiopia was 293 (87.5%) urban and 243 (72.8%) in rural. Having better knowledge about modern contraceptive methods, gender equitable attitude, better involvement in decisions related to children, socio-cultural and family relations were statistically significant factors for decision making power of women on the use of modern contraceptive methods in the urban setting (30).

A case control study done in Jimma showed that; those couples who openly discuss about FP (OR=2.5, 95%CI 1.1-5.9), and wives who perceive that their husbands approve of FP (OR=6.8, 95% CI 1.7-23.9) were more likely to be current users than their counterparts. On the other hand couples who had a history of child death (OR=0.2, 95% CI, 0.1-0.6) were less likely to be current contraception users (31).

Women who had used oral contraceptives were significantly more likely to have had a tubal ligation (32).

Policy-makers and program managers are sometimes reluctant to make LAPMs part of the mix of contraceptive methods because of perceived cost barriers. As a result, the lack of availability of commodities, of equipment and supplies, and of opportunities to train providers is a persistent barrier to the use of LAPMs in some areas of SSA. Providers may not provide LAPMs to their clients because of unfamiliar with the latest evidence, they may not offer comprehensive information about all methods during counseling, which limits the ability of a client to make an informed contraceptive choice (3).

A study done in Tigray Mekelle shows that the overall prevalence of LAPMs uses was 12.3%. The majority of women used implants (87%) followed by IUD (13%). There were no married women who underwent female sterilization (33).

In summary, contraceptive use and intention to use is determined by several factors as discussed in the literature. Some of these factors have direct influence on modern contraceptive use and intention to use. However, it may not be possible for one factor to entirely determine contraceptive use, but rather, these factors are interrelated. Also intention to use LAPMs is influenced by some of these factors, like socio demographic, fertility preference, exposure to FP messages, health care system and networking among women of reproductive age. This interrelationship is showed in the conceptual framework (Figure 1).

2.5. Conceptual framework

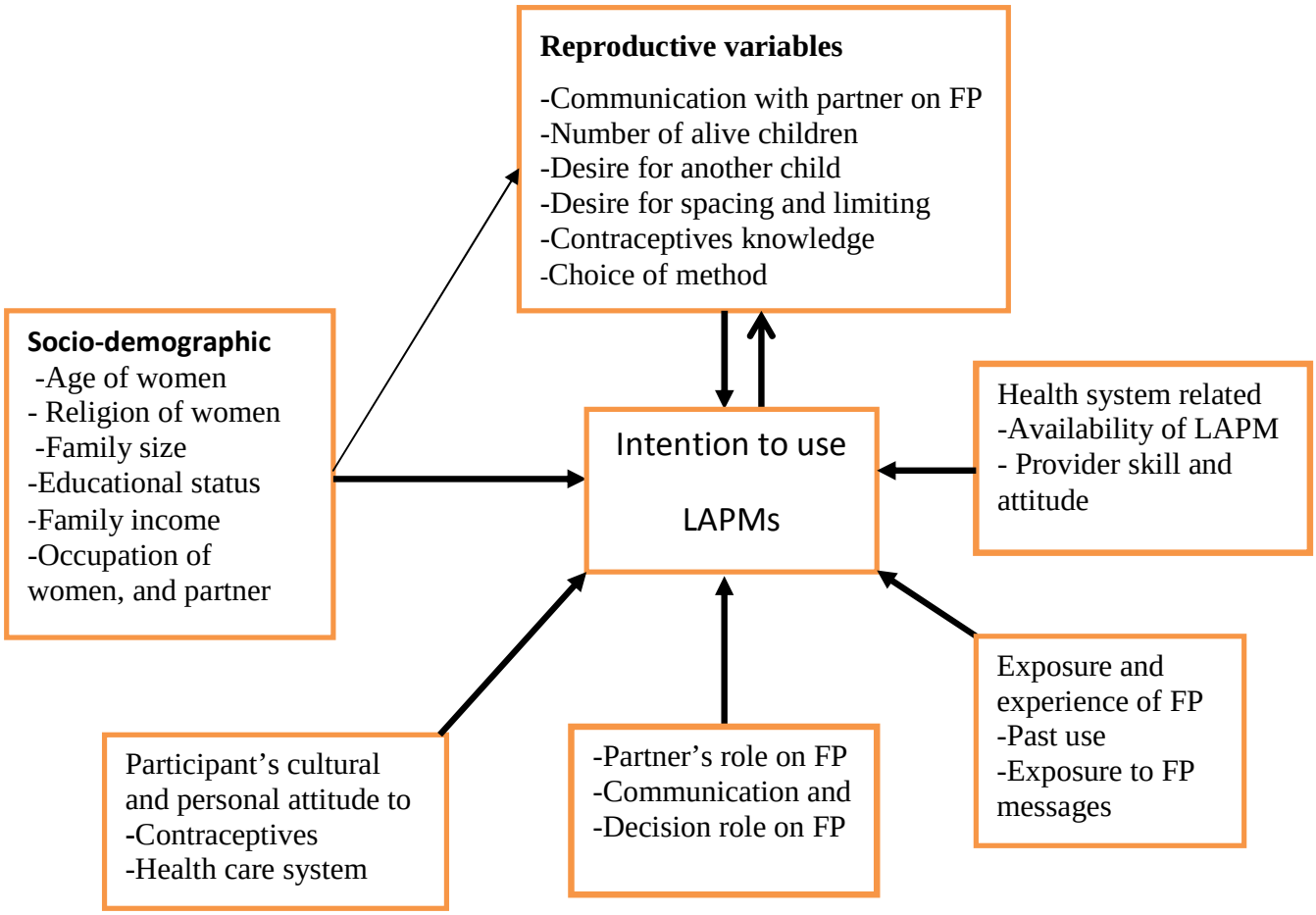

Figure 1: Conceptual framework of intention to use LAPMs

3. Objectives

3.1. General objective

To assess the magnitude of intention to use long acting and permanent contraceptive methods and factors affecting it among married women in the reproductive age (15-49), in Adigrat town, Eastern Zone of Tigray, National Regional State, January 2012

3.2. Specific objectives

- To assess the magnitude of intention to use LAPMs among married women in the reproductive age group (15-49 years) in Adigrat town, Eastern Zone of Tigray
- To identify factors affecting intention to use LAPMs among married women in the reproductive age group (15-49 years) in Adigrat town, Eastern Zone of Tigray
- To assess the knowledge and perceptions of LAPMs among married women in the reproductive age group (15-49 years) in Adigrat town, Eastern Zone of Tigray

4. Methods

4.1. Study area

The study was conducted in Adigrat town, Eastern zone of Tigray, which is located 903 Kilo meters to the North of Addis Ababa, the capital city of Ethiopia, and 120 kilo meters away from the regional capital city, Mekelle. This town is the zonal city of weredas of Eastern Zone of Tigray; which is bounded by Gola-a Genahti to the East, Buket Nihbi to the West and North, Baati Maymesanu to the North (Figure 5).

The total population of the town according to the 2007 census report was 57,572, of which 31,573 (54.8%) were females (34). According to the information obtained from the town Health Office, in the town there are six Kebeles with a total of 14,000 households (HH), 2 public health centers, 1 public hospital and 7 private clinics (3 higher clinics, 2 middle clinic and 2 lower clinics), 5 drug shops and 4 rural drug venders. There are also 3 different non-governmental organizations working on the area of RH and HIV/AIDS in the town. These are HIV/AIDS Prevention and Control Office (HAPCO), Tigray Development Association (TDA) and Ethiopian Road Association (ERA).

4.2. Study period

The study was conducted from December 20, 2011 to January15, 2012.

4.3. Study design

A community based quantitative cross sectional study complemented by qualitative methods

4.4. Population

4.4.1. Source population

All married women in the reproductive age group (15-49 years) residing in Adigrat town

4.4.2. Study population

The study population were all married women in the reproductive age group (15-49 years) living in the randomly selected 3 Kebeles of Adigrat town, Eastern Zone of Tigray

4.4.3. Study unit

The study units for the quantitative method were married woman aged 15-49 years in the selected HH.

The study units for the qualitative methods were purposely selected married women aged 15-49 years who were not included in the interview for the quantitative method, married men and FP service providers in the health facility of the town providing LAPMs service.

Inclusion criteria: Married women of aged 15-49 years who were resident in the selected Kebeles of the town at least for 6 months were included in the quantitative method.

Exclusion criteria: Married women of aged 15-49 years who were unable to hear and speak

4.5. Sample size calculation

Sample size for the quantitative method was determined by the formula for single population proportion with the following assumptions; the prevalence of intention to use LAPMs; 65.8% from Butajira community based study (28), with a margin of error of 4%, and 95% confidence level. This gives 540. Adding a 10% allowance for a non-response rate, the total sample size was 594.

$$n = \frac{(z_{\alpha/2})^2 p(1-p)}{d^2}$$

Where: z=standard score corresponding to 95%CI=1.96

p=assumed proportion of intention to use LAPMs=0.658

d=Margin of error/ precision = 4%

$$n = \frac{(1.96)^2(0.658)(1-0.658)}{(0.04)^2} = 540$$

For the qualitative method, four focus group discussion (FGD) sessions with married women and men, and six in-depth interviews with health professionals providing FP in the health facility of the town were conducted.

4.6. Sampling procedures

4.6.1. Sampling procedures of the quantitative method

Out of the total 6 administrative Kebeles in Adigrat town, 3 Kebeles were selected by lottery. The total sample size was allocated by using proportional allocation to size (PAS) to the selected Kebeles to achieve a representative sample. The study subjects were selected by systematic random sampling after calculating the interval (K value =11) by dividing the total HH in each of the selected Kebeles by the allocated sample to each of the selected Kebeles. Every 11th HH with married women aged 15-49 years was included (Figure 2). The first HH was chosen at the center of each Kebele by lottery as a starting point, and then the data collector were going in the right direction from the first chosen HH until the required sample size for the Kebele is achieved. It was assumed that there is one married woman aged 15-49 years in each HH. If there was no eligible woman in the selected HH, the next HH was taken and if there were more than one eligible woman in the selected HH, one was included randomly in the study.

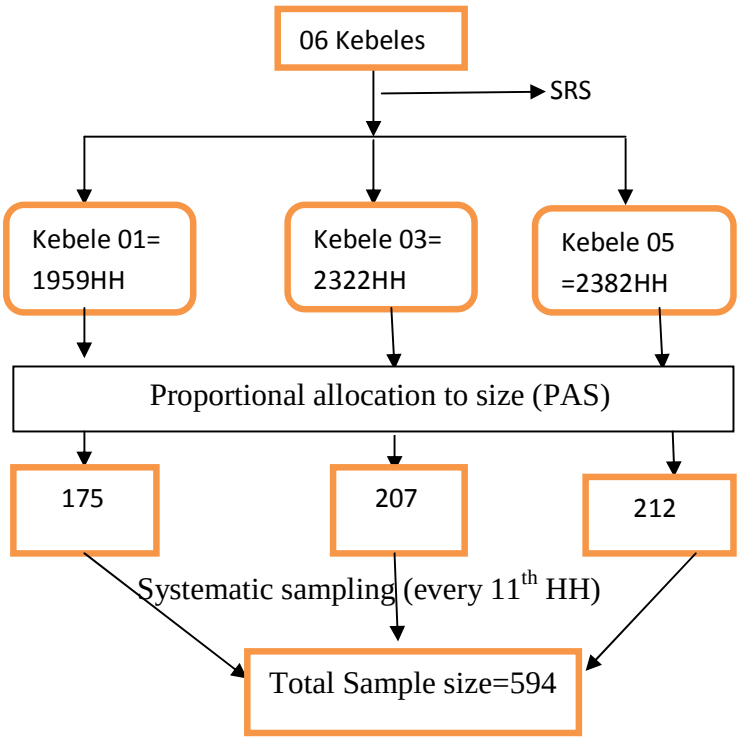

Figure 2: Schematic presentation of the sampling procedures, Adigrat town, January 2012

4.6.2. Sampling procedures of the qualitative methods

Purposively selected married women in the reproductive age group and married men were included in the FGD excluding any participants already interviewed in the quantitative survey by considering age, and sex of the participants in grouping the FGD. The FGD was conducted in three groups of currently married women and one group of currently married men.

In-depth interview was conducted with purposively selected FP service providers from each of the health institutions providing FP service. Based on this a total of six in-depth interviews were done. The inclusion criterion was health professionals in the health facilities who offer any of the LAPMs of contraception, and available during the data collection and volunteer to participate.

4.7. Data collection tools

The questionnaire was developed and adopted with modification from related studies (10, 22, 28, 29, 35). Both the quantitative and qualitative instruments were prepared first in English then translated to the local language (Tigrigna) and retranslated back by other translator to English, and administered in the local language for data collection.

For the quantitative method; structured closed ended Tigrigna version questionnaire was used after pre-testing on 5% (30 women) of the same source population other than the sampled population (Kebele 04) of the town. It includes 55 questions in 5 parts; consisting of socio-demographic characteristics, reproductive history, knowledge of modern contraceptives, perceptions on modern contraceptives, and modern contraceptive practice and intention to use LAPMs. Data on knowledge of modern contraceptive variables was collected in two ways. First, respondents were asked to mention all what they know and heard spontaneously. For the responses not mentioned spontaneously, the interviewer described and probed for whether the respondent recognized it.

Open ended discussion guide and interview guide were used in the qualitative method for the FGD and in-depth interview respectively. The FGD guide includes open ended discussion guide on the knowledge, method preference, perception on LAPMs and intention to use LAPMs. The participants also asked closed ended questions on socio-demographic characteristics (sex, age, religion, educational status and occupation status) and reproductive history (number of births and contraceptive status) of the participants. Open ended interview guide was used to interview the FP providers of the town to assess experience on the method preference and perceptions of the clients

they were serving on LAPMs, training status of the interviewees on long acting contraceptives, and availability of LAPMs in the institution working in.

4.8. Data collection methods

4.8.1. Quantitative data collection method

Five Tigrigna speaker females who had a minimum 12th grade completed education were collected the data. Two diploma nurses were supervising the data collectors. They have trained for two days on the study instrument and data collection procedure. Data was collected through face-to-face interview with the study subjects. The supervisors were supervising, assisting data collectors and collect filled questionnaires every day and checked for consistencies and completeness. The principal investigator was responsible for coordination and supervision of the overall data collection process. Only one respondent was interviewed per HH. If the selected respondent was not present, but it was known that there is illegible woman in that HH, 3 attempts were made to reach the respondent. If the respondent were not interviewed after 3 attempts, the HH was dropped and the next HH with the eligible woman was selected.

4.8.2. Qualitative data collection methods

After selecting the participants, appropriate time and comfortable place of meeting was selected and organized. Four sessions of FGDs were undertaken among purposively selected married men and women in the reproductive age group separately. Each FGD consisted of seven up to twelve discussants. All the FGDs were moderated by principal investigator with the assistance of one trained note taker. On average each FGDs lasted an hour. Six in-depth interviews with FP providers working in the health facilities of the town providing LAPMs were undertaken by the principal investigator. Each lasted on average half an hour. Two of the FGDs were taped, note was taken for all of the FGDs and in-depth interviews.

4.9. Data quality assurance

4.9.1. Quantitative data quality assurance

As much as possible attempt was done for questions to suite the local setting and was first prepared in English language and later translated to Tigrigna language and retranslated back by other translator to English to compare the consistency and amendment was considered as needed. Prior to the actual data collection, questionnaire was pre tested on 5% (30 women) of the sample

on similar population who were not part of the actual sample (Kebele 04) of the town. Based on the pretest, questions were revised, edited, and those found to be unclear or confusing were removed. Data collectors and supervisors were trained for two days on the study instrument and data collection procedure using training manual developed by the principal investigator. Data collectors were all females to make the communication easy with the female respondents. During the actual data collection process, supervisors cross checked the data collectors on the field randomly every day for questionnaires consistency and completeness. Filled questionnaires were checked daily for omissions, legibility, and consistency and readying them for data entry.

Prior to data entry, each questionnaire was given a unique code by the principal investigator. The principal investigator prepared template and entered data using Epi Info version 3.5.1. Ten percent of the entered data was double checked by comparing the entered data with the actual questionnaire. Data was cleaned for inconsistencies, outliers and missing values by running frequencies. Any errors identified were corrected after revision of the original data using the code numbers**.**

4.9.2. Qualitative data quality assurance

The collected data was transcribed to Tigrigna on daily basis and translated to English for further processing. The principal investigator and note taker reviewed key terms in Tigrigna and their respective translations to ensure a degree of standardization. A small, selected sample of interviews was translated from Tigrigna into English by an independent translator to assess the accuracy of the translation. Final transcripts were compared against note takers' notes to ensure quality. Open code software version 3.6.2.0 (36) was used to facilitate coding. Analysis focused more heavily on themes than on which words were chosen and how responses were phrased.

4.10. Data analysis

4.10.1. Analysis of quantitative method

Cleaned data was exported from Epi Info version 3.5.1 into to SPSS version 16.0 for analysis. Descriptive statistics were made and results are presented in texts, tables and graphs using summary measures such as percentages, median and mean. A binary outcome variable indicating no intention coded as no "0" and intention to use any of the LAPMs coded as yes "1" was used as the dependent variable. Bi-variate analysis was used to determine the association between different

factors and the outcome variable. Multivariate logistic regression was used to identify the relative importance of each predictor to the dependent variable by controlling for the effects of other variables. Only those variables with significant association (P-value<0.05) on bi-variate analysis were entered to perform multivariate analysis. As knowledge of LAPMs, and exposure to LAPMs message through media tended to correlate; in the final analysis, only knowledge of LAPMs was included in the multivariate model. Associations between independent variables and dependent variable in the logistic regression model were assessed using odds ratio (OR) with 95% confidence interval (CI). The level of significance was taken at $\alpha = 0.05$.

In the analysis; family size, family monthly income, age at first birth, the number of living children, the number of child death, number of more children wanted, and ideal desired number of births were treated as continuous variables. The other explanatory variables were treated as categorical variables. The OR [Exp (β)] for the reference category was set at 1.0, and the OR for other values of the variable were interpreted relative to this reference category.

4.10.2. Analysis of the qualitative method

The data was transcribed first to Tigrigna then translated into English language. Before the analysis the text was read through several times to obtain a sense of the whole and familiarize with the data. The data was first saved in text format and exported in to open code software version 3.6.2.0 (36). Analysis codes were developed through the open code software. The coding was carried out by the principal investigator. The various codes were compared based on differences and similarities and sorted into categories. Finally based on content analysis, the underlying meaning; that is, the latent content of the categories was formulated into a theme (37). Quotes that best described the various categories and expressed what was said frequently in several groups were chosen. Finally the findings were triangulated with the quantitative result during write up.

4.11. Study variables

Dependent Variable

- Intention to use any one of LAPMs

Independent Variables

- Socio-demographic variables: age, religion, ethnicity, educational status of the women and her partner, and family size.
- Socio-economic variables: family income, and occupation of the women and her partner
- Reproductive variables: communication with partner on FP, role of women on deciding number of children and FP, choice of method, number of alive children, desire for another child, spacing, limiting
- Exposure and experience of FP: Past use, exposure to FP messages
- Knowledge and perceptions of LAPMs

4.12. Operational definitions

Modern contraceptive methods: Such as pills, injectables, implant, IUD, female sterilization, male sterilization, or condom.

LAPMs: Implant, IUD, female sterilization and vasectomy (male sterilization).

Ever use: A married women who ever used any of the modern contraceptive methods. If more than one method was used, then the most recent contraceptive method used was taken into account.

Intention to use LAPMs: All married women who are not currently using LAPMs but reporting intent to use any of the LAPMs at some time in the future.

No intention to use LAPMs: Married women who are not currently using LAPMs and stating no intention to use LAPMs or unsure of their intentions are classified as not intending to use LAPMs.

Married woman: Refers to woman living in stable sexual unions which could be marriage through both formal and informal union, even if a formal civil or religious ceremony has not taken place.

Knowledge of LAPMs: Refers to the participants' ability to name or recognize at least one of the LAPMs (implants, IUD, female and male sterilization)

Knowledge score of the participants on LAPMs: This was computed based on the participants' response to the seven distinct characteristics of each LAPMs (29).

- **Very good knowledge**: Those who know 5-or more distinct characteristics of LAPMs from knowledge questions.
- **Good knowledge**: Those who know 1-4 distinct characteristics of LAPMs, from knowledge questions.
- **Knowledge**: Those who only name the method of the LAPMs.

Utilization: Respondents' current state of using modern contraceptive methods (contraceptive pill, injection, male condom, implants, IUD, male sterilization, and female sterilization) (38).

4.13. Ethical issues

Prior to data collection, ethical clearance was obtained from Research and Ethics Committee of the School of Public Health, College of Health Science of Addis Ababa University (AAU). Written permission letter was also produced from Tigray Regional Health Bureau, and then Adigrat Woreda Health Office. During data collection, each respondent was informed about the purpose, scope and expected outcome of the research, and appropriate informed verbal consent was obtained from the respondents in the quantitative method. Written informed consent was also sought prior to FGD and individual in-depth interviews. There were no known risks and benefits posed to the study participants. Anyone who was not willing to participate was excluded from the study; and during the interview, respondents who were interested to avoid specific questions or discontinue the interview was allowed to do so. In order to establish anonymous linkage, only the codes, not the names of the respondents, were registered on the questionnaire. Confidentiality of the participants was kept throughout the study. During the training of data collectors and supervisor, ethical issues were addressed as important component of the research.

4.14. Dissemination of the result

After the study is accomplished, it will be presented to AAU College of Health Science. Reports will be submitted to AAU College of Health Science, UNFPA, Tigray Regional Health Bureau, and Adigrat town Health Office. Subsequently, attempts will be made to present it on the annual and biannual meetings of Tigray Regional Heath Bureau and other meetings in the region concerned with maternal health; moreover, attempts will also be made to present it on scientific conferences and publish it on scientific journals here or overseas.

5. Results

5.1. Socio-demographic characteristics of the participants

A total of 592 married women were interviewed in the quantitative part. The response rate was 99.5%. Table 1 shows the socio-demographic characteristics of currently married women aged between 15 and 49 included in the quantitative method. The mean age of the participants was 30[± 6.9 standard deviation (SD)] years. Majority (98.5%) were Tigrie by ethnicity and Orthodox (90.5%) by religion. More than one third of the participants and their partners were with secondary education level while 92(15.5%) of the participants and 54 (9.1%) of their partners were with no formal education. By occupation, 345 (58.3%) of the participants were housewives, 158(26.7%) were employed, and 344 (58.1%) of their partners were employed. The mean family size of the participants was 4.5(±1.8 SD). Out of the total participants, 426(72.0%) and 300 (50.7%) had television and radio respectively. About one quarter of the participants has less than 600 Ethiopian birr (ETB) monthly family incomes. The median monthly family income of the participants was 1000.0ETB with the range of 100 to 7000ETB (Table 1).

Four FGD sessions were conducted. Three FGD sessions were with married women (78.1%) and one FGD session was with males (21.8%). Most (40.6%) of the participants were in the age group of 25-29 years, and almost all were Christian orthodox. More than two third of the participants of the FGD were housewives by occupation, 13(40.6%) of the participants had 1-2 number of births. Twenty three (71.8%) of the participants was currently using modern contraceptives, and of those 12 (37.5%) was Depo-Provera (Table 2).

In addition to the FGDs, in-depth interview with six FP service providers in the public and private health institutions providing FP service in the town was also conducted. Four of the interviewees were trained on long acting contraceptives (insertion and removal of implants and IUD). In the hospital all the short term (condom, pills and Depo-Provera) and LAPMs (implants, IUD, male and female sterilization services) were available. In the two health centers and private clinics the short term and long term (implants and IUD) methods were available.

Table 1: Socio-demographic characteristics of married women in the reproductive age group, Adigrat town, January 2012 (n=592)

Socio- demographic characteristics	Frequency (n)	Percentage (%)
Age group of participants		
15-19	10	1.7
20-24	128	21.6
25-29	172	29.0
30-34	103	17.4
35-39	113	19.1
40-44	40	6.8
45-49	26	4.4
Religion		
Orthodox	536	90.5
Muslim	22	3.7
Catholic	34	5.8
Educational level of participants		
No education	92	15.5
Primary (1-8th)	189	31.9
Secondary (9-12th)	217	36.7
Higher education	94	15.9
Educational level of their partner		
No education	54	9.1
Primary (1-8th)	142	24.0
Secondary (9-12th)	215	36.3
Higher education	181	30.6
Family size		
2	53	9.0
3-4	283	47.8
≥5	256	43.2
Occupation of participants		
Housewife	345	58.3
Employed (government & private)	158	26.7
Daily labourer	59	10.0
Merchants	30	5.0
Occupation of their partners		
Employed (government & private)	344	58.1
Daily labourer	209	35.3
Merchants	39	6.6
***Family monthly income (ETB)**		
<600	143	24.1
600-2000	306	51.7
>2000	143	24.2

*income was categorized based on quartiles, ETB-Ethiopian birr

Table 2: Socio-demographic characteristics of FGD participants, Adigrat town, January 2012 (n=32)

Socio-demographic characteristics	Frequency (n)	Percentage (%)
Sex		
Female	25	78.1
Male	7	21.9
Age (years)		
18-24	6	18.8
25-29	13	40.6
30-34	4	12.5
35+	9	28.1
Religion		
Orthodox	30	93.8
Catholic	1	3.1
Muslim	1	3.1
Educational level of participant		
No education	9	28.1
Primary (1-8th)	12	37.5
Secondary (9-12th)	7	21.9
Higher Education	4	12.5
Occupation of participants		
Housewife	22	68.8
Employed (government & private)	6	18.7
Daily labourer	4	12.5
Number of births		
0	3	9.4
1-2	13	40.6
3- 4	7	21.9
5+	9	28.1
Contraceptives use status		
No	9	28.1
Pill	6	18.8
Depo-Provera	12	37.5
Implants	5	15.6

5.2. Reproductive history of the participants

The mean age of first marriage and first birth of the participants were 19 (±3.3 SD), and 20.7 (±3.2 SD) years respectively. Forty six (7.8%) of the participants have never given birth. The median number of births was 2 with 1 and 12 minimum and maximum births respectively. The median number of living children of the participants was 2 with 0 and 10 minimum and maximum children respectively. Seventy nine (14.5%) of the participants have experienced child death. Three hundred fifty eight (60.6%) of the participants do not want more child within the next 2 years; of those who do not want, 180(50.3%) was to space and 172(48%) was to limit. The mean of ideal desired number of births of the participant was 4.26 (±1.5 SD) with 366(61.9%) wanting to have three to four births in their life. In 552(93.4%) of the participants the decision on the number of children to have was decided jointly by the husband and wife, while 8(1.4%), 23(3.9%) and 8(1.4%) said husband, wife and God decides the number of children respectively. Five hundred twenty two (88.3%) of the participants discuss about FP with their husband.

5.3. Knowledge of modern contraceptives of the participants

Five hundred eighty seven (99.3%) participants mentioned (spontaneously or prompted) at least one type of modern contraceptives. Depo-Provera was the first (99.8%), followed by pills (99.5%) and implants (94.2%) to be recognized as modern contraceptives. Of the total participants of the survey, 556(94.7%) know at least one method of LAPMs. Among LAPMs the most known method was implant which was 553(99.5%), followed by IUD 493(88.7%). The least known methods were tubal legation (52.5%) and vasectomy (23.7%) (Table 3).

More than half (61.2%) of the participants mentioned that their first information was from health professionals. Four hundred eighty eight (87.8%) of the participants reported that they have exposure to LAPMs message through media within the past one year. About ninety four percent (93.5%) of the respondents said that LAPMs can prevent unwanted pregnancy, and 342 (61.3%) know that LAPMs can prevent child and maternal death (Table 3).

Table 3**:** Knowledge of modern contraceptives of married women in the reproductive age group, Adigrat town, January 2012

Variables	Frequency (n)	Percentage (%)
***Types of modern contraceptives known (n=587 each)**		
Pills	584	99.5
Depo-Provera	586	99.8
Implants	553	94.2
IUD	493	84.0
Tubal ligation	295	49.7
Vasectomy	132	22.5
Condom	518	87.5
Source of first information on FP (n=587)		
Neighbours/friends/relatives	71	12.1
Health professionals	359	61.2
Mass media	94	16.0
Husband	10	1.7
School	53	9.0
Know at least one LAPMs (n=587)		
Yes	556	94.7
No	31	5.3
***Type of LAPMs known (n=556 each)**		
Implants	553	99.5
IUD	493	88.7
Tubal ligation	292	52.5
Vasectomy	132	23.7
Exposure to LAPMs message (n=556)		
Yes	488	87.8
No	68	12.2
Type of media (n=488)		
Television	417	85.4
Radio	37	7.6
Print media	34	7.0
***General uses of LAPMs (n=556 each)**		
Prevent unwanted pregnancy	520	93.5
Prevent maternal and child death	342	61.5
Limiting family size	438	78.8
Child spacing	516	92.8

* Each of the percentages does not add up to 100.0 because respondents could choose several responses which could be spontaneous or prompted

The theme, categories, and codes of the result of qualitative analysis using open code are indicated in table 4 and the result is presented based on each category.

The qualitative result also indicated that the majority of women in the study were aware of short term (Depo-Provera, pills, and condom) and long-acting methods of contraception (implants, and IUD). But most of the participants had no knowledge of permanent contraceptive methods (male and female sterilization) (Table 4). One FGD participants said:

> *"I did not hear about sterilization of female as well as male before."* (30 years old women, illiterate, para five, depo user)

Similar to the women, male participants in the FGD indicated the presence of lack of awareness of LAPMs especially permanent methods of contraception (Table 4). One male FGD participants explained as*:*

> *"I am government employee; there are also other government employees in my neighbor. We did not have knowhow about male contraceptives. Clearly today's discussion is a good opportunity of education for me. I never learnt before as today, because nobody teaches us about such things…"* (37 years old man, Diploma, pill user)

Table 4: The theme, categories and codes of the qualitative result of the married women in the reproductive age group, married men and FP providers, Adigrat town, January 2012

Theme: Intention to use LAPMs is affected by preference of methods, knowledge and perception of LAPMs, service quality and other barriers.			
Categories	**Knowledge of LAPMs**	**Perception on LAPMs**	**Preference of short term contraception**
Codes	Lack of awareness Never taught before Considered as new thing Misunderstand duration Sterilization uncommon Know all methods Implants is good Avoids repeated visit Good to limit birth	Misperception of implants Fear of side effects Misperception of IUD Resistance to remove Misperception of permanent methods Dislike procedures Dislike long term	Prefers Depo-Provera Short term familiar Depo popular Depo easy to stop Depo avoid repeated visit Depo uncomfortable Depo side effect Depo delay/stop birth
Categories	**Service quality**	**Other factors to contraceptives use**	**Future fate of LAPMs**
Codes	Limited practice Poor counselling Resist to remove Providers busy Lack of professional confidence Commodity unsecured Capacity unsecured Proper counselling Commodity secured Remove as you like Capacity secured	Users middle income Users poor Users unmarried going out Users younger Married prefer depo Support each other Decide to gather Women convince partner Women accept more No difference by religion, No difference by education level	Good to shift to LAPM Accept with knowledge Long term popular Take time to shift Prefer long term Acceptance increased Avoid resistance to remove Provider training Home to home education Male education Comprehensive education Consider male sterilization Involving the community Aware employee

5.3.1. Knowledge on the distinct characteristics of LAPMs

Of all of the participants who know about LAPMs, 454(92.1%) of the participants know (spontaneous or prompted) that IUD is long term, and 360(73.0%) pregnancy occurs immediately after removal. More than fifty percent of participates do not know that IUD has no effect on breast feeding and has no interference with sexual intercourse. About fifty two percent (51.5%) had very good score of knowledge of IUD (Table 5).

Among the participants who mentioned implant as LAPMs, 506(91.5%) stated that it is long term contraceptive. More than half of the participants do not know that implants has no effect on breast feeding, has no interference with daily activity, and has minimum side effect. The knowledge score of implants was very good in 326(59.0%) of the participants (Table 5).

Only 132(23.7%) of the participants; know vasectomy as modern contraceptive method. Of those who know, 101(76.5%) said that it is permanent, and 99(75%) reported it do not need repeated clinic visits. About two third of them said it is fully effective and needs counseling and informed consent of the couples before performing it. Less than half of the respondents know that vasectomy requires safe and simple procedure. More than two third had very good knowledge score of vasectomy (Table 5).

More than half (52.5%) of the participants know that tubal ligation as one of the modern contraception method. Of those who know tubal ligation, 255(87.3%) said it is permanent method, and 245(83.9%) avoids repeated clinic visit for contraception. Two hundred thirty one (79.1%) of those respondents reported that it requires counseling and informed consent by both the husband and wife, and 182(62.3%) requires safe and simple procedure. About Eighty percent of participants had scored very good knowledge of tubal ligation (Table 5).

In the FGD sessions with women and men, and in-depth interview with the FP providers; it became clear that the majority of participants in the study were aware of long-acting methods of contraception (implants, and IUD). They also recognized the long term protection of pregnancy by avoiding repeated visit for short term contraceptives. But they had limited knowledge of permanent methods, and relied heavily on negative, second-hand stories from friends. There was a strongly expressed fear/dislike of procedures, misunderstanding of procedures, and side effects (headaches, bleeding changes, weight gain). Women also expressed concern about the return to

fertility after taking implants or IUD, and told stories about difficulty of removal and resistance to remove by the FP-providers (Table 4). One FGD participant said that;

> *"I did not have any knowhow on male and female sterilization, how is that? Implant is very dangerous, me myself I see it in my friend I feared it very much. I know that it suffer you. Sterilization is also harm full, I want to do that but I fear it because I heard that it can harm you if you do not eat well. I want to stop birth but it is said that it is not good for your health and you should eat. Poor who can't eat well how can use it?"* (30 years old women, illiterate, para 5, Depo user)

One male FGD participant explained as:

> *"I heard the presence of a medication which is inserted in your hand. But we do not know about male contraceptives. I suggest that it is good if we know and we entered it."* *(*30 years old male, grade 7 completed*)*

Table 5: Knowledge on the distinct characteristics of LAPMs of married women in the reproductive age group, Adigrat town, January 2012

Distinct characteristics of LAPMs	n (%)	score		
		Knowledge	good	very good
***Know about IUD (n=493 for each)**		14 (2.8)	225 (45.6)	254 (51.5)
It is very effective	341(69.2%)			
It is long term (used for more than 5 years)	454(92.1%)			
No effect on breast feeding	219(44.4%)			
Not good for female at high risk of STI	161(32.7%)			
No interference with sexual intercourse	232(47.1%)			
Immediately reversible	360(73.0%)			
Has minimal side effect	199(40.4%)			
***Know about implants (n=553 for each)**		14(2.5)	213(38.5)	326(59.0)
It is very effective	377(68.2%)			
It is used for long term (up to 5 years)	506(91.5%)			
No effect on breast feeding	260(47.0%)			
Insertion and removal require surgical procedure	329(59.5%)			
No interference with daily activity	261(47.2%)			
Immediately reversible	408(73.8%)			
Has minimal side effect	252(45.6%)			
***Know about vasectomy (n=132 for each)**		14(10.6)	30(22.7)	88(66.7)
It is very effective	86(65.2%)			
It is permanent	101(76.5%)			
Requires safe and simple procedure	65(49.2%)			
Do not need repeated clinic visit	99(75.0%)			
No effect on sexual performance	85(64.4%)			
No known long term side effect	82(62.1%)			
Requires counseling and informed consent	91(68.9%)			
***Know about female sterilization (n=292 each)**		15(5.1)	42(14.4)	235(80.5)
It is very effective	250(85.6%)			
It is permanent	255(87.3%)			
Requires safe and simple procedure	182(62.3%)			
Do not need repeated clinic visit	245(83.9%)			
No effect on sexual performance	197(67.5%)			
No known long term side effect	190(65.1%)			
Requires counseling and informed consent	231(79.1%)			

*Each of the percentages does not add up to 100.0 because respondents could choose several responses which could be spontaneous or prompted.

STI-sexual transmitted infections

Knowledge=only name the method, Good=know 1-4 distinct characteristics of LAPMs, Very good=know 5 or more distinct characteristics of LAPMs

5.4. Participants' beliefs and perceptions on modern contraception

Eighty one percent of the participants perceive as their husband supports the use of LAPMs but 69(11.7%) disagree. Almost all (99%) of the participants agree that child-spacing protects mothers and child death. Five hundred fifty two (93.4%) of the women perceive that as they have access to choice of all methods and facilities with competent providers in their vicinity. Ten percent of the participants do not agree that providers can be trusted to maintain confidentiality, to advice on method use and side-effects. Less than six percent of the participants perceive as they can not discuss about FP with spouse or convince spouse to use contraceptives. Only 171(28.9%) believe that husband decides if wife wants to use contraceptives. More than one forth (26.2%) of the participants perceive that contraceptives can harm a woman's womb, especially LAPMs can be very dangerous (Table 6).

In the qualitative result both the women and male participants said couples should support each other and contraceptive use should be decided to gather by the couples. But concerns about LAPMs were still evident, especially in relation to implants and IUDs. Women still expressed concern about negative effect on the return of fertility after taking implants or IUD, insertion and removal procedures, effect on physical activities and they were also associated with the type of food they were taking. They told stories about difficulty of removal and resistance to remove implants by the FP-providers. IUD was perceived negatively. Some women had concern about the need for a vaginal examination, discomfort during sex, side effects (infection), effects on long-term fertility, and lack of protection against sexual transmitted infections (Table 4). One FGD participants said that:

> *"After using IUD you may not give birth even it is said that it can stop birth. Implant also has pain and may be difficult to remove it if it is absorbed (covered) by fat. IUD can result in sterility. Implant can make the injected hand numb and you can't rise and carry heavy things through that hand."* (37 years old woman, illiterate, para 9, depo user)

Table 6: Beliefs and perceptions on modern contraceptives among married women in the reproductive age group, Adigrat town, January 2012, (n=591)

Statements regarding perceptions on modern contraceptives	Level of agreement		
	Agree, n(%)	Neutral, n(%)	Disagree,n(%)
Husband supports LAPMs use	478(80.9)	44(7.4)	69(11.7)
Child-spacing protects mother's and child death	585(99.0)	5(0.8)	1(0.2)
Access to choice of methods	552(93.4)	28(4.7)	11(1.9)
Providers can be trusted to maintain confidentiality	530(89.7)	40(6.8)	25(3.6)
Discuss with spouse or convince spouse to use	556(94.1)	20(3.4)	15(2.5)
Husband decides if wife wants to use contraceptives	171(28.9)	45(7.6)	375(63.5)
LAPMs can harm the womb	155(26.2)	103(17.4)	333(56.3)

The FP providers in the in-depth interview said that, the most frequently mentioned attitudes that women had which contribute to keeping LAPMs use low were: fears and rumors about the methods, mistrust towards the providers on removal especially implants, and preference for other methods (Table 4). One of the in-depth interview participants explained the situation as:

> *"…long term is perceived by the mothers as it needs surgical procedure (operation); they fear it. They said it can cause infertility after use. Implant can cause numbness of the hand, it can price you, and you can't work. They perceive IUD as if it can go to head and not good during sex. Female sterilization, they consider as a heavy and difficult procedure; they hate it. Male sterilization is not talked here…"* (FP provider, diploma nurse)

5.5. Modern contraceptive utilization pattern of the participants

Among the participants, 473(80.0%) have ever used at least one of the modern methods of contraception. The current modern contraceptive prevalence rate was 51.3% (95%CI=47.2, 55.4). The most preferred method was Depo-Provera accounting 207(68.3%) followed by pills 35(11.6%). The prevalence of LAPMs among the women currently taking modern contraceptives was 59(19.5%), with the highest contribution of implants 31(10.2%) (Figure 3). The median duration of modern contraceptive use of the participants was 24 months with one and hundred months minimum and maximum respectively. Among the ever users, 107(22.6%) have history of method shift due to different reasons. The main reasons was due to side effect (43.9%), need for long acting contraceptive methods (21.5%) and due to convenience of the new method (17.8%) (Table 7). The highest shift was from pill to injection accounting 59(55.1%), followed by the shift from injection to pill 24(22.4%), 16(15%) was shifted to one of the LAPMs.

The main source of the current method was government health centers (71.3%) and hospital (20.8%). Twenty one (6.9%) of the participants said that their partner does not approve the current contraceptive method they were taking (Table 7).

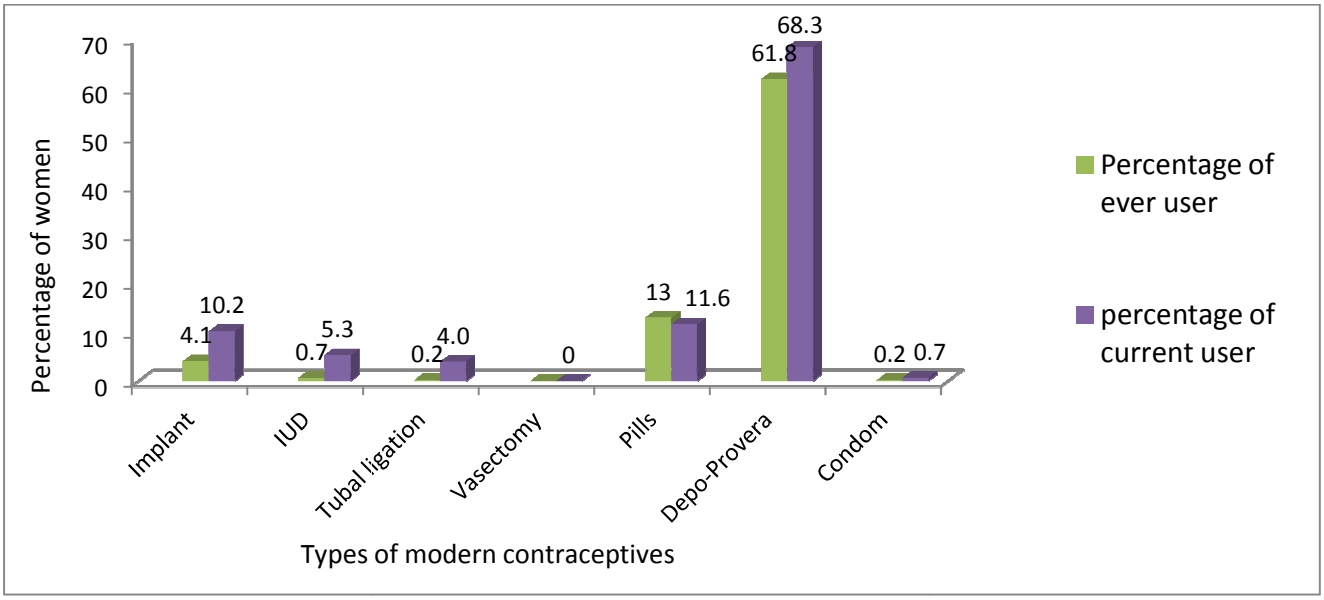

Figure 3: Modern contraceptives practice among married women in the reproductive age group, Adigrat town, January 2012

Various reasons were given during the interviews for not using modern contraception. The main reason stated was desire to be pregnant 112(38.9%), followed by exclusive breastfeeding (25%) (Figure 4).

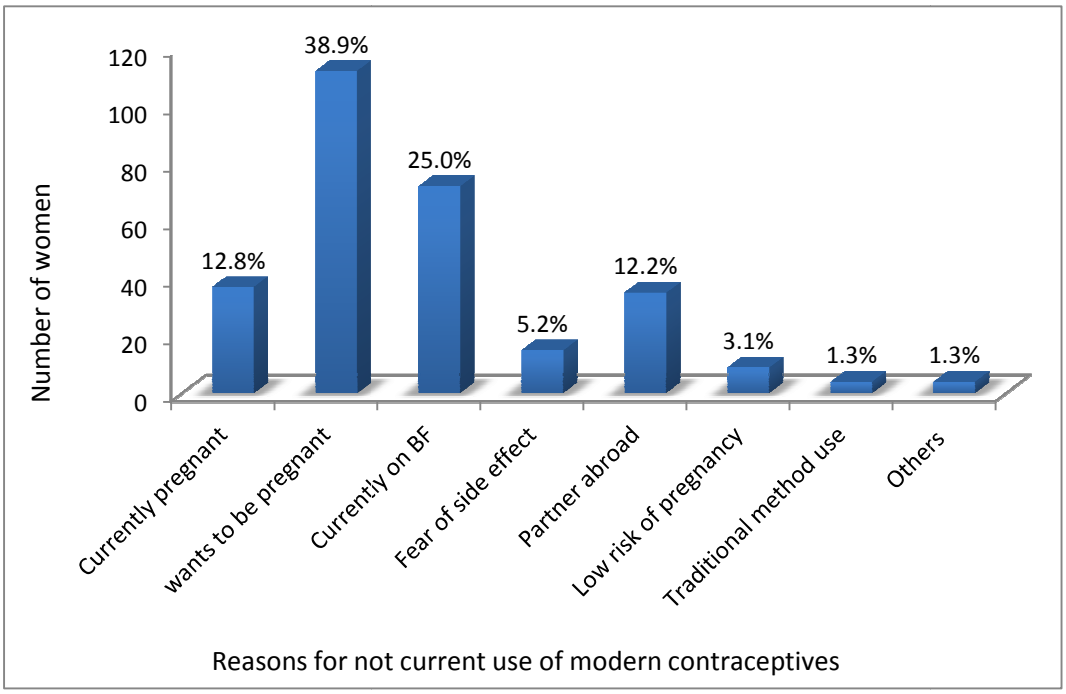

Figure 4: Reasons for non current use of modern contraceptives among married women in the reproductive age group, Adigrat town, January 2012

The FGD and in-depth interview also revealed that Depo-Provera and pills were considered "normal". For many these methods were all they knew. Specifically injection (Depo-Provera) was perceived as easy to use and stop as you like, easily accessible, and free from procedures. Injection enabled avoidance of procedures, which could be embarrassing and necessitated making an appointment, which some women clearly found difficult (Table 4). One in-depth interviewee said that:

> *"Mothers prefer depo and pill because they can stop themselves. They did not need procedure and others support to stop or remove like implant, and IUD. It can be also because of their partner, to take it covert."*(Diploma nurse, FP provider)

Table 7: Practice of modern contraceptives among married women in the reproductive age group, Adigrat town, January 2012

Variables	Frequency (n)	Percentage (%)
Contraceptives ever use (n=591)		
Yes	473	80.0
No	118	20.0
Duration of contraceptive ever use (n=473)		
≤36	370	78.2
36-60	68	14.4
>60	35	7.4
Ever shifted (n=473)		
Yes	107	22.6
No	366	77.4
Reason for shifting (n=107)		
Inconveniency of previous method	7	6.5
Convenience of the new method	19	17.8
Due to side effect	47	44.0
Need for long acting contraceptive	23	21.5
Provider advised	7	6.5
Others[1]	4	3.7
Reasons of not ever use (n=118)		
Lack of knowledge	9	7.6
Lack of access	5	4.2
To get pregnant	68	57.6
Fear of infertility	4	3.4
Fear of side effect	6	5.1
It is sinful to use	4	3.4
Traditional method use	9	7.6
Partner was abroad	11	9.3
Others[2]	2	1.7
Current use (n=591)		
Yes	303	51.3
No	288	48.7
Source of current method (n=303)		
Health center	216	71.3
Government hospital	63	20.8
Private clinic	9	3.0
Pharmacy (Drug vendor)	10	3.3
Others[3]	5	1.6

[1]includes partner influence, and to give birth; [2]includes partner disapproval, and perceive low risk of pregnancy; [3]includes shop and friends/relatives

5.6. Intention to use long acting and permanent methods

The prevalence of intention to use LAPMs was 48.4% (95% CI= 44.1, 52.7). While 78(14.6%) were unsure of their intention. Of those who have intention, 152(58.9%) has intention to use one of the LAPMs within the next one year. The most preferred method participants' intend to use in the future was implants which account 184(71.3%), followed by IUD 62(24.0%).The main reasons stated for not intending to use LAPMs were fear of side effect (34.5%) and fear of infertility after use (21.1%). Very few women (1.5%) reported that LAPMs contraception was against religious or cultural beliefs (Table 8).

The participants in the FGD and in-depth interview with FP providers stated that the public might be interested in LAPMs in the future. However, for greater consideration of LAPMs in the future, women should be informed and counseled well on all of the choices of modern contraception from health care professionals to make informed choices in an appropriate, non-judgmental and easily accessible manner (Table 4). One FGD participant said that:

> *"Injection is considered as tradition because it is well known whereas long term is new; but it will be preferred /used as the injection for the future. Therefore if it is introduced well it will be used by everybody"*(29 years old woman, 7th grade, housewife, jaddle user).

All providers believe that demand for LAPMs had increased since they had started to work in their particular clinic or center; especially implants are becoming more popular. But the inclusion of LAPMs especially permanent methods (tubal ligation, and vasectomy) in the counseling of methods was still not well done. They indicated the need of education of the people on all methods especially LAPMs and proper counseling on all methods and avoid the women's fear of removal of implants (Table 4). One FP provider in the in-depth interview said that:

> *"In our clinic we have done a lot, almost one per day for long term contraceptives. I want to say that the health professionals should educate the people with the focus on long term contraceptives. If you educate appropriately they can easily change and use long term contraceptives. Because of knowledge women prefer short term but we should not give her simply what she say, we should educate and counsel, then they can change. We have clients as a sample in the Kebeles they are users of long term contraceptives they educate women and they bring for us for the service."* (Diploma nurse, FP provider)

Table 8: Intention to use LAPMs among married women in the reproductive age group, Adigrat town, January 2012

Variables	Frequency (n)	Percentage (%)
Intention to use LAPMs (n=533)		
Yes	258	48.4
No	197	37.0
I am not sure	78	14.6
Reason for no intention to use LAPMs (n=275)		
Fear of side effect	95	34.5
Lack of awareness of the LAPMs	12	4.4
Not my preferred method	29	10.5
Little risk of pregnancy	25	9.1
To have more children	46	16.7
Husband disapproval	6	2.2
Religion prohibition	4	1.5
Fear of infertility	58	21.1
Intention to use LAPMs in the next one year (n=258)		
Yes	152	58.9
No	85	32.9
I am not sure	21	8.2
Types of LAPMs preferred (n=258)		
Implants	184	71.3
IUD	62	24.0
Tubal ligation	10	3.9
Vasectomy	2	0.8

5.7. Factors associated with intention to use LAPMs

On bi-variate analysis age, education of the participants and their partner, occupation of the participants, number of child death, number of more children wanted, desire to have a child within two years or soon, participants ideal desired number of children in their life, discussion on FP with partner, knowledge of any one of the LAPMs, exposure to FP messages through media, ever use and current use of modern contraceptives, perception on husbands supports of LAPMs use, perception on husband decides if woman wants to use contraceptives, and LAPMs can harm the womb were found significantly associated with intention to use LAPMs (Table 9-11)**.**

Those variables which were significant on bi-variate analysis (P-value<0.05) were entered to multiple logistic regression analysis to examine the effect of an independent variable to intention to use LAPMs, while controlling other independent variables (19, 25, 30, 33). But variables with small sample size (number of child death, and number of more children wanted) were not included in the model. Due to multi-colliniarity of exposure of LAPMs messages through media with knowledge of LAPMs, exposure to LAPMs message also did not included in the model. Results of all variables in the multiple logistic regression model by the enter method are presented in table 12.

5.7.1. Intention to use LAPMs and socio-demographic characteristics

Participants' age (45-49 years) compared to 15-19 years old was significantly associated with intention to use LAPMs (COR=0.1, 95% CI= 0.02, 0.84) (Table 9), but this was not significant after controlling other variables (Table12). This was also indicated in the qualitative method that most of the LAPMs user was younger, unmarried women especially those going out unmarried women. One FP provider explained this as:

> *"Married women did not usually prefer long term contraceptives they took Depo-Provera. Most of the users of long terms are students and people going out usually took jaddle. Because of the culture people perceive as prostitute if a young girl seen taking contraceptives and they prefer to take once and they did not return back* (Diploma nurse, FP provider)."

The proportion of women intending to use LAPMs increased slightly from uneducated women to women with secondary education and then decreased considerably with increased educational attainment but this was not significant after adjusting for other variables (Table 12). Similarly the

proportion of intention to use LAPMs increases as the educational status of their partner's increases from those who were with no education to those who completed secondary grade (9-12th) but decreases with those who have higher education. Those participants whose partners have completed primary education (AOR=3.7, 95%CI=1.47, 9.40), and secondary education (AOR=2.9, 95%CI=1.13, 7.44) were significantly associated with intention to use LAPMs (Table12).

Participants' working status had a significant effect on the intention to use LAPMs. Women who were employed (AOR=0.4, 95% CI=0.23, 0.81), and merchants (AOR=0.3, 95% CI=0.10, 0.79) have lower odds of intention to use LAPMs compared to women who were housewives (Table 12). Whereas the working status of participants partner was not showed significant association with intention to use LAPMs (Table 9). In the FGD and in-depth interview most of the participants associated contraception with their economic status. As the main reason for taking contraceptives is the economic problem making difficult to serve the children ever born. One male participant in the FGD explained this as:

> *"If we talk really, if we have good economy we want to have many children"* (37 years old man, Diploma, pill user)

The monthly family income of the participants was marginally significant on bi-variate analysis but it was insignificant on multivariate analysis. (AOR=1.0, 95%CI=1.00, 1.00) (Table12).

Family size, the possession of radio and television were not statistically associated with intention to use LAPMs of contraception (Table 9).

Table 9: Bi-variate analyses of respondents' characteristics' and intention to use LAPMs among married women in the reproductive age group, Adigrat town, January 2012

Variables	Total (n)	Intention to use LAPM		COR(95%CI)	P-value
		Yes, n(%)	No, n(%)		
Age (years)					
15-19	9	6(66.7)	3(33.3)	1.0(ref.)	
20-24	122	58(47.5)	64(52.5)	0.4(0.10, 1.89)	0.278
25-29	162	82(50.6)	80(49.4)	0.5(0.12, 2.12)	0.356
30-34	98	46(46.9)	52(53.1)	0.4(0.10, 1.87)	0.267
35-39	93	45(48.4)	48(51.6)	0.4(0.11, 1.98)	0.304
40-44	31	17(54.8)	14(45.2)	0.6(0.12, 2.87)	0.530
45-49	18	4(22.2)	14(77.8)	**0.1(0.02, 0.84)**	**0.032**
Participants education					
No education	86	25(29.1)	61(70.9)	1.0(ref.)	
Primary (1-8th)	174	102(58.6)	72(41.4)	3.4(1.98, 6.01)	**0.000**
Secondary (9-12th)	192	102(53.1)	90(46.9)	2.7(1.60, 4.76)	**0.000**
Higher education	81	29(35.8)	52(64.2)	1.3(0.71, 2.60)	0.353
Partner's education					
No education	51	10(19.6)	41(80.4)	**1.0(ref.)**	
Primary (1-8th)	131	71(54.2)	60(45.8)	**4.8(2.24, 10.5)**	**0.000**
Secondary (9-12th)	198	112(56.6)	86(43.4)	**5.3(2.53, 11.2)**	**0.000**
Higher education	153	65(42.5)	88(57.5)	**3.0(1.41, 6.48)**	**0.004**
#Family size	533	258(48.4)	275(51.6)	0.9(0.87, 1.06)	0.479
Participants occupation					
Housewife	320	175(54.7)	145(45.3)	1.00(ref.)	
Employed	129	45(34.9)	84(65.1)	**0.4(0.29, 0.67)**	**0.000**
daily labourer	56	31(55.4)	25(44.6)	1.0(0.58, 1.81)	0.926
Merchants	28	7(25.0)	21(75.0)	**0.2(0.11, 0.66)**	**0.004**
Partners' occupation					
Employed	300	137(45.7)	163(54.3)	1.0(ref.)	
Daily labourer	198	105(53.0)	93(47.0)	1.3(0.93, 1.92)	0.108
Merchants	35	16(45.7)	19(54.3)	1.0(0.49, 2.02)	0.996
#Family monthly income	533	258(48.4)	275(51.6)	1.0(1.00, 1.00)	**0.005**
Possession of TV					
Yes	370	88(50.8)	182(49.2)	0.7(0.50, 1.05)	0.095
No	163	70(42.9)	93(47.1)	1.0(ref.)	
Possession of Radio					
Yes	265	119(44.9)	146(55.1)	1.3(0.94, 1.85)	0.108
No	268	139(51.9)	129(48.1)	1.0(ref.)	

#variables treated as continuous variable

5.7.2. Intention to use LAPMs and reproductive history of participants

Women who have history of child death have lower odds of intention to use LAPMs. Similarly women who desired additional children were less likely to intend to use LAPMs than those who did not want more children (COR=0.8, 95%CI=0.73, 0.95) (Table 10). But these variables were not included in the multivariate analysis because of their lower sample size due to missing values.

Participants who do not want more child within the next 2 years were 1.9 times more likely to intend to use LAPMs compared to those who want to have child within the next two years (AOR=1.9, 95% CI=1.22, 3.13) after controlling other variables (Table 12). Ideal desired number of children was found to have significant negative impact on the intention to use LAPMs of contraception (AOR=0.74, 95%CI=0.62, 0.88) (Table 12).

On bi-variate analysis couples discussion on FP was significantly associated with participants' intention to use LAPMs (COR=2.6, 95%CI=1.47, 4.55) (Table 10). But this was not significant on multivariate analysis (AOR=1.2, 95%CI=0.58, 2.83) (Table 12). In most (93.4%) of the participants the desired number of children was decided jointly and this had not showed significant difference in the intention of the participants.

5.7.3. Intention to use LAPMs with knowledge and practices of modern contraceptives

There was a statistical significant association of intention to use among those who know at least on method of LAPMs (AOR=4.7, 95% CI=1.58, 14.01) compared to their counterparts (Table 12). Women who were exposed to LAPMs messages through media within the last year had 2.4 times higher odds of intention to use LAPMs (COR=2.4, 95%CI=1.40, 4.23) than those who were not exposed (Table 10). But it was not included in the multivariate model because of co-linearity with the knowledge of LAPMs.

Women with prior experience of contraception were 1.7 times (COR=1.7, 95%CI=1.11, 2.61) as likely to intend LAPMs as their counterparts without such experience (Table 10). But this association has lost after controlling other variables through multivariate analysis (AOR=1.4, 95% CI=0.78, 2.57) (Table 12). Similarly women who were currently using modern contraception had 60% higher odds of intention to use any one of the LAPMs of contraceptives (COR= 1.6, 95% CI 1.13, 2.25) compared to their counterparts (Table 10). But this was not significant after controlling for other variables (AOR=0.86, 95% CI=0.53, 1.39) (Table 12).

Table 10: Bi-variate analyses of respondents' reproductive history, knowledge and practice of modern contraceptives with intention to use LAPMs among married women in the reproductive age group, Adigrat town, January 2012

Variables	Total (n)	Intention to use LAPM		Crude OR (95%CI)	P-value
		Yes, n(%)	No, n(%)		
#Age at first marriage	533	258(48.4)	275(51.6)	1.0(0.97, 1.07)	0.312
Ever Birth					
Yes	491	236(48.1)	255(51.9)	0.8(0.44, 1.55)	0.592
No	42	22(52.4)	20(47.6)	1.00(ref.)	
#Age at first birth	491	236(48.1)	255(51.9)	1.0(0.96, 1.07)	0.526
#No. of living children	491	236(48.1)	255(51.9)	0.9(0.84, 1.04)	0.264
#No. of child death	491	236(48.1)	255(51.9)	**0.6(0.48, 0.98)**	**0.040**
#No. more children wanted	491	236(48.1)	255(51.9)	**0.8(0.73, 0.95)**	**0.006**
Wants more child with in 2yr					
Yes	223	87(39.0)	136(61.0)	1.0(ref.)	
No	310	171(55.2)	139(48.8)	**1.9(1.35, 2.72)**	**0.000**
#Ideal desired no. of births	533	258(48.4)	275(51.9)	**0.7(0.65, 0.84)**	**0.000**
Discussion on FP					
Yes	467	239(51.2)	228(48.4)	**2.6(1.47, 4.55)**	**0.001**
No	66	19(28.8)	47(71.2)	1.0(ref.)	
Decision on the no. of child					
Husband	8	4(50.0)	4(50.0)	1.0(ref.)	
Wife	22	8(36.4)	14(63.6)	0.5(0.11, 2.93)	0.502
Both	495	246(49.7)	249(50.3)	0.9(0.24, 3.99)	0.986
Know LAPMs					
Yes	498	251(50.4)	247(49.6)	**3.5(1.47, 8.23)**	**0.004**
No	31	7(22.6)	24(77.4)	1.0(ref.)	
Exposure to LAPMs message					
Yes	432	230(53.2)	202(46.8)	**2.4(1.40, 4.23)**	**0.002**
No	66	21(31.8)	45(68.2)	1.0(ref.)	
Ever use of contraceptives					
Yes	420	215(51.2)	205(48.8)	**1.7(1.11, 2.61)**	**0.014**
No	113	43(38.1)	70(60.9)	1.0(ref.)	
Current use of contraceptives					
Yes	245	134(54.7)	111(45.3)	**1.6(1.13, 2.25)**	**0.008**
No	288	124(43.1)	164(56.9)	1.0(ref.)	

#variables treated as continuous covariates
no.=number
ref.=reference

5.7.4. Intention to use LAPMs and perceptions on modern contraception

There was a significant positive relationship between the participants' perception of husbands support LAPMs use and his wife's intention to use LAPMs. Wives with the perception that their husbands do not support the use of LAPMs had 80% lower intention (AOR=0.2, 95% CI=0.09, 0.45) to use LAPMs than those who were with the perception that their husbands agree to use (Table 12). Participants who do not know the view of their partner on LAPMs use had about 60% lower odds of intention (COR=0.4, 95% CI=0.20, 0.78) compared to those who said that their partners agree to use LAPMs. But this was not significant after controlling the other variables (Table 12).

Women who did not perceive that their husband decides if wife can use contraceptives had about 60% higher odds of intention (COR=1.6, 95% CI=1.10, 2.36) than those who perceive that. Participants who did not had view of whether her husband decides or not had lower odds of intention to use LAPMs (COR=0.45, 95%CI=0.21, 0.95) compared to those who agree that her partner decides if she want use (Table 11). But this was not significant in multivariate analysis (Table 12).

Participants' fear that LAPMs would harm a woman's womb lowered a woman's intentions to use those methods significantly. A woman who perceive that LAPMs can harm her womb had about 76% lower odds of intention to use LAPMs (AOR=0.24(0.14, 0.41) compared to those who did not perceive that it can harm the womb. A woman who did not have idea on the LAPMs harm womb had also 74% lower odds of intention compared to those who disagree (Table 12).

There was no significant difference in the proportion of intention by the perceptions of participants on child spacing protects mother's child death, perception on access to all choice of methods, and facilities with competent providers in the town, providers can be trusted to maintain confidentiality, to advise on method use and side-effects, and perception on the ability to discuss about FP with spouse or convince spouse to use contraceptives (Table 11).

Table 11: Bi-variate analyses of respondents' perceptions and intention to use LAPMs among married women in the reproductive age group, Adigrat town, January 2012

Variables	Total (n)	Intention to use LAPM		COR (95%CI)	P-value
		Yes, n(%)	No, n(%)		
Husbands support					
Agree	425	232(54.6)	193(45.4)	1.0(ref.)	
Neutral	43	14(32.6)	29(67.4)	**0.4(0.20, 0.78)**	**0.007**
Disagree	65	12(18.5)	53(81.5)	**0.18(0.09, 0.36)**	**0.000**
Spacing protects death					
Agree	528	255(48.3)	273(51.7)	1.0(ref.)	
Neutral	5	3(50.0)	2(50.0)	1.6(0.26, 9.68)	0.601
Access to all choices of FP					
Agree	498	244(49.0)	254(51.0)	1.0(ref.)	
Neutral	26	10(38.5)	16(61.5)	0.6(0.29, 1.46)	0.298
Disagree	9	4(44.4)	5(55.6)	0.8(0.22, 3.13)	0.787
Providers trust					
Agree	477	238(49.9)	239(50.1)	1.0(ref.)	
Neutral	37	14(37.8)	23(62.2)	0.6(0.30, 1.21)	0.161
Disagree	19	6(31.6)	13(68.4)	0.4(0.17, 1.24)	0.126
Convince spouse					
Agree	502	249(49.6)	253(50.4)	1.0(ref.)	
Neutral	19	6(31.6)	13(68.4)	0.47(0.17, 1.25)	0.131
Disagree	12	3(25.0)	9(75.0)	0.3(0.09, 1.26)	0.107
Husband decides					
Agree	160	68(42.5)	92(57.5)	1.0(ref.)	
Neutral	44	11(25.0)	33(75.0)	**0.45(0.21, 0.95)**	**0.038**
Disagree	329	179(54.4)	150(45.6)	**1.6(1.10, 2.36)**	**0.014**
LAPMs can harm womb					
Agree	146	39(26.7)	107(73.3)	0.19(0.12,0.29)	**0.000**
Neutral	100	30(30.0)	70(70.0)	0.2(0.13, 0.36)	**0.000**
Disagree	287	189(65.9)	98(34.1)	1.0(ref.)	

ref.=reference

Table 12: Multivariate analyses of selected factors affecting intention to use LAPMs among married women, Adigrat town, January 2012

Variables	Total (n)	Intention to use LAPM		COR(95%CI)	AOR(95%CI)
		Yes, n(%)	No, n(%)		
Age (years)					
15-19	9	6(66.7)	3(33.3)	1.0(ref.)	
20-24	122	58(47.5)	64(52.5)	0.4(0.10, 1.89)	0.4(0.08, 2.69)
25-29	162	82(50.6)	80(49.4)	0.5(0.12, 2.12)	0.4(0.07, 2.25)
30-34	98	46(46.9)	52(53.1)	0.4(0.10, 1.87)	0.2(0.05, 1.68)
35-39	93	45(48.4)	48(51.6)	0.4(0.11, 1.98)	0.4(0.07, 2.87)
40-44	31	17(54.8)	14(45.2)	0.6(0.12, 2.87)	0.7(0.10, 5.35)
45-49	18	4(22.2)	14(77.8)	0.1(0.02, 0.84)	0.1(0.01, 1.09)
Participant education					
No education	86	25(29.1)	61(70.9)	1.0(ref.)	
Primary (1-8th)	174	102(58.6)	72(41.4)	3.4(1.98, 6.01)	1.7(0.84, 3.41)
Secondary (9-12th)	192	102(53.1)	90(46.9)	2.7(1.60, 4.76)	1.6(0.73, 3.48)
Higher education	81	29(35.8)	52(64.2)	1.3(0.71, 2.60)	1.4(0.49, 4.02)
Partner's education					
No education	51	10(19.6)	41(80.4)	1.0(ref.)	
Primary (1-8th)	131	71(54.2)	60(45.8)	4.8(2.24, 10.5)	**3.7(1.47, 9.40)****
Secondary (9-12th)	198	112(56.6)	86(43.4)	5.3(2.53, 11.2)	**2.9(1.13, 7.44)***
Higher education	153	65(42.5)	88(57.5)	3.0(1.41, 6.48)	1.8(0.65, 5.31)
Participant occupation					
Housewife	320	175(54.7)	145(45.3)	1.00(ref.)	
Employed	129	45(34.9)	84(65.1)	0.4(0.29, 0.67)	**0.4(0.23, 0.81)****
Daily labourer	56	31(55.4)	25(44.6)	1.0(0.58, 1.81)	0.6(0.33, 1.31)
Merchants	28	7(25.0)	21(75.0)	0.2(0.11, 0.66)	**0.3(0.10, 0.79)***
#Family income	533	258(48.4)	275(51.6)	1.0(1.00, 1.00)	1.0(1.00, 1.00)
Wants more child with in 2 years					
Yes	223	87(39.0)	136(61.0)	1.0(ref.)	1.0(ref.)
No	310	171(55.2)	139(48.8)	1.9(1.35, 2.72)	**1.9(1.22, 3.13)****
#Ideal desired no. of births	533	258(48.4)	275(51.9)	0.7(0.65, 0.84)	**0.7(0.62, 0.88)*****
Discussion on FP					
Yes	467	239(51.2)	228(48.4)	2.6(1.47, 4.55)	1.2(0.58, 2.83)
No	66	19(28.8)	47(71.2)	1.0(ref.)	1.0(ref.)
Know LAPMs					
Yes	498	251(50.4)	247(49.6)	3.5(1.47, 8.23)	**4.7(1.58, 14.01)****
No	31	7(22.6)	24(77.4)	1.0(ref.)	1.0(ref.)

Table 12: Multivariate analyses of selected factors affecting intention to use LAPMs among married women, Adigrat town, January 2012 (Continued)

Variables	Total (n)	Intention to use LAPM		COR(95%CI)	AOR(95%CI)
		Yes, n(%)	No, n(%)		
Ever use					
Yes	420	215(51.2)	205(48.8)	1.7(1.11, 2.61)	1.4(0.78, 2.57)
No	113	43(38.1)	70(60.9)	1.0(ref.)	1.0(ref.)
Current use					
Yes	245	134(54.7)	111(45.3)	1.6(1.13, 2.25)	0.86(0.53, 1.39)
No	288	124(43.1)	164(56.9)	1.0(ref.)	1.0(ref.)
Husband support					
Agree	425	232(54.6)	193(45.4)	1.0(ref.)	1.0(ref.)
Neutral	43	14(32.6)	29(67.4)	0.4(0.20, 0.78)	0.8(0.35, 2.00)
Disagree	65	12(18.5)	53(81.5)	0.18(0.09, 0.36)	**0.2(0.09, 0.45)*** **
Husband decides					
Agree	160	68(42.5)	92(57.5)	1.0(ref.)	1.0(ref.)
Neutral	44	11(25.0)	33(75.0)	0.4(0.21,0.95)	0.6(0.27, 1.68)
Disagree	329	179(54.4)	150(45.6)	1.6(1.10, 2.36)	1.0(0.62, 1.69)
LAPMs can harm womb					
Agree	146	39(26.7)	107(73.3)	0.19(0.12,0.29)	**0.24(0.14, 0.41)*** **
Neutral	100	30(30.0)	70(70.0)	0.2(0.13, 0.36)	**0.26(0.13, 0.49)*** **
Disagree	287	189(65.9)	98(34.1)	1.0(ref.)	1.0(ref.)

* Significant at P<0.05, **significant at P<0.01, ***significant at P<0.001

#family monthly income and number of ideal desired children to have in life were treated as continuous variable. no. =number; ref.=reference

NB. variables with P-Value<0.05 was entered to the model by using enter method but those variables with high missing value (number of child death, and number of more children wanted) and exposure to mass media due to multi-colliniarity with knowledge of LAPMs was not included in the model.

6. Discussion

In this study the magnitude of intention to use LAPMs was 48.4%. This result was lower than the findings in Butagira (65.8%) and in Ambo town (57.0%) (28, 29). This discrepancy could be due to the difference in the study participants. This study was conducted only on currently married women where as in Buajira was all women and in Ambo was among all women attending FP clinics. In addition to this it could be also because of the misconception of the participants on fertility return after the use of LAPMs. More than sixty percent (60.6%) do not want to have child within the next two years but their intention is low. This indicates that the FP providers need to assess the reproductive intention of the women and inform them about all the FP methods available during FP counseling.

Fifty nine percent of the participants have intention to use at least one of the LAPMs methods in the coming one year. The most preferred LAPMs was implants (71.3%). This was similar with the finding in Ambo (72.2%) (29). This is relevant for program planning and provides some background for the provision of the different contraceptive method choices. Less than five percent (4.7%) intend to use permanent methods. But in Pakistan intention to use female sterilization was 12% (22). This low level goes in line with the low level of knowledge of the participants in these methods as only less than fifty percent recognized as modern methods of contraception and the negative concern of the participants on these methods.

Intention to limit childbearing was significantly associated with women's age (25). But the age of the participants was not significantly associated with their intention to use LAPMs. Similarly this was not significant in the study conducted in Ambo (29). This could be explained by the participants' fear on LAPMs or preference of short term methods.

The proportion of participants' intention to use LAPMs increased with their husbands' education level. Wives whose husbands had primary education and secondary education level shown significant association with intention to use LAPMs. This result indicates that partner's education was one of the most important factors relating to intention to use LAPMs. Similarly partner's education was positively associated with contraception utilization in the study conducted in Butagira district (19). Increasing education might help in discussion on modern contraceptive and would increase knowledge about modern FP methods and hence, increase predisposition to their

intention and use of LAPMs. But education of the participants was not significantly associated with their intention. Similarly it was not significantly associated in Ambo town (29). In contrary women in Pakistan with secondary (OR = 3.02) or matriculate education (OR = 3.00) had higher intentions to use the IUD (22).

Participants working status has statistically significant negative effect on intention to use LAPMs. Women who were employed (AOR=0.4, 95% CI=0.23, 0.81) and merchants (AOR=0.3, 95% CI=0.10, 0.79) had lower odds of intention to use LAPMs compared to housewives. But the association was not significant in Ambo (29). The possible reason for the negative association of employment and intention to use LAPMs could be those employed women who work outside home may be more educated than housewives and likely to use some sort of traditional methods as indicated in Pakistan women with matriculate or higher education had a higher intention to use traditional methods (OR = 2.15) (22). Other possible reason could be the employed and merchants had good income and want to have many children. This is also supported by the FGD and in-depth interview which indicated that mostly the users of LAPMs are young, unmarried and in the low to middle economy. This could also an area of research.

Even though the monthly family income was marginally significantly associated with intention to use LAPMs on bi-variate but it was not significantly associated after controlling the other variables. This could be because of the participants' resistance to tell their correct monthly family income. The other possible reason could be due to the availability of all modern contraceptive methods free of charge at the public health care facilities in the town.

Women who did not desire additional children within the next two years were more likely to intend to use LAPMs than those who desired child within the next two years or soon (AOR=1.9, 95% CI=1.22, 3.13). A woman who wanted no more children was much more likely to intend using most contraceptive methods; particularly strong for sterilization (OR = 27.93) (22). Similarly desire for more children was significant predictors of future intention to use contraceptives (24).

The proportion of women intending to use LAPMs declines with increasing ideal desired number of children (AOR=0.74, 95% CI=0.62, 0.88). This suggests that women with higher desired number of children were less likely to intend to use these contraceptives. This could be explained by the participants' fear of fertility return after the use of long acting methods. Study in Pakistan

indicated that intention to use contraceptive methods were higher among women with four or more children (22).

Participants' discussion on FP with partner was not significantly associated with intention to use LAPMs (AOR=1.2, 95% CI=0.58, 2.83). But it was significantly associated with intention to use any one of the modern contraceptives in Pakistan (24). This discrepancy could be because of most of the participants (88.3%) discuss on FP with their partner and the discussion may not be specifically to LAPMs. There was no significant association with the role of the women on the decision of the number of children to have as almost all decide the number of children to have jointly (93.4%).

The participants' knowledge to recognize at least one method of LAPMs has significant positive impact on intention to use LAPMs in the future (AOR=4.7, 95% CI=1.58, 14.01). Similarly this was significantly associated in the study done in Ambo town (AOR=2.6, 95%CI=1.30, 3.24) (29).

There was a significant positive relationship between the participants' perception of husbands support LAPMs use and his wife's intention to use LAPMs. Wives with the perception that their husbands do not support the use of LAPMs were 80% less likely to intend to use LAPMs than those with the perception that their husbands agree to use. Study in Butajira also revealed significant association between men's support to FP and current use among married women (19). Therefore, policy makers responsible for national FP programs need to target husbands by constructing a message that encourages male participation in FP.

Women who perceive that contraceptives; especially LAPMs would make a woman sterile or harm her womb had 76% lowered odds of intention to use LAPMs compared to those who do not agree with this. This fear was also indicated by the FGD and in-depth interview participants. Similarly in Pakistan this perception was significantly associated with lowered intention to use female sterilization (OR = 0.70), and IUD (OR = 0.75) (22).

Both previous experience and current use of modern contraceptive had not shown significant effect in predicting future use of LAPMs. In the contrary to our study women who had used oral contraceptives were significantly more likely to have had a tubal ligation in Mexico (32). This discrepancy could be because of the participants' satisfaction with the method they were using and did not see a need to switch to LAPMs or due to the misconception on LAPMs of the participants

in the study area. It could be also due to the limited counseling of the providers on all of the available methods. Every woman who seeks FP information or services should be counseled on all methods of contraceptives and given an opportunity to ask questions after the provider has described the methods available.

More than quarter (26.2%) of the participants perceives that LAPMs could harm the womb. Similarly more than half (53.6%) of the married women had negative attitude towards practicing of LAPM in Mekelle (33), and 27.5% women in China believed that sterilization is harmful to health (39). A qualitative study in Scotland found that IUD was perceived negatively (18). Myths and misconceptions are widespread for LAPMs (6, 7).

The qualitative result indicated that some of the participants were misinformed about the methods, have fears and rumors on LAPMs keeping many women from intending to use LAPMs. The main source of fear of LAPMs use could be resulted from lack of appropriate information offered by service providers. The participants also indicated lack of counseling on all choices of the modern contraceptives especially LAPMs, and resistance to remove implants after insertion which could be some of the factors responsible for the low usage and intention to use LAPMs. Therefore in an attempt to promote reproductive health through the increasing use of modern contraceptives, FP programs need to counsel and educate women's to avoid these fears and perceptions hindering LAPMs use.

This study found that knowledge of modern contraceptives was nearly universal (99.3%) among the married women in the study area. This was similar with the studies done in Southern Ethiopia (99.4%) (19, 30). This finding indicated that married women in the study area seemed to possess a reasonable knowledge about modern contraceptives as less than one percent only expressed having not recognized any modern contraceptive method at all. But this finding may have been the result of a "knowledge of a method" variable that was evaluated as "have you heard about it", which may not actually reflect to an adequate knowledge to the method in question.

Specifically to LAPMs, almost all the participants (94.7%) were able to recognize at least one of the LAPMs. This finding was higher than the findings in Mekelle (63.9%), Butajira (25%) and Ambo town (57.0%) (28, 29, 33). This could be due to the recent continuous advertisement of LAPMs through mass media and significant number of participants (87.8%) said that they have

exposure to LAPMs message through mass media within the past one year which could have significant effect on the knowledge of LAPMs of the participants.

The least known or recognized method was permanent contraceptive methods. This was similar with the Ethiopian DHS 2011 and study done in Mekelle (12, 33). It is also supported by the FGD and in-depth interview that most of the participants do not know about these methods and are uncommon practice in the health facilities.

The overall current prevalence of modern contraception in the town was 303(51.3%). This finding is almost similar with the national DHS 2011 among urban currently married women (49.5%), urban areas of Gonder zones (48%) and Khartoum (51.4%) (12, 26, 38). The prevalence of LAPMs among the participants who were currently using modern contraceptives was 59(19.5%). This is higher than the findings in DHS 2011 (4.2%), Mekelle (12.3%), Butajira (5%), and Ambo town (9.8%) (12, 28, 29, 33). This could be due to the recent promotion of these methods through TV and radio. Only twelve (4%) of participants have found with tubal ligation and none of the participants had used vasectomy. The qualitative result also indicated that these methods were poorly known by both the women and men participants and rarely included in the FP counseling. This indicates the need of promoting and counseling of permanent methods.

7. Strength and limitation of the study

Strength of the study

- The study uses both quantitative and qualitative study design. The use of qualitative methods enabled us to gather information about the perceptions and beliefs of the study population, information that may have been less easily obtained by quantitative inquiry.
- Males were included in the FGDs to have better understanding of LAPMs use and perceptions in the study area.
- Family planning service providers were included in the in-depth interview to see the perceptions and choice of clients towards the LAPMs.
- The study subjects for the quantitative method were selected randomly and pretested questionnaire was used.
- Data collectors were trained female 12^{th} grade completed to make the communication easy with the female respondents. In addition to this daily check up of questionnaires for completeness and consistency of the data.

Limitation of the study

- Since this study examined the pattern of intention to use LAPMs only among married women, the sample was limited to only currently-married women at the time of the study. Therefore it does not include non married women or ever-married women. Hence these results may not be able to be generalized to all women in Adigrat town.
- The study did not ascertain the providers' attitudes and behaviors on LAPMs use. Provider behaviors such as imposing non-evidence-based requirements, refusal to counsel, and restrictions to one method probably influence the service negatively and further constrain access and use of LAPMs of contraceptives.
- Interviewer bias may be there especially in the questions with probing
- Cause and effect relationship was difficult to establish for the factors dealt in the study since it is cross-sectional study.

8. Conclusion

Based on the findings of the research it is concluded that the magnitude of intention to use LAPMs in the study area was still low (48.4%) and the main reasons to this were fear of side effect and fear of fertility return after use. The principal factors affecting intention to use LAPMs were women's perception that LAPMs can harm womb and husband's support of LAPMs use. This leads to the conclusion that the main limiting factors to the utilization of LAPMs in the town were misconceptions on LAPMs.

Other factors which were significantly associated with intention to use LAPMs were knowledge of any of LAPMs, partner's educational level, participants working status, women's desire to have additional children within the next two years or soon, and ideal number of children wanted to have.

The study has also clearly evidenced that knowledge of LAPMs, especially on female and male sterilization among the married women in the study area was low accompanied with misconceptions. The FGD and in-depth interview participants confirm that many of them know very little about LAPMs; misinformed about the methods, have fears and rumors on LAPMs keeping many women from intending to use LAPMs. The discussion also indicated lack of proper counseling on all choices of the modern contraceptives especially LAPMs, and resistance to remove implants after insertion which could be some of the factors responsible for the low usage and intention to use LAPMs. Some of which may be overcome by thoughtful publicity and positive, open discussion with health care professionals by focusing on concerns and barriers to uptake including insertion/removal and return to fertility.

9. Recommendations

Based on the finding of the study the following recommendations are forwarded to the responsible bodies.

- The Federal minister of health and regional health bureau and other responsible organizations should continue the promotion of LAPMs through mass media since this exposure is important to create awareness and alleviate the misconceptions of the community on LAPMs.
- The woreda health office should design educational programs that promote and reduce barriers to modern contraceptive use especially LAPMs at community level in the town. Encouraging and including personal experiences of satisfied LAPMs users in the educational programs is important to make other women aware of the advantages of this method over others and to avoid their fear.
- Efforts should be made to promote these methods more vigorously by the health extension workers in the town during their home to home visit.
- Women need more information from their health care providers in order to make informed choices about their FP preferences. Therefore the FP providers should counsel properly on all of the FP methods, address misconceptions and fears that exist about LAPMs and highlight the benefits of LAPMs during FP counseling.
- Husbands need relevant information to participate responsibly in making decisions on FP. Therefore the FP services should also be relevant for husbands to participate; by giving male-focused awareness campaigns, special clinic hours for men and making male contraceptive methods available and accessible at all level of the health facilities in the town.
- Teams of health care workers should be trained to offer the service, not just individuals within health centers and clinics, given that the probability of offering LAPMs services increases when at least two health workers are trained in each center. Provider training should include strategies on how to handle clients' fears and common myths during FP counseling.
- Training programs should also emphasize that providers must take into consideration women's reproductive intentions during FP care in order to achieve a better match between women's needs and their method of choice.
- Further detailed investigation of the FP service providers' attitude and behavior on LAPMs, and quality of FP counseling sessions in the town should be conducted.

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Annexes

Annex I. English version data collection tools

Addis Ababa University College of Health Science, School of Public Health

Survey questionnaire on intention to use long acting and permanent contraceptive methods and factors affecting it among married women in the reproductive age (15-49 years) in Adigrat town

Questionnaire ID:---------- Kebele No. ----------

I. Participant's information sheet

Greeting: Good morning/afternoon

My name is----------I am working on behalf of research team (project), which is conducted by Addis Ababa University. I would like to ask few questions which take around 20 munities about knowledge, perception, and intention to use family planning methods especially long acting and permanent contraceptives among married women in the reproductive age. Your genuine responses that you are going to give is very important to identify problems related to long acting and permanent contraceptive methods, and design programs of family planning service in this town and in general to our country. You are selected randomly to be participant of this study if you give me consent after you have understood the following information sheet:

Title of the study: Intention to use long acting and permanent contraception methods and factors affecting it among married women in the reproductive age (15-49 years) in Adigrat town.

Back ground of the study: Despite of the increase of contraceptive use worldwide over the last decade, there is still discrepancy in the need to limit birth and utilization of modern contraceptives specifically long acting and permanent contraception methods in sub-Saharan Africa including Ethiopia.

Objective of the study: To assess the magnitude of intention to use long acting and permanent contraceptive methods and factors affecting it among married women in the reproductive age in Adigrat Town.

Benefit of the study: The participants will not gain any direct benefit for being they participated. The result can be used as a baseline for further studies that can be done in this town and identify problems associated with intention to use modern contraceptives specifically long acting and permanent contraceptives in the town so that for planning in the town as well as in our country.

The result will be disseminated to AAU College of Health Science, donor/sponsoring organization (UNFPA), Tigray Regional Health Bureau, and Adigrat wereda health office.

Risk of the study: The study has no any risk for the participants and interview will be private to make safe participants from any fear.

Rights of participants: Participating and not participation is the full right participants and they can stop participating in the study at any time. They can also skip any question which they want to respond. They can ask any question which is not clear for them.

Confidentiality: Any information forwarded will be kept private and her name will not be specified.

II. Informed consent

I have read this form or it has been read to me in the language I comprehend and understand all conditions stated above. Are you willing to participate in this study?

1. No (Say Thank you) 2. Yes → continue your interview

Name of principal investigator: Alem Gebremariam;

Address: Cell phone: 0910352915; E-mail: alemg25@gmail.com

Name of institution: Addis Ababa University College of Health Science Research Ethics Committee

Address: Addis Ababa, Ethiopia

Tel. No: 251-11-553873

Signature of the interviewer certifying that the informed consent has been accepted by the participant _____ Date_____

Date of interview (**in Ethiopian calendar**) _____/____/_____

Result of interview: 1. Completed 2. Respondent not available

3. Refused. 4. Partially completed

Checked by supervisor, name _____Signature _____Date _____

III. Structure English version questionnaire

Part I: Socio-demographic characteristics of the participants

Q.No.	Question	Choices	Remark
101	How old are You?(age in years)	Enter _____	
102	What is your ethnicity?	1. Tigrie 2. Afar 3. Amhara 4. Oromo 88. Others (**specify**)_____	
103	What is your religion?	1. Orthodox 2. Muslim 3. Protestant 4. Catholic 88. Others (**specify**)_____	
104	What is your educational level?	1. Can't read and write 2. Can read and write 3. Grade (1-4th) 4. Grade (5-8th) 5. Grade (9-12th) 6. Grade 12^{+}	
105	What is your partner's educational level?	1. Can't read and write 2. Can read and write 3. Grade (1-4th) 4. Grade (5-8th) 5. Grade (9-12th) 6. Grade 12^{+}	
106	Family size of the respondent?	Enter No_____	
107	What is your occupation?	1. House wife 2. Government employee 3. Private employee 4. Daily labourer 5. Farmer 6. Student 88.Other **(specify)**_____	
108	What is your partner's occupation?	1. Government employee 2. Private employee 3. Daily labourer 4. Farmer 5. Student 88. Other **(specify)**_____	
109	What is your monthly income?	_____Ethio.birr	
110	Do you have 1 -Television 2- Radio	1. Yes 2. No 2. Yes 2. No	

Part II. Reproductive history of the participants

Q. No	Question	Choices	Remark
111	What was your age at first marriage?	_____years	
112	Have you ever give birth?	1. Yes 2. No	**If "No" skip to Q. 117**
113	How old were you when you have your first child?	_____years	
114	How many births you give?	Enter No_____	
115	How many of them are alive now?	Enter No_____	
116	How many more children do you want?	Enter No_____	
117	Do you want to have a child within two years (Soon)?	1. Yes 2. No	**If "Yes" skip to Q.119**
118	If Q117 is **No**, why?	1. To space 2. To limit 88. Other **(specify)**_____	
119	How many children do you went to have in your life?	Enter No. _____	
120	Do you discuss with your partner on family planning methods?	1. Yes 2. No	
121	Who decide/will decide on the number of children you want to have?	1. Husband 2. Wife 3. Both 4. God 88. Others **(specify)**_____	

Part III. Knowledge of modern contraceptives of the paricipants

Q.No.	Questions	Choices	Remark
122	What type/s of modern contraceptive methods do you know? (**Circle all methods mentioned spontaneously or prompted**)	1. Pills 2. Injectables 3. Implant 4. IUD 5. Female sterilization 6. Male sterilization 7. Condom 88. Others **(specify)** _____ 99. I don't know	**If she did not know go to Q133**
123	From whom do you get information on modern contraceptive methods for the first time?	1. Neighbours/friends/relatives 2. Health professionals 3. Mass media 4. Husband 88. Others **(specify)** _____	
124	Do you know about LAPMs (methods used for many years or permanently just after having it once)	1. Yes 2. No	**If "No" skip to Q 133**

125	Have you ever exposure to LAPMs message through media within the last 12 months	1. Yes 2. No	**If "No" Skip to Q128**
126	If "**yes**" what was the type of media	1. Television 2. Radio 3. Print media (**specify**)_____	
127	If "**Yes" to Q124**, which one **(Circle all mentioned)**	1. Implant 2. IUD 3. Female sterilization 4. Male sterilization 88. Others **(specify)**_____	
128	If "Y**es" to Q124**, What general uses of LAPMs do you know? **(Circle all mentioned spontaneously or prompted)**	1. Helps for prevention of unwanted pregnancy 2. Prevention of possible maternal and child death 3. Limiting family size 4. Child spacing 5. Others **(specify)**_____	
129	What do you know about IUD? **(Circle all mentioned spontaneously or prompted)**	1. It is very effective 2. It is long term (used for more than 5 years) 3. No effect on breast feeding 4. Not good for female at high risk of sexual transmitted infections. 5. No interference with sexual intercourse 6. Immediately reversible 7. Has minimal side effect 88. Others **(specify)** _____ 99. I don't know	
130	What do you know about implant **(Circle all mentioned spontaneously or prompted)**	1. It is very effective 2. It is used for long term (up to 5 years) 3. No effect on breast feeding 4. Insertion and removal require minor surgical procedure 5. No interference with daily activity 6. Immediately reversible 7. Has minimal side effect 88. Others **(specify)**_____ 99. I don't know	
131	What do you know about vasectomy **(Circle all mentioned spontaneously or prompted)**	1. It is fully effective after 3 months of the operation 2. It is permanent 3. Requires safe and simple procedure 4. Don't need repeated clinic visit 5. No effect on sexual performance and sensation 6. No known long term side effect 7. Requires counselling and informed consent 88. Others **(specify)**_____ 99. I don't know	

132	What do you know about female sterilization? **(Circle all mentioned spontaneously or prompted)**	1. It is very effective 2. It is permanent 3. Requires safe and simple procedure 4. Don't need repeated clinic visit 5. No effect on sexual performance and sensation 6. No known long term side effect 7. Requires counselling and informed consent 88. Others **(specify)_____** 99. I don't know	

Part IV: Mothers beliefs and perceptions on modern contraception

Q.No	Statements of perceptions on modern contraceptives	Choices	Remark
133	Do you think that your husband support LAPM use?	1. Agree 2. Neutral 3. Disagree	
134	Do you think that child-spacing protects mother's and child death	1. Agree 2. Neutral 3. Disagree	
135	I have access to choice of all methods, and facilities with competent providers	1. Agree 2. Neutral 3. Disagree	
136	Providers can be trusted to maintain confidentiality, to advise on method use and side-effects	1. Agree 2. Neutral 3. Disagree	
137	I can discuss about FP with spouse or convince spouse to use contraceptives	1. Agree 2. Neutral 3. Disagree	
138	Husband decides if wife can use contraceptives	1. Agree 2. Neutral 3. Disagree	
139	Contraceptives can harm a woman's womb, LAPMs can be very dangerous	1. Agree 2. Neutral 3. Disagree	

Part V: Practice of modern contraceptives and intention to use LAPMs

Q.No.	Question	Choices	Remark
140	Have you ever used a modern contraceptive method?	1. Yes 2. No	**If No skip to Q146**
141	If "Y**es" Q 140**, what was the method?	1. Pills 2. Injectables 3. Implant 4. IUD 5. Female sterilization 6. Male sterilization	

		7. Condom 88. Others **(specify)_____**	
142	For how long did you use it? (not for female and male sterilization)	Enter _____(months or years)	
143	Have you ever shifted from one contraceptive method to another?	1. Yes 2. No	**If "No" skip to Q.147**
144	If **Yes Q143,** from which contraceptive to which contraceptive	From_____ to _____	
145	If **"Yes" for Q143**, Why did you shift from one method to another?	1. For inconveniency of previous method 2. For the convenience of the new method 3. Due to lack of access to the previous method 4. Due to side effect 5. Need for long acting contraceptive method 6. Provider advised me 7. Partner influenced me 88. Others **(specify)** _____	
146	If **No for Q140,** why?	1. Lack of knowledge 2. Lack of access 3. To get pregnant 4. Fear of infertility 5. Partner disapproves 6. I am infecund 7. Fear of side effect 8. It is sinful to use 9. Cultural taboo 88. Others **(specify)_____**	
147	Are you using modern contraceptive method now?	1. Yes 2. No	**If Yes skip to Q149**
148	If **Q.147 No**, why?	1. I am pregnant 2. I want to be pregnant 3. I am on exclusive breast feeding 4. I fear side effect 5. I am infecund 88. Others **(specify)** _____	
149	**If "Yes" for Q. 147**, Which method are you using now?	1. Implant 2. IUD 3. Female sterilization 4. Male sterilization 5. Pills 6. Injectables 7. Condom 88. Others **(specify)** _____	

150	**If yes to Q.147,** from where do you get the method you are using?	1. Health center 2. Government hospital 3. Private clinic 4. Pharmacy (Drug vendor) 5. Health extension workers 6. Shop 7. Friends/ relatives 88. Others **(specify)** _____	
151	**If Q.149 (1, 2, 3, 5, or 6)** Does your partner approve you taking of the method?	1. Yes 2. No	
Go to the following if the mother is not taking any one of LAPMs and not infecund			
152	Do you/your partner want to use any LAPMs to delay or to avoid pregnancy at any time in the future?	1. Yes 2. No 3. I am not sure	**If Yes go to Q.154**
153	If you are not going to use LAPMs, would you tell me the main reasons?	1. fear of side effect 2. Lack of awareness of the LAPM 3. Not my preferred method 4. Little risk of pregnancy 5. To have more children 6. Husband disapproval 7. Religion prohibition 8. Fear of infertility 88. Other **(specify)**_____	
154	If "**Yes" to Q.152**, do you intend to use LAPMs in the next 12 months?	1. Yes 2. No 3. I am not sure.	
155	If "**Yes" to Q.152**, which one do you want?	1. Implant 2. IUD 3. Female sterilization 4. Male sterilization 88. Others (**specify**)_____	

THANK YOU

I have finished my interview

If you have any question/concern on LAPMs

_____

IV. Guide line for focus group discussion

Hello, participant's good morning /afternoon.

My name is _____ and my colleague here with me is called _____. We are a team from Addis Ababa University. This discussion is going to be conducted for assessing the status of FP utilization, specifically long acting and permanent contraceptives. We hope that the discussion we would have with you is very much useful to improve the quality and accessibility of contraceptives especially long acting (implant, and IUD) and permanent (voluntary male and female sterilization) in this area and the whole our country. For this discussion I will raise some point for discussion concerning long acting and permanent contraception's knowledge, attitude, use and future intention to use. Before that I would like to thank for all of you voluntary participants.

Instruction

1. Your presence is very important.
2. We are interested in all of your ideas and suggestions.
3. There are no wrong or right answers.
4. All ideas; both positive and negative to the point of discussion are welcomed.
5. Please feel free to disagree with one another. We would like to have many points of view.

We would like to ask your permission to audiotape your comments and opinions so that we could not miss any of your ideas while trying to take notes. And I assure you that all your ideas are confidential, used for research purpose only. I want our session to be a group discussion, so you need not wait for me to call on you. Please speak one at a time, so that the tape-recorder can pick up every of your ideas and suggestions. We have a lot of points to cover, so I may change the subject or move ahead. Please stop me incase if you want to add something more.

It is very important not to have side conversations because it interferes with individual's full participation in the group discussion and also posse's challenges for recording the discussion.

Each participant is asked to introduce herself and tell us something about you.

Discussion topic for the FGD

Date of Focus Group discussion:_____

Location of Focus Group discussion:_____

Name of Note Taker:_____

1. Warm up question
    a. Current issue on family size
    b. Advantage and disadvantage of many children birth.
2. Discussion about modern contraception
    a. Knowledge of contraception
    b. Knowledge of IUD, Implant, male and female sterilization
3. Preference of modern contraception methods
    a. Short term
    b. Long acting and permanent
    c. Providers counseling, choice and skill
    d. What is your attitude and communities perception concerning the use of LAPMs
    e. What are the advantages /disadvantage of LAPMs over the other?
    f. Do the community /you want to use LAPMs in the future? Which method do you prefer? Why?
4. When should people start to use LAPMs?
    a. Who should use LAPMs?/who should decide the use
    b. Age, Religion
    c. Educational status
    d. Economic status
    e. Marital status
5. Is there any additional idea that you want to add on our discussion on LAPMs and related issues?

THANK YOU!

V. In-depth Interview Guide

I want to thank you for taking the time to meet with me today.

My name is **Mr. Alem Gebremariam**. I come from Addis Ababa University School of Public Health and I would like to talk to you about your experiences in the family planning clinic on clients' utilization and choice of modern contraceptives specifically, on the long acting and permanent methods of contraceptives. I am assessing the women's intention to use LAPMs and factors affecting it that can be used in future interventions. The interview will take less than an hour. I would like to ask your permission for taping the session because I don't want to miss any of your ideas and suggestions. Although I am going to take some notes during the session, I can't possibly write fast enough to get it all down. Because we're on tape, please be sure to speak up so that we don't miss your ideas.

All responses will be kept confidential. This means that your interview responses will only be shared with research team members and we will ensure that any information we include in our report does not identify you as the respondent. Remember, you don't have to talk about anything you don't want to and you may end the interview at any time.

Are there any questions about what I have just explained?

Are you willing to participate in this interview?

_____ _____/_____/_____

Interviewee signature Date

In-depth interview topics for the family planning providers

Date of In-depth interview:____/_____/_____

Sex of the interviewee:_____

Type of Health facility:_____

Qualification of interviewee:_____

Name of Note Taker:_____

1. Adequately trained, supervised and equipped to counsel and provide long acting and permanent contraceptive methods.
    a. Side effects, counseling
    b. Insertion and removal
2. Preference of modern contraceptives in your clinic
    a. Why
    i. Empowerment (woman decision)
    ii. Fear of side effect
    iii. Knowledge and perception
    iv. Availability
3. Who are the users of LAPMs in your clinic?
    a. Age
    b. Religion
    c. Educational status
    d. Economic status
    e. Marital status
4. What can you say about the future intention of clients to use LAPMs?
5. Do you think that there is a need to improve the service
    a. What would improve the provision of family planning services in particular LAPMs?
6. What additional things can you say about LAPMs?

Thank You

Annex II. Tigrigna version data collection tools

መጠየቂ ትግርኛ

ኣዲስ ኣበባ ዩኒቨርስቲ ጥዕና ሳይንስ ኮለጅ ናይ ሕብረተሰብ ጥዕና ትምህርቲ ክፍሊ

ቐዕሪ መጠየቂ_____ ቐዕሪ ቀበሌ_____ቐዕሪ ገዛ_____

ዝርዝር መረዳእታ እቲ መፅናዕቲ

ደሓን'ዶ ሓዲርክን/ ውዒልክን? ሽመይ _____ ይባሃል።ኣዲስ ኣበባ ዩኒቨርስቲ ጥዕና ሳይንስ ኮለጅ ናይ ሕብረተሰብ ጥዕና ትምህርቲ ክፍሊ ብግዚያውነት ወኪለ እየ እዚ ሕቶን መልስን እዚ ክካይድ መፂአ ዝኸኹ። እቲ ሕቶን መልስን ኣስታት 20 ደቒቓ እዩ ዝውድእ።ካብተን ኣብቲ ዕንዓት ንክሳተፋ ብዕጫ ካብ ዝተመረፃ ኣዴታት ሓንቲ ንስኽን ኮይንኽን እዚ ቀፂሉ ዘሎ መብርሂ ተረዲእን ንክሓትት ዝፈቅዳለይ እንተኮይነን ዝተወሰነ ሕቶታት ክሓተን እየ።

ርእሲ እቲ መፅናዕቲ፡- ድልዪት ምጥቃም ናይ ነዊሕ እዋንን ቆዋምን መከላከሊ ወሊድን ምስ እዚ ዝተተሓዙ ነገራትን ኣብ ካብ 15-49 ዓመት ዝርከባ ሰብ ሓዳር ኣዴታት ከተማ ዓዲግራት

ኩነታት እቲ መፅናዕቲ፡- ዋላ'ኳ ብዓለም ደረጃ በዝሒ ተጠቀምቲ ዘመናዊ መከላኸሊ ወሊድ እንዳወሰኸ እንተኾነ፣ ኣብ መንነ ምውላድ ዘይደልያን ዘመናዊ መከላኸሊ ዝጥቀማን ብፍላይ ካዓ ናይ ነዊሕ እዋንን ቆዋምን መከላከሊ ወሊድን ኣብ ቀርኒ ኣፍሪካ፣ ሃገርና ሓዊሱ ዘሎ ክፍተት ብጣዕሚ ልዑል'ዩ።

ዕላማ እቲ መፅናዕቲ፡- ንምድህሳስ ድልዪት ምጥቃም ናይ ነዊሕ እዋንን ቆዋምን መከላከሊ ወሊድን ምስእዚ ዝተተሓዙ ነገራትን ኣብ ካብ 15-49 ዓመት ዝርከባ ሰብ ሓዳር ኣዴታት ከተማ ዓዲግራት

ጥቅሚ እቲ መፅናዕቲ፡- ኣብ'ዚ ዕንዓት ብምስታፍክን ብውልቀክን እትረክባኡ ጥቅሚ የለን። ኮይኑ ግን እቲ መፅናዕቲ ንምግባር ጥራሕ እንተይ ኮነስ ምስ ድሌት ምጥቃም ናይ ነዊሕ እዋንን ቆዋምን መከላከሊ ወሊድን ምስ'ዚ ዝተታሓዙ ዐገማትን ናይ'ዚ ከተማ ብሓፈሻ ድማ ናይ ሃገርና ኣብ ምፍታሕን ምትላምን ኣብ ተግባር ምውዓልን ኣስተዋፅኦ ኣለዎ።

ሳዕቤን እቲ መፅናዕቲ፡- እዚ ዕንዓት እዚ ኣብ ተሳተፍቲ ኮነ ኣብ መካየድቲ እቲ ቃለ መጠይቅ ዘስዕቦ ምንም ዓይነት ዐገም የለን። እቲ መጠይቅ ኮነ እትህባና መልሲ ምስጢሩ ዝተሓለወ እዩ።

መሰል ተሳተፍቲ፡- መሰል ምስታፍን ዘይምስታፍን ሙሉእ ብሙሉእ ዝተሓለወ ኮይኑ፣ እቲ ሕቶን መልስን ኣብዝኮነ ሰዓት ምቁራፅን ኣብቲ ዕንዓት ብጠቅላልኡ ዘይምስታፍን እውን ትክእላ ኢኺን።

ሚስጥራዊነት እቲ መፅናዕቲ፡- እትህባና መልሲ ምስጢሩ ዝተሓለወ እዩ።ስምክን ንምግላፅ ኣይትግደዳን።

ናይ ሰምምዕነት (ፍቃድ) ቅጥዒ፡- እቲ ኣብ ላዕሊ ዝተገለፀ ዝርዝር እቲ መፅናዕቲ ኣንቢበዮ/ብዝርደአኒ ቓንቓ ተገሊፁለይን ተረዲአዮን እየ። ስለዚ ኣብ'ዚ መፅናዕቲ ንክሳተፋ ፍቃደኛ ድየን?

1. ኣይኮንኹን ⟶ ኣመስግን 2. እወ ⟶ መጠይቁ ይቅዕል

ባዓል ዋና እቲ ዕንዓት፡- ኣለም ገብረማርያም **ኣድራሻ፡-** ኣዲስ ኣበባ፣ኢትዮጵያ **ስልኪ ቁ.** 0910352915

ስም ትካል፡- አዲስ አበባ ዩኒቨርስቲ ጥዕና ሳይንስ ኮለጅ

ኣድራሻ፡- ኣዲስ ኣበባ፣ ኢትዮጵያ ስልኪ ቁ. 251-11-553873

ሽም ስምምዕነት ዝገበረ ሓታታይ_____ፊርማ_____ዕለት __ /__/2004 ዓ.ም

ኩነታት መጠይቅ፡ 1. ተጠናቒቑ 2. ተሐታቲ ኣይነበረን 3. ተሐታቲ ፍቓደኛ ኣይኮነን 4. ኣይተማልኣን

ሽም ተቓፃሪ_____ ፊርማ_____ዕለት___/___/2004 ዓ.ም

ክፍሊ 1፡ ሓፈሻዊ መረዳእታ ተሳተፍቲ

ሕ.ቁ.	ሕቶ	መማረፂ
101	ዕድመ	_____(ብሙሉእ ዓመት)
102	ብሄር	1. ትግራይ 2. ኣፋር 3. ኣምሓራ 4. ኦሮሞ 88. ካሊእ **(ይገለፅ)**_____
103	ሃይማኖትክን እነታይ'ዩ?	1. ኦርቶዶክስ 2. ሙስሊም 3. ፕሮቲስታንት 4. ካቶሊክ 88. ካሊእ **(ይገለፅ)** _____
104	ደረጃ ትምህርትክን	1. ምንባብን ምዕሓፍን ኣይክእልን 2. ምንባብን ምዕሓፍን ይክእል 3. ካብ 1ይ- 4ይ ክፍሊ 4. ካብ 5ይ -8ይክፍሊ 5. ካብ 9ይ -12ይ ክፍሊ 6. 12ን ካብኡ ንላዕልን
105	ደረጃ ትምህርቲ ባዓል ገዛኽን	1. ምንባብን ምዕሓፍን ኣይኽእልን 2. ምንባብን ምዕሓፍን ይክእል 3. ካብ 1ይ- 4ይ ክፍሊ 4. ካብ 5ይ - 8ይክፍሊ 5. ካብ 9ይ -12ይ ክፍሊ 6. 12ን ካብኡ ንላዕልን
106	በዝሒ ስድራ	_____(ቁፅሪ)
107	ኣብዚ ሐዚ እዋን እንታይ ትሰርሓ?	1. ናይ ገዛ እመቤት 2. መንግስቲ ሰራሕተኛ 3. ናይ ውልቂ ቁፃር 4. ማዕልታዊ ሰራሕተኛ 5. ሓረስታይ 6. ተምሃራት 88. ካሊእ **(ይገለፅ)**_____
108	ኣብ'ዚ ሐዚ እዋን ባዓል ገዛኽን እንታይ ይሰርሑ?	1. መንግስቲ ሰራሕተኛ 2. ናይ ውልቂ ቁፃር 3. ማዕልታዊ ሰራሕተኛ 4. ሓረስታይ 5. ተምሃራይ 88. ካሊእ **(ይገለፅ)** _____
109	ወርሓዊ እቶት ገዛኹም ክንደይ'ዩ?	_____(በቕርሺ)
110	ካብዞም ዝስዕቡ መኒኣም ኣብ ገዛኽን ይርከቡ? 1. ቴሌቪዥን 2. ሬድዮ	1. ኣሎ 2. የለን 1. ኣሎ 2. የለን

ክፍሊ 2፡ ብዛዕባ ኩነታት ወሊድ ተሳተፍቲ

ሕ. ቁ	ሕቶ	መማረፂ	መብርሂ
111	ኣብ ክነደይ ዕድመኽን ተመርዒኽን?	_____ዓመተይ	
112	ወሊድክን'ዶ ትፈልጣ?	1. እወ 2. ኣይፋል	**"ኣይፋል" ናብ ሕ.117 ኪድ**
113	ናይ መጀመርያ ወድክን/ኻልክን ክትወልዳ ክንደይ ነይሩ ዕድመክን?	_____ዓመተይ	
114	ብጠቅላላ ክንደይ ወሊድክን?	_____(ቁፅሪ)	
115	በዝሒ ብሂወቶም ዘለዉ ክንደይ'ዮም?	_____(ቁፅሪ)	
116	ክንደይ ተወሳኺ ቆልዑ ክትወልዳ ትደልያ?	_____(ቁፅሪ)	
117	ኣብ ዝቕፅል ክልተ ዓመት ውሽጢ ክትወልዳ'ዶ ትደልያ?	1. እወ 2. ኣይፋል 99. ኣይፈልጦን	**"እወ" ናብ ሕ. 119 ኪድ**
118	**ንሕ.117 መልስክን "ኣይፋል"** እንተኾይኑ፣ ንምንታይ?	1. ንምፍንታት ወሊድ 2. ምቁራፅ ወሊድ 88. ካሊእ_____	
119	ኣብ ዕድመኽን ሙሉእ ክንደይ ክትወልዳ ትደልያ?	_____	
120	ምስ ባዓል ገዛክን ብዛዕባ መከላከሊ ወሊድ ዘተ ትገብራ'ዶ?	1. እወ 2. ኣይፋል	
121	በዝሒ ዝውለዱ ቆልዑ ብመን ይውሰን?	1. ባዓል ገዛይ 2. ባዕለይ 3. ክልቴና 4. ፈጣሪ 88. ካሊእ_____	

ክፍሊ 3፡ኣፍልጦ ዘመናዊ መከላከሊ ወሊድ

ሕ.ቑ	ሕቶ	መማረፂ	መብርሂ
122	እንታይ ዓይነት ዘመናዊ መከላኽሊ ጥንሲ ትፈልጣ? **(ኩሎም ዝተጠቀሱ ኣክብብ)**	1. ክኒን 2. መርፍእ 3. ኣብ ጭዋዳ ዝቕበር መከላከሊ 4. ሉፕ (ኣብ ማህፀን ዝቀሪ መከላኸሊ) 5. ምቁፃር ቱቦ ማህፀን(ምምኻን ኻል ኣንስተይቲ) 6. ምቁፃር ፍረነብሲ (ምምኻን ወዲተባዕታይ) 7. ኮንደም 88. ካሊእ **(ይገለፅ)** _____ 99. ኣይፈልጥን	**"ኣይፈል ጥን" ናብ ሕቶ 133 ኪድ**
123	ብዛዕባ ዘመናዊ መከላኸሊ ጥንሲ ንመጀመርያ ጊዜ ዝሰማዕኽናሉ ካብ ምንታይ ነይሩ?	1. ካብ ቤተሰበይ/ማሓዙተይ 2. ካብ ጥዕና ባዓል ሞያ 3. ካብ መራከብቲ ሓፋሽ 4. ካብ በዓል ገዛይ 88. ካሊእ **(ይገለፅ)** _____	
124	ናይ ነዊሕን ቓሚ/ዘላቂን መከላኸሊ ጥንሲ ትፈልጣ'ዶ?	1. እወ 2. ኣይፋል	**ኣይፋል ናብ ሕቶ 133 ኪድ**
125	ኣብ ዝሓለፈ 12 ወርሒ ውሽጢ ብዛዕባ ናይ ነዊሕን ቓሚን መከላኸሊ ጥንሲ ሓበሬታ ካብ መራከብቲ ሓፋሽ ሪእክን /ሰሚዕክን/ኣንቢብክን 'ዶ ትፈልጣ?	1. እወ 2. ኣይፋል	**"ኣይፋል" ናብ ሕቶ 127 ኪድ**
126	**ንሕቶ ቑ.125 "እወ" እነተኮይኑ፣** ካብ እንታይ ዓይነት ሚድያ'ዩ?	1. ቴሌቭሽን 2. ሬድዮ 3. ካብ ፅሑፍ **(ይገለፅ)** _____	
127	**ንሕቶ ቑ.124፣ መልስክን "እወ" እነተኮይኑ፣** እንታይ ሓፈሻዊ ጥቅሚ ናይ ነዊሕን ቓሚን መከላኸሊ ጥንሲ ትፈልጣ? **(ኩሎም ዝተጠቐሱ ኣክብብ)**	1. ዘይተደለየ ጥንሲ ይከላኸል 2. ሞት ኣዶን ህፃንን ይከላኸል 3. ንምቁራፅ ወሊድ ይጠቅም 4. ኣረሓሒቅካ ንምውላድ ይጠቅም 88. ካሊእ **(ይገለፅ)**_____	
128	**ንሕቶ ቑ.124፣ መልስክን "እወ" እነተኮይኑ፣** እንታይ ዓይነት ናይ ነዊሕን ቓሚ/ዘላቂን መከላኸሊ ጥንሲ ትፈልጣ? **(ኩሎም ዝተጠቀሱ ኣክብብ)**	1. ኣብ ጭዋዳ ዝቕበር መከላከሊ 2. ሉፕ(ኣብ ማህፀን ዝቅመጥ መከላከሊ) 3. ምቁፃር ቱቦ ማህፀን(ምምኻን ኻል ኣንስተይቲ) 4. ምቁፃር ፍረነብሲ (ምምኻን ወዲ ተባዕታይ) 88. ካሊእ **(ይገለፅ)**_____	
129	ብዛዕባ ሉፕ(ኣብ ማህፀን ዝቅመጥ መከላከሊ ጥንሲ) እንታይ ትፈልጣ? **(ኩሎም ዝተጠቀሱ ኣክብብ)**	1. ብጣዕሚ ዘተኣማምን መከላከሊ ጥንሲ'ዩ። 2. ንነዊሕ እዋን(ካብ 5ተዓመት ንላዕሊ)ጥንሲ ይከላኸል 3. ኣብ ከይዲ ምጥቓው ሳዕቤን የብሉን። 4. ብግብረስጋ ንዝመሓላለፉ ሕማማት ተጋላፂት ንዝኾነት ኣዶ ተመራፂ ኣይኮነን። 5. ኣብ ጊዜ ርክብ ግብረስጋ ምንም ፀገም የብሉን። 6. ድሕሪ ምውፅኡ ቶሎ ናይ ምጥናስ ዕድል ኣለዎ። 7. ናይ ጎኒ ሳዕቤኑ ውሑድ'ዩ። 88. ካሊእ **(ይገለፅ)** _____ 99. ኣይፈልጦን	
130	ብዛዕባ ኣብ ጭዋዳ ዝቕበር(ኢምፕላነት) እንታይ ትፈልጣ? **(ኩሎም ዝተጠቀሱ ኣክብብ)**	1. ብጣዕሚ ዘተኣማምን መከላከሊ ጥንሲ'ዩ። 2. ንነዊሕ እዋን(ክሳብ 5ተ ዓመት) ጥንሲ ይከላኸል 3. ኣብ ከይዲ ምጥቓው ሳዕቤን የብሉን። 4. ኣብ ምእታውን ምውፃእን ጊዜ ቀሊል መጥባሕቲ የድሊ	

		5. ኣብ ማዕልታዊ ምንቅስቃስ ዘስዕቦ ፀገም የለን። 6. ካብ ሞውዳ እንተወፂኡ ጥንሲ ቶሎ የጋጥም። 7. ናይ ጎኒ ሳዕቤኑ ውሑድ'ዩ። 88. ካሊእ **(ይገለፅ)** _____ 99. ኣይፈልጦን	
131	ብዛዕባ ምቁፃር ፍረነብሲ (ምምኻን ወዲ ተባዕታይ) እንታይ ትፈልጣ? **(ኩሎም ዝተጠቀሱ ኣክብብ)**	1. ድህሪ 3 ወርሒ ኦፕሬሽን ናይ ምክልካል ዓቅሙ ዘተኣማምን'ዩ 2. ቓሚ/ዘላቂ መከላኸሊ ጥንሲ'ዩ። 3. ቀሊልን ጥንቃቀ ዝተመልኦን መጥባሕቲ የድልዮ። 4. ብተደጋጋሚ ናብ ጥዕና ትካል ካብ ምምልላስ የድሕን። 5. ኣብ ጊዜ ርክብ ግብረስጋ ምንም ፀገም የብሉን። 6. ዝተፈለጠ ናይ ነዊሕ ጊዜ ናይ ጎኒ ሳዕቤን የብሉን 7. ምክርን፣ ንምጥቃም ውሳኔን ተጠቀምቲ የድሊ 88. ካሊእ **(ይገለፅ)**_____ 99. ኣይፈልጦን	
132	ብዛዕባ ምቁፃር ቱቦ ማህፀን (ምምኻን ፆል ኣንስተይቲ) እንታይ ትፈልጣ? **(ኩሎም ዝተጠቀሱ ኣክብብ)**	1. ብጣዕሚ ዘተኣማምን መከላከሊ ጥንሲ'ዩ። 2. ቓሚ/ዘላቂ መከላከሊ ጥንሲ'ዩ። 3. ቀሊልን ጥንቃቀ ዝተመልኦን መጥባሕቲ የድሊዮ። 4. ብተደጋጋሚ ናብ ጥዕና ትካል ካብ ምምልላስ የድሕን። 5. ኣብ ጊዜ ርክብ ግብረስጋ ምንም ፀገም የብሉን። 6. ዝተፈለጠ ናይ ነዊሕ ጊዜ ናይ ጎኒ ሳዕቤን የብሉን 7. ምክርን፣ ንምጥቃም ውሳኔን ተጠቀምቲ የድሊ 88. ካሊእ **(ይገለፅ)** _____ 99. ኣይፈልጦን	

ክፍሊ 4፡ ኣመልኻኽታ ኣዴታት ብዛዕባ መከላኸሊ ወሊድ

ሕ.ቑ	ሕቶ	መማረፂ	መብርሂ
133	ባዓል ገዛኽን ምጥቃም ናይ ነዊሕን ቓሚን መከላከሊ ጥንሲ ይድግፍ'ዩ ኢልክን'ዶ ትኣምና?	1. ይድግፍ 2. ሓሳብ የብለይን 3. ይቃወም	
134	መጢንካ ምውላድ ንኣዶን ዝውለዱ ህፃናትን ጥዕና ፅቡ'ቕ'ዩ።	1. ይድገፍ 2. ሓሳብ የብለይን 3. ይቃወም	
135	ኣቕርቦት ኩሎም ዓይነት መከላከሊ ወሊድ ምስ ብቁዓት ባዓል ሞያታት ኣብ ኣቕራባይ ኣሎኒ ኢልክን'ዶ ትኣምና?	1. ይድገፍ 2. ሓሳብ የብለይን 3. ይቃወም	
136	ባዓል ሞያታት መከላከሊ ወሊድ ሚስጥር ሓለውትን ጉቡእ መረዳእታ መማረፂ መከላኸሊ ምስ ናይ ጎኒ ሳዕቤኑ ይህቡ'ዮም ኢልክን'ዶ ትኣምና?	1. ይድገፍ 2. ሓሳብ የብለይን 3. ይቃወም	
137	ምስ ባዓል ገዛይ ብዛዕባ መከላኸሊ ጥንሲ ክዛተን ንክንጥቀም ከእምኖን ይኽእል እየ።	1. ይድገፍ 2. ሓሳብ የብለይን 3. ይቃወም	
138	መከላኸሊ ጥንሲ ንምውሳድ፣ ባዓል ገዛይ'ዩ ዝውስኖ	1. ይድገፍ 2. ሓሳብ የብለይን 3. ይቃወም	
139	መከላኸሊ ጥንሲ፣ ማህፀን ክጎድእ ይክእል፣ ብፍላይ ናይ ነዊሕን ቓሚን መከላከሊ ጥንሲ ብዝበለፀ ጎዳኢ'ዩ	1. ይድገፍ 2. ሓሳብ የብለይን 3. ይቃወም	

ክፍሊ 5፡ዘመናዊ መከላኸሊ ጥንሲ ምጥቃምን፤ አብ ዝቅፅል ጊዜ ናይ ነዊሕን ቕሚን መከላኸሊ ናይ ምጥቃም ድሌትን

ሕ.ቁ	ሕቶ	መማረፂ	መብርሂ
140	ቅድሚ ሀዚ ዘመናዊ መከላከሊ ጥንሲ ተጠቂምክን'ዶ ትፈልጣ?	1. እወ 2. ኣይፋል	**"ኣይፋል" ናብ ሕ.ቁ.146 ኪድ**
141	**ሕ ቁ. 140 "እወ" እንተኾይኑ** መልስኽን፣ እቲ ዝወሰድክናኦ እንታይ ዓይነት ነይሩ? **(መልሱ ካብ ሓደ ንላዕሊ እንተኮይኑ፣ እቲ ናይ ቀረባ ጊዜ ኣክብብ)**	1. ክኒን 2. መርፍእ 3. ኣብ ጭዋዳ ዝቅበር 4. ሉፕ 5. ምቁፃር ትቦ ማህፀን 6. ምቁፃር ፍረነብሲ 7. ኮንደም 88. ካሊእ **(ይገለፅ)**_____	
142	ንክንደይ ጊዜ ተጠቂምክናሉ **(ብዘይካ ምቁፃር ትቦ ማህፀንን ፍረነብስን)**	_____(ብወርሒ ወይ ዓመት)	
143	ካብ ሓደ መከላከሊ ናብ ካሊእ ዓይነት መከላከሊ ቀይርክን'ዶ ትፈልጣ?	1. እወ 2. ኣይፋል	**"ኣይፋል" ናብ ሕ.147 ኪድ**
144	እወ እንተኮይኑ መልስክን፣	ካብ_____ ናብ_____	
145	**ንሕቶ ቁ.143 "እወ" እንተኮይኑ መልስክን**፣ ንምንታይ ቀይርክን?	1. ተመራፂ ብዘይምንባሩ 2. እዚ ናይ ሐዚ ስለዝበልፅ 3. እቲ ናይ ፈለማይ ስለ ዝሰኣንኩ 4. ብምክንያት ናይ ጎኑ ሳዕቤን 5. ናይ ነዊሕ እዋን መከላኸሊ ስለ ዝደለኩ 6. ብምክንያት ምክሪ ባዓል ሞያ 7. ብተፅዕኖ ባዓል ገዛይ 88. ካሊእ **(ይገለፅ)** _____	
146	**ንሕቶ ቁ.140 ኣይፋል እንተኾይኑ መልስኽን**፣ ንምንታይ?	1. ኣፍልጦ ስለዘይብለይ 2. ኣቕርቦት ስለዘይነበረ 3. ክጠንስ ስለ ዝደለኽ 4. መካንነት ንከየስዕበለይ ስለ ዝፈራሕኽ 5. ባዓል ገዛይ ስለዘይፈቐደለይ 6. መካን (ብሓኪም ከም ዘይወልድ ስለ ዝተነገረኒ) 7. ናይ ጎኒ ሳዕቤን መከላከሊ ጥንሲ ስለዝፈራሕኽ 8. ምጥቃሙ ሓጥያት ስለዝኾነ/ሃይማኖተይ ስለዘይፈቅድ 9. ብባህልና ስለዘይፍቀድ 88. ካሊእ **(ይገለፅ)** _____	
147	ኣብዚ ሀዚ እዋን ዘመናዊ መከላኸሊ ጥንሲ ይጥቀማ ድየን?	1. እወ 2. ኣይፋል	**እወ ናብ ሕ.149 ኪድ**
148	**ንሕቶ ቁ.147 "ኣይፋል"** እንተኮይኑ መልስክን፣ ንምንታይ?	1. ጥንሰቲ እየ 2. ክጠንስ ስለ ዝደለኽ 3. መጥበዊት እየ 4. ናይ ጎኒ ሳዕቤን መከላኸሊ ስለዝፈራሕኽ 5. መካን(ብሓኪም ከም ዘይወልድ ስለ ዝተነገረኒ) 88. ካሊእ **(ይገለፅ)** _____	
149	**ንሕቶ ቁ.147 "እወ" እንተኮይኑ መልስክን**፣ እንታይ ዓይነት መከላኸሊ'ዩ ሐዚ እትጥቀማኦ?	1. ኣብ ጭዋዳ ዝቅበር 2. ሉፕ 3. ምቁፃር ትቦ ማህፀን 4. ምቁፃር ፍረነብሲ 5. ክኒን 6. መርፍእ 7. ኮንደም 88. ካሊእ **(ይገለፅ)** _____	

150	**ንሕ.ቐ.147 እወ እንተኾይኑ መልስክን፣** እትወስድኦ መከላኸሊ ካበይ ረኪብክናኦ?	1. ካብ ጥዕና ጣብያ 2. ካብ ሆስፒታል 3. ካብ ናይ ውልቂ ክልኒክ 4. ካብ ፋርማሲ/መደብር መድሓኒት 5. ካብ ጥዕና ኤክስተንሽን ሰራሕተኛ 6. ካብ ድንኻን 7. ካብ መሓዛይ/ቤተሰብ 88. ካሊእ **(ይገለፅ)**_____	
151	**ንሕ.ቐ.149 መልሲ (1፣2፣3፣5፣ ወይ 6) እንተኾይኑ፣** ባዓል ገዛክን እዚ መከላኸሊ ምውሳድክን ይድግፎ'ዶ?	1. እወ 2. ኣይፋል	
እቲ ዝቅፅል ሕቶ ን ናይ ነዊሕ እዋንን ቓምን መከላከሊ ጥንሲ ዝጥቀማን ብሕክምና ክወልዳ ከም ዘይክእላ ዝተነገረንን ኣዴታት ኣየካትትን			
152	ባዕልክን/ባዓል ገዛክን ኣብ ዝቅፅል ጊዜ ናይ ነዊሕን ቓሚን መከላከሊ ወሊድ ንምርሕሓቅ ወይ ድማ ንምቐራፅ ወሊድ ክትጥቀማ ድሌት ኣለክን'ዶ?	1. እወ 2. ኣይፋል 3. ርግፀኛ ኣይኮንኩን	**እወ እንተኾይኑ ናብ ሕ.ቐ154 ኪድ**
153	**ንሕቶ ቐ. 152 "ኣይፋል ወይ ርግፀኛ ኣይኮንኩን"** እንተኾይኑ፣ መልስክን፣ ንምንታይ?	1. ናይ ጎኒ ሳዕቤኑ ስለ ዝፍራሕኩ 2. ኣፍልጦ ስለ ዘይብለይ 3. ተመራጺ ስለዘይኮነ 4. ጥንሲ ናይ ምጥናስ ዕድለይ ትሑት ስለዘኸነ 5. ብዙሓት ቆሌው ንምወላድ ስለዝደሊ 6. ባዓል ገዛይ ስለዘይፈቅደለይ 7. ሃይማኖተይ ስለዘይፈቅድ 8. መካንነት ንከየስዕበለይ ስለ ዝፈርሕ 88. ካሊእ **(ይገለፅ)** _____	
154	**ንሕ. ቐ.152 "እወ" እንተኾይኑ መልስክን፣** ኣብ ዝቅፅል ሓደ ዓመት ውሽጢ ክትጥቀማ ዲክን?	1. እወ 2. ኣይፋል 3. ርግፀኛ ኣይኮንኩን	
155	**ንሕ. ቐ.152 "እወ" እንተኾይኑ መልስክን፣** እንታይ ዓይነት መከላኸሊ ክትወስዳ ትድልያ?	1. ኣብ ሞጭዋዳ ዝቅበር 2. ሉፕ 3. ምቁፃር ትቦ ማህፀን 4. ምቁፃር ፍረነብሲ 88. ካሊእ **(ይገለፅ)** _____	

ሕቶይ ኣብዙይ የብቅዕ፣ የቀንየለይ!!

ዘይበርህለን ሕቶ/ክብላኦ ዝደልያ ነገር እንተሃልዩ _____

_____

መምርሒ ናይ ጉጅለ መማየጢ

ደሓን'ዶ ሓዲርክን/ኩም/ውዒልክን/ኩም ዝከበርክን/ኩም ተሳተፍቲ

ሽመይ _____ይባሃል። እዚ ብፃየይ ድማ_____ይባሃል። ካብ አዲስ ኣባባ ዩንቨርስቲ ኢና መፂና። እዚ ምይይጥ እዚ ዝካየዶ ዓላማ ኣብ ምጥቃምን ድሌት ንቀፃሊ ምጥቃምን ዘመናዊ መከላኸሊ ወሊድ ብፍላይ ድማ ናይ ነዊሕን ቀዋሚን መከላኸሊ ወሊድን ምስ'ዚ ዝተታሓዙ ነገራትን ንምድህሳስ እዩ። ተስፋ ንገብር እቲ ምሳኻትክን/ኩም እንገብሮ ምይይጥ ንምምሕያሽ ፅርየትን ኣቅርቦትን ዘመናዊ ብፍላይ ድማ ናይ ነዊሕ እዋን (ኢምፕላነትን ሉፕን)፣ቃሚን (ምቁፃር ማህፀን ኻል ኣንስተይቲን ፍረነብሲ ወዲተባዕታይን) መከላኸሊ ወሊድ ኣብ ከተማናን ኢሉ'ውን ብሓፍሻ ድማ ሃገርናን ብጣዕሚ ጠቃሚ ከምዝኸውን። ቅድሚ እቶም ብዛዕባ ኣፍልጦ፣ ድሌትን ምጥቃምን ዘመናዊ መከላኸሊ ብፍላይ ድማ ናይ ነዊሕ እዋንን ቀዋሚን መከላኸሊ ዝተመልከቱ መዛተዪ ነጥብታት ምልዓለይ፣ ብፍቃደኝነት ንክትሳተፉ/ፉ ኣብ'ዚ ስለ ዝተረኸብክን/ኩም ልዑል ክብርን ምስጋናይን ከቅርብ ይፈቱ።

መምርሒ

1. **ምስታፍክን/ኩም ብጣዕሚ ጠቃሚ እዩ።**
2. **እትህባና/ቡና ሓሳብ፣ ኣስታየት ኮነ ርኢቶ ብጣዕሚ ኣድላዪ እዩ።**
3. **ትኽክል ወይ ድማ ጌጋ ዝበሃል ሓሳብ፣ ኣስታየት ኮነ ርኢቶ የለን።**
4. **ኩሉ ዓይነት ሓሳብ፣ ኣስታየት ኮነ ርኢቶ ተቀባልነቱ ልዑል እዩ።**
5. **ብክብረትክን/ኩም ተቃውሞክን/ኩም ካብ ምግላፅ ንድሕሪት ኣይትበሉ። ድሌትና ዝተፈላለየ ሓሳብ፣ ኣስታየት ኮነ ርኢቶ ንምእካብ እዩ።**

ንስልጠትን ፅርየትን ብተሳተፍቲ ዝተልዓሉ ሓሳባትን ርኢቶን ብሙልኡ ንምሓዝን፣ ምይይጥና ብቴፕ ሪከርድ ንክንገብሮ ፍቃድክን/ኩም ኣቀዲመ ክሓትት ይደሊ። እዚ ኮይኑ ግን እትህባና/ቡና ሓሳብ፣ ኣስታየት ኮነ ርኢቶ ሚስጥሩ ዝተሃለወ'ዩ። እዚ ማለት እትህባና/ቡና ሃሳብ ካብዚ ዳህሰሳ ወፃኢ ንማንም ከም ዘይጋለፅ ብርግፀኝነት ከረጋግፀልክን/ኩም ይፍቱ። ምይይጥና ጉጅላዊ ምይይጥ ኮይኑ ንምስታፍ ክሳብ ዝፅውዐክን/ኩም ክትድንጉዩ የብልክንን/ኩምን። ብክብረትክን/ኩም ብቴፕ ሪከርድ ንምግባር ንክሕግዘና ምእንቲ፣ ሓሳብክን/ኩም ብዘይ ምቁራፅ ንምግላፅ ሞኩራ/ሩ። ብዙሕ እንወያየሉ ሓሳብ ስለዘሎ ካብ ሓድ መወያዪ ናብ ካሊእ መዋየዪ ሓሳብ ክወሰደክን/ኩም ይክእል እየ። ዝኾነይኩን ተወሳኺ ሓሳብ ንምሃብ ኣብ እትደልያሉ/ይሉ ጊዜ፣ ካብ ምቁራፅ ንድሕሪት ኣይትበላ/ሉ። ምይይጥና ፅቡቅን ኩሉዝሳተፈሉን ንክከውን ኢሉ'ውን ብቴፕ ንምቅዳሕ ምእንቲ ክሙቹን ኣብ ጎንካ ምስ ዘሎ ምንጋር ኣይፍቀድን።

መማየጢ ሕቶ ምስ ተሳተፍቲ

ጉጅለ ምይይጥ ዝተካየደሉ ዕለት: _____

ጉጅለ ምይይጥ ዝተካየደሉ ቦታ: _____

ሽም ፀሓፊ (መረዳእታ ዘጋቢ): _____

1. **መነቃቅሒ ሕቶ**
   - *ሀ. ኣብዚ ሐዚ እዋንን በዝሒ ስድራን ከመይ ኣሎ*
   - *ለ. ብዙሕ ምውላድ ጥቅሚ'ዶ ጉድኣት ኣለዎ ይብሉ/ላ?*
2. **ዘተ ብዛዕባ ዘመናዊ መከላኸሊ ወሊድ/ጥንሲ**
   - *ሀ. ኣፍልጦ ዘመናዊ መከላኸሊ ጥንሲ ኣብ ከተማ ኣዲግራት*
     - ክኒን (ታብሌት)፣ መርፍእ
     - ሉፕ፣ ኢምፕላንት (ኣብ ጭዋዳ ዝቅበር)፣
     - ምቁፃር (ምምካን) ማህፀን ጋል ኣንስተይትን
     - ምምካን ፍረ ነብሲ ወዲተባዕታይ
3. **ምርጫ ዝተፈላለዩ ዓይነት ዘመናዊ መከላከሊ ወሊድ**
   - **ሀ. ናይ ሓጺር ጊዜ መከላኸሊ**
   - **ለ. ናይ ነዊሕ ጊዜን ቀዋሚን መከላኸሊ**
   - **ሐ. ምክሪ፣ መማረፂ ምቅራብን ክእለትን ኣገልግሎት ወሃብቲ (ሰብሞያ ጥዕና)**
   - **መ. ንስካትኩም/ክን ኢለ'ውን ሕብረተሰብ እ'ዚ ከተማ ኣብ ናይ ነዊሕ እዋንን ቃሚን መከላኸሊ ወሊድ ዘለዎ ኣራኣእያ እንታይ ይመስል?**
   - **ሠ. ናይ ነዊሕ እዋንን ቃሚን መከላኸሊ ኣብ ልዕሊ ናይ ሓጺር እዋን መከላኸሊ ወሊድ ዘለዎ ጥቅሚን ጉድኣትን እንታይ'ዩ?**
   - **ረ. እቲ ሕብረተሰብ ኮነ ንስኻትኩም/ክን ኣብ ዝቅፅል ጊዜ ናይ ነዊሕ እዋንን ቃሚን መከላኸሊ ወሊድ ንምጥቃም ድሌት ኣለክን/ኣለኩም'ዶ? ኣይነዋይ ዓይነት መከላኸሊ ትመርፃ/ፁ? ንምንታይ?**
4. **መዓዝን መንን ናይ ነዊሕ እዋንን ቓሚን መከላኸሊ ክወስድ ኣለዎ?**
   - *ሀ. ዕድመ፣ ሃይማኖት*
   - *ለ. ኩነታት ሓዳር፣ ትምህርትን ኣከነሚን*
   - *ሐ. መከላኸሊ ጥንሲ ንምጥቃም መን ይውስን*
5. **ዘይተገለፀ ክተልዕልዎ እትደልዩ ብዛዕባ ናይ ነዊሕ እዋንን ቃሚን መከላኸሊ ወሊድ እንታይ ኣሎ?**

የቀንየለይ

መምርሒ ጥልቂ ምይይጥ ምስ ባዓል ሞያ ጥዕና

ብመጀመርያ ጊዜኽን/ኹም ሰዊእክን/ኩም ምሳይ ንእትገብራኦ/ርዎ ፃንሒት የመስግን።

ሽመይ <u>ኣለም ገብረማርያም</u> ኮይኑ ብዛዕባ ዘመናዊ መከላከሊ ወሊድ ብፍላይ ድማ ናይ ነዊሕን ቀዋሚን መከላኸሊ ወሊድ ክሓተክን/ኩም ይደሊ። ዓላማይ ድማ ድልዬት ምጥቃም ናይ ነዊሕ እዋንን ቀዋሚን መከላከሊ ወሊድን ምስ'ዚ ዝተታሓዙ ነገራትን ኣብ ክሊ 15-49 ዓመት ዝርከባ ሰብ ሓዳር ኣዴታት ከተማ ዓዲግራት ንምድህሳስ እዩ። እዚ ድማ ንምምሕያሽ ኣገልግሎት መከላኸሊ ወሊድ ጠቃሚ እዩ። ምይይጥና ካብ ሓደ ሰዓት ንላዕሊ ኣይውድእን። እንገብሮ ምይይጥ ብሙሉኡ ብፍጥነት ንምፅሓፍ ስለ ዘፀግመለይን ንደሓር ንክሕግዝኒ ምእንታን ብቴፕ ንክቀድሑ ኣቀዲመ ፍቃድክን/ኩም ክሓትት ይደሊ። ስለዚ ብንፁር ንክቅዳሕ ብክበረትክን/ኩም ድምፅክን/ኩም ከፍ ኣቢልክን/ኩም ንክትናገራ/ሩ ይሓትት።

ኩሉ እትህባኒ/ቡኒ ሓበሬታ ሚስጥራዊነቱ ዝተሓለወ እዩ። እዚ ማለት እትህባኒ/ቡኒ ሓበሬታ ካብ ኣብ እዚ መፅናዕቲ ዘለኦ ሰብ ወፃኢ ንማንም ኣይጋለፅን ብተወሳኪ ድማ ኣብ ናይዚ ዳህሰሳ ውፅኢት መንነትክን/ኩም/ ኣይግለፅን።ምምላስ ዘይትደልያኦ/ይዎ ሕቶ ዘይምምላስን ኢለውን ኣብ ዝኾነ ሰዓት ምቁራፅን ትክእላ/ለ/ ምኻንክን/ኩም/ ክገልፅ ይፈቱ።

ኣብ ላዕሊ ዝተገለፀ ግልፂ ዘይኮነልክን/ኩም/ እነታይ ኣሎ?
ንክሳተፋ/ፉ ፍቃደኛ ዲየን/ዲዮም?

_____ _____

ፊርማ ተሳታፋይ ዕለት

መምርሒ መጠይቅ ምስ ወሃብቲ ግልጋሎት መከላኸሊ ወሊድ ንዝግበር ጥልቅ ዝበለ ምይይጥ

ምይይጥ ዝተኻየደሉ ዕለት: _____/_____/2004ዓ.ም

ዕታ ናይ ተሳታፊ:_____

ዓይነት ጥዕና ትካል: _____

ደረጃ ትምህርቲ ተሳታፊ: _____

ሽም ጠያቂ: _____

1. ብቁዕ ስልጠናን ዓቅምን፣ ክትትል ካብ ላዕለዎት ሓለፍትን ከምኡ እውን ኣቅርቦትን ንምክርን ናይ ነዊሕ እዋንን ቀዋሚን መከላኸሊ ወሊድን ግልጋሎት ንምሃብ ዘድልዩ ነገራትን ዝተማልአን ንምሃብ ይክእልን እየ ኢለን/ሎም/ዶ ይኣምና/ኑ?
   ሀ. ምክሪን መማረሂን ናይ ነዊሕ እዋንን ቀዋሚን መከላኸሊ ወሊድን
   ለ. ምእታውን ምውፃእን ኢምፕላነት፣ ሉፕ፣ ምምካን ማህፀን ኃል ኣንስተይትን ፍረነብሲ ወዲተባዕታይን
2. **ምርጫ ዝተፈላለዩ ዓይነት ዘመናዊ መከላከሊ ወሊድ ኣብ ትካልኩም**

   ሀ. ንምንታይ?

   - ናይ ኣዴታት ንባዓል ገዛአን ምእማንን ምውሳንን
   - ናይ ጎኒ ሳዕቤን
   - ኣፍልጦ፣ ኣራእእያን
   - ኣቅርቦት መከላከሊን
3. ኣብ ጥዕና ትካልኩም ናይ ነዊሕ እዋንን ቀዋሚን መከላኸሊ ወሊድ ዝጥቀማ ኣዴታት ከመይ ዝበላ እየን? ንምንታይ?
   - ዕድመ
   - ሃይማኖት
   - ኩነታት ትምህረቲ፣ ኢኮኖሚን ሓዳርን
4. ብዛዕባ ናይ ነዊሕ እዋንን ቀዋሚን መከላኸሊ ወሊድ ኣብ ዝቅዕል ጊዜ ንምጥቃም ዝህሉ ድሌት ኣዴታት እንታይ ክትብላ/ሉ/ ትክእላ/ሉ/?
5. ክመሓየሽ ኣለዎ እትብላኦ/ልዎ እነታይ ኣሎ?
   ሀ. ግልጋሎት መከላኸሊ ወሊድ ብፍላይ ድማ ናይ ነዊሕ እዋንን ቃሚን መከላኸሊ ወሊድ ከማሓይሽ ዝክእሉ ነገራት እንታይ'ዮም?
6. ተወሳኺ ብዛዕባ ናይ ነዊሕ እዋንን ቀዋሚን መከላኸሊ ወሊድ ክትብላኦ/ልዎ/ እትደለያ/ዮ እንታይ ኣሎ?

ብጣዕሚ የመስግን!!

Annex III. Map of the study area

Figure 5: Map of the study area, Adigrat town

Source: Mihret Hiluf, from MPH thesis 2007

Declaration

I the undersigned, declare that this is my original work, has never been presented in this or any other university and that all the source materials used for the thesis has been duly acknowledged.

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Date of submission: _____

This thesis has been submitted for examination with my approval as a university advisor.

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Date: _____