



MAGNITUDE OF IMPLANON DISCONTINUATION AND ASSOCIATED FACTORS  
AMONG IMPLANON USER IN KERSA DISTRICT, SOUTH-WEST, ETHIOPIA

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A THESIS SUBMITTED TO JIMMA UNIVERSITY, HEALTH INSTITUTE, FACULTY OF  
PUBLIC HEALTH, POPULATION AND FAMILY HEALTH DEPARTMENT IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS OF THE MASTERS OF PUBLIC HEALTH  
IN REPRODUCTIVE HEALTH

**June, 2019**

**Jimma Ethiopia**



# **JIMMA UNIVERSITY**

**INSTITUTE OF HEALTH, PUBLIC HEALTH FACULTY**

**DEPARTMENT OF POPULATION AND FAMILY HEALTH**

**MAGNITUDE OF IMPLANON DISCONTINUATION RATE AND ASSOCIATED FACTORS  
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# Abstract

## Background

Significant number of women use implanon as their first choice. However, they discontinue before the removal date due to different reason. There is high number unmet need for family planning ends in unintended, use of long-term contraceptive as directed by providers were proven interventions to overcome of these problem.

**Objectives:** To determine the Magnitude of Implanon discontinuation and associated factors among Implanon User Kersa District South-West, Ethiopia.

**Methods:** A community based cross-sectional study using both quantitative and qualitative methods of data collection was conducted. A total of 475 implanon user from January 2015 to August 2016 women were selected by systematic random sampling technique. Data was entered to Epidata manager version 4.4 and analyzed using SPSS version 20. Binary and multivariable logistic regression analysis was carried out.

**Result:** One hundred ten (23.2%) of implanon user were discontinued to use implanon before two and half years. The main reason for discontinuation of implanon were 53(48.2%) facing side effects such as bleeding, weight loss and headache. Woman who had not have information on effectiveness of modern contraceptive before insertion (AOR=2;95% CI:1.13-3.55). Women those being served by midwives and nurse (AOR=1.8;95% CI:1.04-3.23) and women who didn't appointed for follow-up (AOR=1.8,95% CI:1.01-3.19) were predictors of implanon discontinuation.

**Conclusion.** About quarter of the participants discontinued implanon before two and half years. The associated factors such as not having information of modern contraceptive effectiveness, not being appointed for follow-up and being served by nurses and midwives have been found positively associated with implanon discontinuation.

**Key words:** Implanon, discontinuation rate, Kersa, Ethiopia

## Abbreviations and Acronyms

AOR	-----	Adjusted Odds Ration
CI	-----	Confidence Interval
COR	-----	Crude odds ratio
DHS	-----	Demographic Health Survey
FMOH	-----	Federal Ministry of Health
FP	-----	Family Planning
IUD	-----	Intra Uterine Devise
LARC	-----	Long Acting Reversible Contraceptive
MCPR	-----	Modern Contraceptive Prevalence Rate
PI	-----	Principal Investigator
PPS	-----	Population proportion size.
SD	-----	Standard Deviation
SNN	-----	Southern Nation and Nationality
SPSS	-----	-Statistical Package for Social Science
SSA	-----	Sub-Saharan Africa
TFR	-----	Total fertility rate
U.S.A	-----	United State of America
WHO	-----	World Health Organization

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## CHAPTER 1: INTRODUCTION

### 1.1 Background

Implanon is One-rod implant consist of a single, rod-shaped implant, highly-effective long-acting reversible contraceptive (LARC) that provides excellent prevention of pregnancy and that is characterized by a rapid onset of action and a rapid return of fertility after removal. Once the implanon is inserted and not removed earlier the effectiveness is for up to 3 years which makes it ideal for birth spacing (1–3).

Implanon is particularly well-suited for use in low-resourced settings. As a long acting reversible contraceptive, efficacy does not depend on daily, weekly or monthly administration. This reduces the potential administrative burden on women, and makes compliance user independent. The pre-loaded sterile, single-use applicator for implanon makes it particularly beneficial for mobile clinics, settings with limited infrastructure and rural environments, as well as for insertion by lower-level health care workers. In addition, it avoids the need for manual manipulation of the rods themselves (4). Implants have unmatched effectiveness only one pregnancy occurs among every 2,000 implant users in the first year of use and in typical use implants are 120 times more effective than injectables and 180 times more effective than the pill (5).

Higher level of discontinuation may substantially contribute to high fertility rate, unwanted pregnancies, and induced abortions. Also early termination of implanon makes the method less cost effective. As of 2017, 1.6 billion women of reproductive age (15–49) live in developing regions. About half of them 885 million women want to avoid a pregnancy. The proportion of women who have an unmet need for modern contraception is highest in Sub-Saharan Africa. Twenty one percent of the estimated 206 million pregnancies in 2017 in developing regions, 43% are unintended. That is, they occur too soon or are not wanted at all. Current modern contraceptive use prevents an estimated 308 million unintended pregnancies annually among all women of reproductive age in developing regions and save \$8.3 billion on care related to unintended pregnancies. Typical use of implanon goes beyond the critical impacts on health to broad social and economic benefits for women, families and societies, such as increases in women's and children's education, increases in women's earnings and reductions in poverty (6).

Once implants are removed fertility is occur promptly because blood levels of the progestin become undetectable within a few days. Births resulting from unintended or closely spaced pregnancies are associated with adverse maternal and child health outcomes, such as delayed pre-natal care, premature birth, and negative physical and mental health effects for children (4). In 2016, one fourth (25%) of pregnancies in Ethiopia were unintended (7).The impact of implanon discontinuation different from region to region/countries as the finding from Demographic and Health Survey (DHS) data of 6 countries implies the percentage of unintended births that followed a implanon discontinuation for reasons other than desire to get pregnant ranges from 12% in Kenya and the Philippines to 25% in the Dominican Republic (8).

## **1.2 Statement of problem**

In recent years, contraceptive discontinuation is becoming as one of public health concern which contributes to unmet need for family planning. According to an observational cohort study for 2–3 years in united states among women aged 14-45 years implanon user's discontinuation rate at 12 months 17% and at 24 months 32%. In Kenya health facility based prospective cohort study, the early implanon discontinuation probability was 21 per 100 the 18-month for implant users (9)

According to Ethiopian Demographic Health survey (EDHS) in 2016, all modern contraceptive methods discontinuation rate was 35% and among them implant discontinuation rate within 12 months was just 11% (7). However, finding from different region indicates high discontinuation rate than the national finding in recent studies. Study in debremerkos town,indicates that the discontinuation among 348 participant was 46.5% with a rate of 10.5%, at 6month, 23.9%, at 12month, 38.2% at 24 and 46.5% 36 months (10).

WHO estimation of maternal mortality deaths due to non-use of contraceptive use in 172 countries among reproductive aged 15 to 49 years attributed to maternal mortality by almost 44% in 2010. The percent reduction in maternal deaths attributable to contraceptive use across the countries ranges between 7% and 60%. The estimation of maternal deaths ratio 27 per 100,000 women non using contraceptive methods per year and this may in crease to 25% in low performing countries (11).

In Ethiopia there is improvement in implanon prevalence rate as some evidence indicates use rose 17-fold, to a contraceptive prevalence rate of 3.4% among married women (10,12) . However, still there is high discontinuation rate as different studies indicating. A cross sectional study done in southern Ethiopia found that early implanon discontinuation rate was (23.4%) with a mean duration of Implanon use of  $9.6 \pm 2.5$  months at the studt period (13).

There are differet reason that women discontinue implanon method Some of the rural women are not in the position to use the widely available services freely and enjoyably due to the debilitating effects of socio-cultural barriers of contraceptive use which is forcing some of them to look for the services outside their residential locality where they could only access the services on market days. This exposed women to ‘forced discontinuation’ of the methods (14).

The government of Ethiopia updated its commitment in line with global family planning to improve the distribution of family planning commodities. Based on the expected services at health post, health center and primary hospital levels targeted to reduced adolescent pregnancy rate from 12% in to 3%. Unmet need for family planning among women ages 15 to 19 years from 20% to 10% and among women ages 20 to 24 years from 18% in to 10% . TFR from 4.6 in to 3 and increase modern contraceptive prevalence rate among women ages 15 to 19 years from 32% to 40% and ages 20 to 24 years from 38% to 43% to increase the mCPR from 35 % in to 55 % by 2020 (15).

Despite its proven long protection, in Ethiopia only 11% for married women and 8% for sexually active unmarried women taking contraceptives between the ages of 15 - 49 years (7). Apart from its low utilization, significant number of user request premature removal. According to Ethipian demographic health surge (EDHS) 2016 the 12 month total FP discontinuation decrease from 37% to 35% within five years. Incontrast the implants have discontinued by double. The magnitude and reason of discontinuation were not adequately investigated by incorporating qualitative approaches involving male counter part.

Therefore, this study was conducted in kersa district, Jimma Zone, Oromia Region to fill this gap and to bridge the knowledge and provide the rationale to reconsider the ongoing intervention modalities.

### **1.3 Significance of the study**

Knowledge generated from this study helps in the influencing policies and family planning programs that will enable the users attain their contraceptive use as suggested by health care providers. Contributes to the health sector transformation plan of 2015 ,which aimed to increase contraceptive prevalence rate from 35%to 55% by 2020. To give contextualized services for the study area by considering the identified factors and reasons for discontinuation of implanon and the local myths and misconceptions. In addition, it also useful to other researchers as reference while conducting further studies assessing magnitude rate and identification of associated factors with discontinuation of implanon.

## CHAPTER 2 LITERATURE REVIEW

### **2.1. overview of implant**

Hormonal implants are a highly effective, very safe, convenient and simple form of contraception that is provided easily in an outpatient setting. There are many types of implants such as Jadelle 2 rods, effective for 5 years, Norplant 6 capsules, labeled for 5 years of use, Sino plant 2 rods, effective for 5 years. Implanon1 rod, thin, flexible made of soft plastic that are placed beneath the skin of a client's upper arm effective for 3 years. Risk of failure (pregnancy) in the first year of use is 0.05%. Hormonal implants are an excellent contraceptive option for women at all phases of their reproductive lives those who want to delay, space, or limit birth (16).

Discontinuation of implanon occurs, when or a woman has not counseled about side effects of the method, effectiveness ,safety, appointment for follow-up and absence of husband (17). High contraceptive discontinuation results in millions of women having an unmet need for contraception and unintended recent births. In 2017 in developing regions, 43% are unintended that is, they occur too soon or are not wanted at all (6).

### **2.2 Magnitude of implanon discontinuation rate**

Multicenter retrospective non-comparative study in Switzerland reported the early removal of implanon was 24% of users at 9 months, primarily because of side effects (20%) (18). Similarly finding in Malasia with cohort study in which 140 women was participated 32 users 23% discontinued use of implanon at 12 months. Among the discontinuers, the mean duration of Implanon use was 24 months . But there was no discontinuation reported within the first six month of insertion and 25% of the users decided not to have another Implanon inserted after completing 36 months of usage (19).

The studies in developed countries on method discontinuation assessment indicates significant rate of discontinuation. For instance, retrospective cohort study on LARC done in United states of America women aged 12-24 thirty-five percent (35%) women discontinued in the first year. The six-month discontinuation rate was 11.3% and the 12-month rate was 21.9% respectively. The most common reason for discontinuation was bleeding for the implant (20) . A cohort study conducted in Netherlands discontinuation rate was 28% at 24 months, but it was 47% at 24 months.

History of previously used contraceptive method was associated with highest continuation rates and menstrual disruption was the main reason of early Implanon discontinuation (21)

Actual discontinuation rates vary by country. According to analytical study of DHS data from 21 low income countries indicates discontinuation rate differences between countries that ranges from 23 percent in Liberia to 69 percent in Yemen(22). In northern Nigeria facility based cross sectional done from 2009-2013 on the use of Jadelle/Implanon contraceptives among 798 client the discontinuation rate was found to be jaddle 26% and Implanon 19% (23). In contrast, the discontinuation in senegal was low within one-year discontinuation rates 6.3% (24). Other study in six European countries the 12-month implanon discontinuation rates were 26.8% by randomized, study on population of 766 healthy nulliparous and parous women aged 18–35 years, mainly due to increased bleeding (25).

In Ethiopia, according to Ethiopian Demographic Health survey (EDHS) in 2016, all modern contraceptive methods discontinuation rate was 35% and among them implant discontinuation rate within 12 months was just 11% (7). However, the discontinuation rate is high in some region of Ethiopia than the EDHS 2016 report. In facility based cross-sectional study conducted in Debre Tabor town in 2016 among 449 implanon user women the overall proportion of early implanon discontinuation was 65 % . Similarly facility based study in debremerkos town, indicates that the discontinuation rate among 348 participant was 46.5% with a rate of 10.5%, at 6month, 23.9 %, at 12month, 38.2% at 24 and 46.5% 36 month (10).

On the other hand, in a community based cross sectional study done in dale district southern ethiopia found that early Implanon discontinuation rate was (23.4%) with a mean duration of Implanon use of  $9.6 \pm 2.5$  months(13). A systematic review and meta analysis conducted from 1997-2017 published article of the 22 studies that were retained for final analysis and enrolled 19,805 Married or in union women the discontinuation rate was 20% within one year of insertion. There is no significant difference found in the rate of discontinuation between IUD and implant users (20.6% (SD=12.7) and 20.2% (SD=7.9)). Side effects and health concerns were main determinants for early discontinuation

## **2.3 Factor association with implanon discontinuation**

### **2.3.1 Sociodemographic factors**

Different studies had tried to explore the reason why clients discontinue implanon and come up with different factors. Study in United States of America over a 1-year period, stable contraceptive use decreased across age groups from 80% for teens 15-19 years old to 74% for women 20-24 years old, and 70-71% for women 25-34 and 35-44 years old. Among teens 15-19 years old, a history of method discontinuation because of dissatisfaction and among older women, intentions to have children in the future and reported difficulty achieving pregnancy were predictor factors (26). Similarly the odds of single, divorced, separated and widowed women was 2.37 at 95% CI more likely to discontinue compared to married women (27).

In Bangladesh using data from Demographic and Health Survey (DHS) of 2014, lower educated women were less likely to use contraceptive than higher educated women. For instance, women with no education had 34.7 percent lower odds of using contraception than women who had higher than secondary education. Women with no child or 1-2 children were less likely to use contraception than those who had >3 children and women who are not employed or living in rural areas were also less likely to use contraception (28). On the other hand, the facility based descriptive cross-sectional study with 188 participants in South Africa the main reason for discontinuation was desire for more pregnancies 4.3% (29).

In Ethiopia a community based unmatched case control study done southern nation and nationality among married women aged 15-49 years odds of discontinuation was 2.8 times for no formal education with compared to women who attended secondary school and above and the odds of participant who had history of previous abortion Implanon discontinuation were two times greater among women who did not experience abortion (30). A community-based cross-sectional finding in Humera town among 321 married women, among the assessed factor odds of discontinuation implanon among women who desired children 2.8 times more compared with no more desire for pregnancy and odds of discontinuation among husband disapproved 13 times more when compared with those who have husband support (31).



**2.3.2 Method related factors :** Different study showed that method related factor has influence on contraceptive use. According to facility based descriptive cross-sectional study done in South Africa side effects such as heavy bleeding, severe headache and painful arm were the main reasons for discontinuation of implanon 71.3%. Few participants reported wrong positioning 3.2% as reasons for discontinuation (29). This finding consist with study in United state of America that bleeding was the most common reason followed by headache to be the predictor of early Implanon® removal (32).

Assessment of method related predictors of discontinuation of implanon were similar in some research finding. A cohort study in Netherland in which 252 women were recruited eighteen percent (18%) had their implant removed within the first year. In Auwesteralia the odds of discontinuation those experience side effect were seven times more than as likely as those who did not experienced (33). Other descriptive analysis in Senegal the most common reasons for discontinuation were method problems 30.1%, and becoming pregnant while using 10.0%. Only 17% of discontinuations were followed by use of another method. Ten participants (5.3%) got pregnant despite using implanon and decided to remove.

Some studis in Ethiopia support the findings of different scholars A community based cross sectional study done in south region found that the main reasons for discontinuation of Implanon 34.4% was facing of side effecs (30). This finding consists with a result of a cross sectional study in Arsi zone that reported the main reasons for premature removal of implanon among users was heavy/prolonged bleeding representing 36% and 23% pain on insertion (34).

**2.3.3 Service related factors:** A retrospective study in Australia from 200–2011 after one year of insertion the predictor of early implanon removal found that influences on choice of contraception; and which included convenience and information sources, influences on removal of contraception which included side effects and their negative impacts on relationships and financial costs (35).

In Ethiopia according to community based cross-sectional study conducted in 2016 among 348 women in debremerkos the odds of Implanon discontinuation among women who did not get counseling service before insertion was 1.2 times higher than the odds in those who were counseled and 23.2% among discontinuer implanon use was decided by method providers. Study in jijjjiga

also found that odds of early removal for not properly counseled 2.5 than correctly counseled was to be predictors (36).

Study in southern Ethiopia indicates that the odds of discontinuation among women who were not counseled about the side effects during Implanon insertion were 1.93 times than who got counseled about side effect and 3.13 times among women who didn't appointed for follow up than those appointed. women who didn't choose the method by themselves 1.83 times more discontinued than those who choose the method by themselves (13)(14). According to facility based cross-sectional study in Debre Tabor town the odds of discontinuation Implanon among women who did not had appointment for follow-up were 2.6 times than those who had appointment for follow-up and were 1.5 times for who did not counsel about possible side effects than those who got counseling service about Implanon side effects (17)

### 2.3 Conceptual Framework

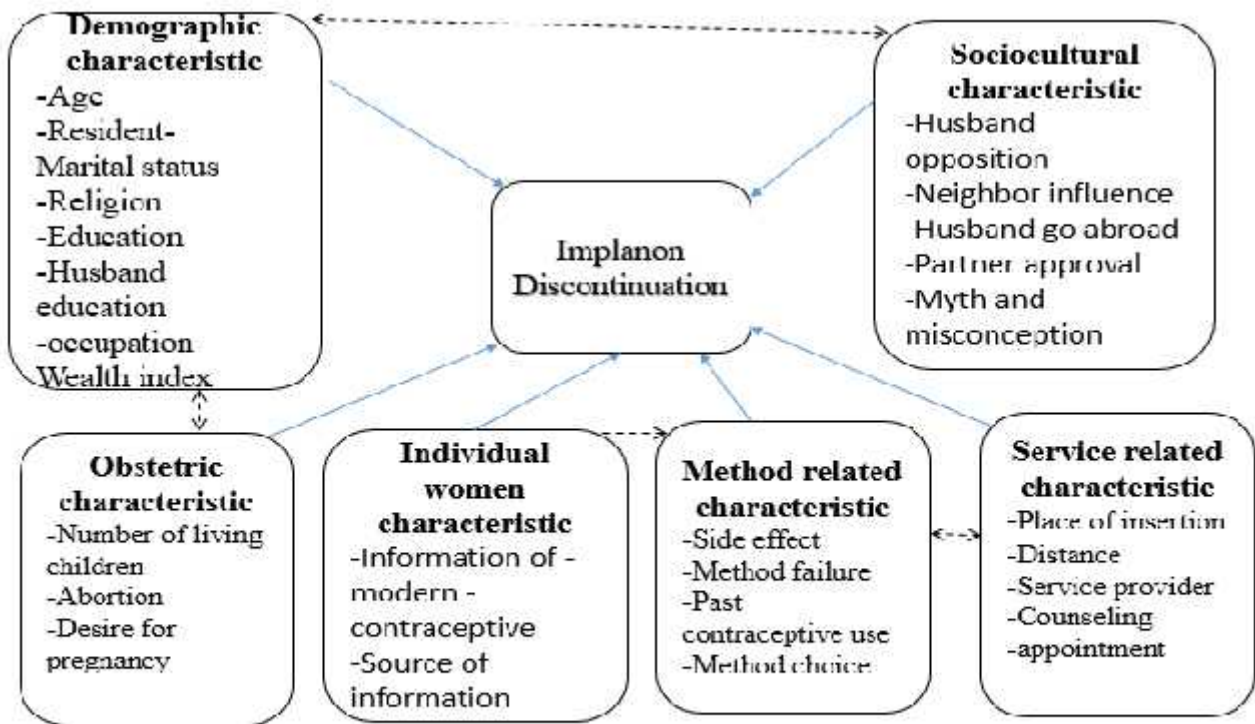


Figure 1 Conceptual framework developed from review of literatures (17, 16, 46–48)

## CHAPTER 3: OBJECTIVE

### 3.1 General objective

To determine the magnitude of implanon discontinuation rate and associated factor among implanon user in kersa district, south west Ethiopia in 2019.

### 3.2 Specific Objective

- 🎯 To determine the magnitude of implanon discontinuation.
- 🎯 To identify the factor associated with implanon discontinuation.

## **CHAPTER 4: METHOD AND MATERIALS**

### **4.1 Study area and Period**

Kersa District is found in Jimma zone, Oromia regional state, Ethiopia. It is one of the 21 districts in Jimma zone. Kersa district is further divided into 32 Kebeles, two urban and thirty rural. The district's total population based on central statistics agency (CSA)2007, there are 227,959 populations, of these 115,180 male and 112,779 female and Reproductive age account 22,130, among these 18,630 eligible for family planning in 2018. There are 7 government health centers and 32 health posts which provide FP services. Modern contraceptive coverage in area is 60% and Implanon coverage is 10% (37). The study was conducted from March 15/2019 to April 15/ 2019 in eight rural and two urban Kebeles of Kersa.

### **4.2. Study design**

A community based cross-sectional study using both quantitative and qualitative technique was conducted.

#### **4.2.1 Source population**

All women aged 15-49 years who used implanon in Kersa District, South West, Ethiopia.

#### **4.2.2 Study population**

sampled women aged 15-49 years who used implanon from January 01/2015 to August 30/2016 and in randomly selected Kebeles of Kersa District, South West, Ethiopia.

### **4.3 Eligibility criteria**

**4.3.1 Inclusion** All women who used implanon from January 01/2015 to August 30/2016

**4.4. Sample size and Sampling technique for quantitative:** The sample size for the first objective was calculated using the formula for a single population proportion. Taking the prevalence rate of Implanon discontinuation 25% at 95% confidence from a study conducted in Oromia Arsi zone (34) **n=288 and adding 10%=317**

For the second objective, the sample size was calculated by using Open Epi software version 7.2.2.6 using assumptions: **95% CL, \*80% power, 1.5 design effect and 10% non-response**

Table 1: Calculated Sample Size by Using Open Epi Software for the Second Objective

Population	Variable	category	Percent of outcome	Odds ratio	Total sample size + 10%	Reference
DOUBLE	Appointment for follow up	yes	59.3%	2.4	246.4	(38)
		No	77%			
	Having alive children	Yes	74.3%	2.3	289.3	
		No	62.2%			
	Educational level	Can't read and write	50.9	.35	155.1	(39)
		secondary	34.8	2.5	281.6	
	Side effect	yes	43.5			
		no	23			
Single	Proportion of implanon discontinuation rate in Arsi Zone (P)=25%				317*1.5=475	(16)

However, the calculated sample size of the first objective was higher. Using design effect=1.5 final sample size=475.

Thus the sample size calculated using single population proportion formula taken sufficient enough to measure the magnitude of Implanon discontinuation & associated factors among Implanon users.

#### 4.4.1 Sample size and Sampling technique for qualitative:

Four focus group discussion were conducted for each women and male participants. Purposive sampling technique was employed to get information rich participants.

**Sample size for qualitative:** Focus group discussion 26 women (ever implanon users) and 2 women health development army, 28 male participants in eight group of 6-8 FGD and for In-depth interview 1 urban and 2 rural health extension workers, 1 nurse from Serbo health center and 2 midwiferies from Kallacha and kake Health center.

#### 4.4.2 Sampling procedures

Out of 32 Kebeles of the study area 10 Kebeles were selected after stratification done into urban and rural kebele. Eight of rural kebele were selected using lottery method and the 2 Kebeles of urban were taken. The number of study subjects sampled between Kebeles were allocated using population proportion to size. Data was generated from three health center and seven health post. Facility client registration was used as sampling frame and systematic random sampling was used to identify specific women for interview. The sampling interval of individual in each Keble was determined by dividing the total number of implanon user to final sample size.  $K = \frac{N}{n}$   $K = \frac{1}{4} = 4.14 = 4$  where, N=total Number implanon user; n=final sample size K=Sampling interval

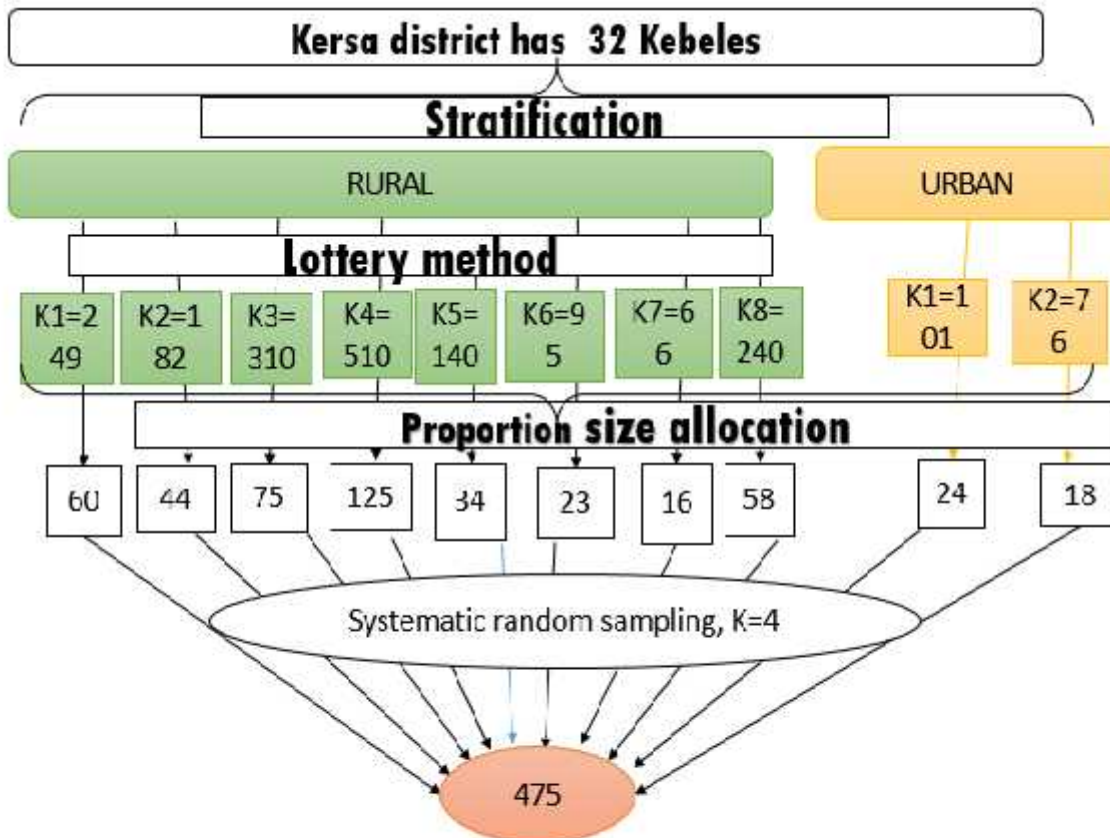


Figure 2 Schematic diagram showing sampling procedure and proportional allocation of sample size to selected Kebeles in Kersa district

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## **4.5 Study Variables**

### **4.5.1 Dependent variable**

Implanon discontinuation

### **4.5.2 Independent variables**

Demographic factor, Obstetric factor, Sociocultural factors, Individual women factors, Method related factors and Service factors.

## **4.6. Operational definitions**

**Implanon:** A modern contraceptive method that inserted sub dermally in the left upper arm and used for three years to space or limit pregnancy.

**Implanon discontinuation:** Refers to being removed the implanon before two and half years

**Unintended pregnancy:** Pregnancy without mother's plan.

**Long acting reversible contraceptive:** Contraceptive method which serve as 3-10 years but, can be removed at any time before the actual service years.

## **4.7. Data collection procedures and Instrument**

Data was collected using structured and semi structured questionnaire which was developed after reviewing of different literatures and scientific fact based on WHO family planning tool. It comprises socioeconomic and demographic, obstetric, individual, method related, service related and sociocultural characteristics. Face-to-face interview was employed for quantitative data. Qualitative data was collected by in-depth-interview and focus group discussion method. The discussion was held in school environment on weekend day where the participants feels free to express their feelings and ideas. Additionally, in occasions where the women have not accessed for absence, up to three attempts were being endeavored for interviewing to lower the non-response rate

## **4.8. Data analysis procedure**

Data was entered in to Epidata manager version 4.4 and exported to the SPSS version 20 for analysis. Data exploration was conducted to assess the completeness and descriptive statistics was used to describe the data depending on its nature. The data was displayed by using tables and graphs. Inferential statistical analysis was conducted by using the binary and multivariable logistic

regression analysis. Hosmer and Lemshows test was conducted to assess the fitness of the models. Variables with the level of significance  $< 0.25$  on the bi variable analysis and other variables of interest was candidate for the multivariable analysis. Significance of the association was decided by using the P-value of  $< 0.05$  at the 95% confidence interval. Qualitative data was collected and triangulated to provide a deeper understanding of quantitative finding. Thus results from the FGDs was summarized in a way and supplemented for further clarification of the statistical result.

#### **4.9. Data quality management**

Questionnaire was first prepared in English then translated to local language Afan Oromo for data collection by language expert. To insure consistency of the translation in English version; the questionnaire was translated back to English by other language expert. A questionnaire was Pretested on 5% (24) women out of the study area, in Mana district far from 44 km. Based on pre-test necessary modification was made on question and data of pretest was exclude in the actual data analysis. Four diploma nurses of data collectors and two Bachelor degree holders nurse supervised were selected for the collection and trained for one day on study instrument and interviewing technique. The data was collected by taking the list of the user from family planning registration book of the respected health institution and interviewing all women house to house in place where the participant feel free to express their feeling and idea. Data consistency & completeness was checked on daily basis by supervisors. Finally, it was cleaned after entry and exportation. The FGD and in-depth interviews were done by principal investigators. Voice recording and note taking were used to capture the information obtained from in depth-interview and FGD. Thus results from the FGDs was summarized in a way and themetized to supplement further clarification of the statistical result.

#### **4.10. Ethical consideration**

Ethical clearance was obtained from Jimma University, Faculty of Public Health and Medical Sciences Institutional Review Board (IRB). Also Support letter was obtained from Jimma University to kersa Health Office. Letter of cooperation was secured from the administrations of each kebele. The respondents were informed about the objective and purpose of the study and an informed verbal consent was taken from each respondents. Also they were informed about their right of not to participate in the study or with drawing at the middle. Confidentiality of the information was assured and no personal details were recorded



#### **4.11. Dissemination plan**

Finding of this study will be presented for Jimma University community and submitted to Jimma University, Institute of Health, Faculty of Public Health, Population and Family Health Department, Kersa District and Zonal health department. It will also be presented on annual scientific meetings, seminars and conferences. Finally, efforts will be made to publish the findings on peer reviewed journals inside or outside the country.

## CHAPTER FIVE: RESULT

### 5.1 Sociodemographic characteristics

A total of 475 participants responded to the questionnaire making response rate 100%. The age of the participant was between 15&49 years. By their marital status 463(97.3) were married. Regarding educational status four hundred fourty three (51.2%) were have no formal education. Four hundred fourty one (92.8) were Muslim. Two hundred ninety-five (62.1) were house wife or home workers see table 2.

**Table 2** Reproductive history and client characteristics of women who used Implanon in January 2015to August 2016 in Kersa District South-West, Ethiopia 2019

<b>variable</b>	<b>category</b>	<b>frequency</b>
<b>Women's age</b>	15-19	44 (9.3%)
	20-24	96 (20.2%)
	25-29	213 (44.8%)
	30-34	50 (10.5%)
	35-39	51 (10.7%)
	40-49	21 (4.5%)
<b>Marital status</b>	Single	1 (.2%)
	Married	463 (97.5%)
	Widowed	6 (1.3%)
	divorced	5 (1.1%)
<b>Women's Educational status</b>	unable to read and write	24 (51.2%)
	Able to read and write	145 (30.5%)
	1-4	28 (5.9%)
	5-8	36 (7.6%)
	9-12	16 (3.4%)
	College and above	79 (1.5%)
<b>Women's religion</b>	Orthodox	28 (5.9%)
	Muslim	441(92.8%)
	protestant	6 (1.3%)
	<b>occupation</b>	Hose wife
	employer	15 (3.2%)
	Merchant	106 (22.3%)
	Daily labor	59 (12.4%)

### 5.1.2 Obstetric characteristic

Obstetric history was also one factors that were assessed in the study. Accordingly, majority (85.7%) of the study women had at least one live child before implanon was inserted for them. Out of those who had a child 309 (75.95%) possessed 3 or less and the rest possessed 4 or more children who were alive at the time of interview. About quarter of the participants' women experienced abortion in the past.

**Table 3 :** Obstetric history and client characteristics of women who used Implanon in January 2015to August 2016 in Kersa District South-West, Ethiopia 2019

<i>variable</i>	<b>Category</b>	<b>number</b>	<b>percent</b>
<i>Live children</i>	yes	407	85.7
	no	68	14.3
	total	475	100
<i>Number of children</i>	1-3	309	75.9
	4-5	77	18.9
	6+	21	5.2
<i>History of abortion</i>	Ye	113	23.8
	no	362	76.2
	total	475	100
<i>Number of abortion</i>	1	79	69.9
	2	24	24.8
	3	6	5.3
	total	113	100

### 5.1.3 Individual characteristic of the women

Information related assessment of the study subject indicated that more than half 297(62.5%) of the participants had heard at least one contraceptive method. With regard to source of information health extension workers reported as major source of information as mentioned by 210(70.7%) participants followed by media 60(20.2) and school 16(5.4%). Regarding information, one hundred eighty-three (61.6%) has information on duration of action,152(51.2%) on benefit,148(49.8) heard effectiveness. In this study, only 30% of women though that they have enough information about the side effect of the method.

**Table 4:** Individual characteristic of the women of women who used implanon in January 2015to August 2016 in Kersa district Oromia, South-West, Ethiopia,2019

<b>variable</b>	<b>category</b>	<b>frequency</b>
Ever heard of any modern contraceptive	yes	297 (62.5%)
	no	178 (37.5%)
	total	475 (100%)
Type of contraceptive method ever heard	Pills	238 (80.1%)
	IUCD	48 (16%)
	Injectable	209 (70.4%)
	Female sterilization	33 (11.1%)
	Male sterilization	42 (14.1%)
	Implanon	266 (89.6%)
	Jadelle	222 (74.7%)
	Lactation amenorrhea	32 (10.8%)
	Male condom	35 (11.8%)
	total	297 (100%)
	Source of information	HEW
Radio		60 (20.2%)
Television		5 (1.7%)
Friend		6 (2%)
school		16 (5.4%)
total		297 (100%)
Type of information		Effectiveness
	Side effect	89 (30%)
	Duration of action	183 (61.6%)
	benefit	152 (51.2%)
	no	245(51.6%)
	total	475(100%)

#### 5.1.4 Service related characteristics

Concerning service related factors more than half of the participants 270(56.8%) were got counseling service during implanon provision with 150(55.6%) individual counseling, 79(29.3%) mass counseling and 41(15.2%) couple counseling. Regarding counseling message nearly half 128(47.4%) of the study subjects were counseled on duration of action,122(45.2%) on advantage. More than one third of (36.2%) of the study participant didn't have appointment follow-p during

their implanon utilization period. Regarding place of insertion more than half 269(56.6%) of clients were took the method at health post.

**Table 5** Service related characteristic of women who used implanon in January 2015 to August 2016 in Kersa district Oromia, South-west, Ethiopia,2019

<b>variable</b>	<b>category</b>	<b>frequency</b>
Got counseling	Yes	270 (56.8%)
	no	205 (43.2)
	total	475 (100%)
Type of counseling	Individual	150 (55.6%)
	Mass	79 (29.3%)
	couple	41 (15.2%)
	total	270 (100%)
Counseling message	Advantage	122 (45.2%)
	Side effect	46 (17%)
	Duration of action	128 (47.4%)
	Effectiveness	69 (25.6%)
	When to insert and remove	46 (17%)
	total	270 (100%0
Method selection	no	14 (4.8%)
	total	293 (100%)
	Women	104 (21.9%)
	husband	7 (1.5%)
	Service provider	3 (.6%)
	Women & husband	262 (55.2%)
	Women &service provider	71 (14.9%)
	Women & other person	28 (5.9%)
total	475 (100%)	
Time to arrive health facility	1-30	329 (69.3%)
	31-60	145 (30.5%)
	>60	1 (.2%)
	Total	475 (100%0
appointment	Yes	303 (63.8%)
	no	172 (36.2%)
Place of insertion	Health post	269 (56.65)
	Health center	206 (43.6%)

### 5.1.5 Method related characteristic

Contraceptive related assessment of the participants indicated that more than half (51.6%) of the women were not using any form of modern contraceptives before insertion of implanon. Whereas among those who were using contraceptive 230(48.4%) before insertion of implanon, those who were using Depo-Provera(injectable) were dominant account for 145 (63%) of them. About half of the participants 48% were faced side effect of the method. Less than one percent (.9%) of implant user conceived while using the method, which reflected the high efficacy of the implant.

### 5.2 Magnitude of Implanon Discontinuation Rate

Out of the 475 women who used implanon in the last three years, of these 110(23.2%) women discontinued. The discontinuation of implanon started as early as three months and as long as twenty-seven months. The median duration of use was 15 months with (SD= $\pm$ 5.8)

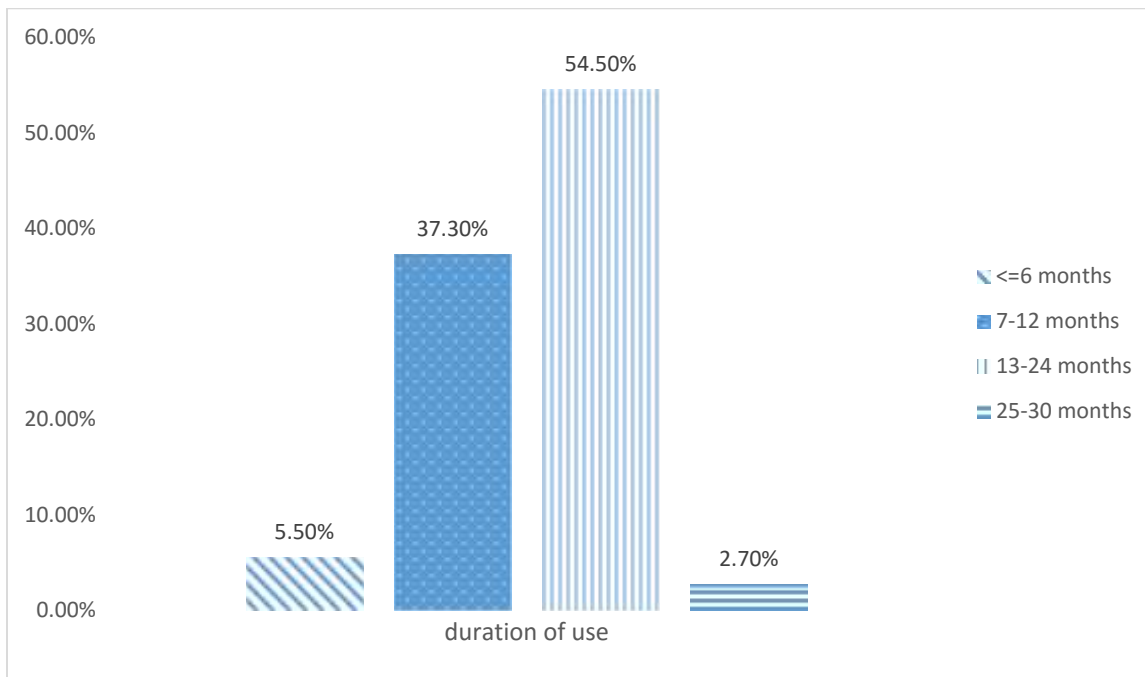


Figure 1 Duration and Implanon discontinuation rate in Kersa District Oromia, South-west Ethiopia

### Reasons for implanon discontinuation

Different reasons were mentioned to discontinue implanon. Concerns about side effect, desire for pregnancy, misconception, peer and partner pressure. Different health problem and side effect were found to be the main reason for most of implanon discontinue. Among the discontinued 48%

percent reported that they experienced different health problem after they starting using implanon. The higher figure may be due to lack of effective counseling or bias in reporting side effect, among other reason. One FG participant also complained health problem related with implanon use. She said that *“Implanon harmed my health, menstruation became longer and amount of bleeding also increased. Moreover, the implanon exhausted, especially when walked long distance”* (A 27 years old merchant female).

Additionally, men may also encourage their partners to discontinue use because, they perceive the side effect to be harmful or because they think that implanon will change their spouse’s behavior. Further, more one participant shared his experience of his wife’s health problem related with implanon. He said that *“I knew the health problem of my wife, but now her problem is not that I knew before. She suffered from headache, dizziness and long menstrual bleeding which was not normal”* (A 34 years old male participant). A report from service providers indicated the main reason underlying the discontinuation of implanon was intolerable side effect, especially irregular bleeding. In-depth interviewee health extension worker reported that *“a client complain that they have heavy and continuous menses and loss of body weight after insertion of implanon”*. A health professional also admitted the short duration of use of implanon they reported that *“according to experience most of my client use implanon for one and half of year or one year not more than that”* (23 years old nurse serbo health center).

Next to side effect desire for pregnancy 30(27.3%), shifting to other method 12(10.9%) and other reason (5%) such as peer and neighbor pressure, divorce/separation were reason for discontinuation. From the focus group discussion myth and misconception were also reported as the reason. *“Now I am using implanon, but it shifted from its original place and disappear in my body as a result I want to remove it soon, but I fear surgical incision”* (A 31 years old women current method user).

Health extension workers were asked about misconception about implanon in the community. They explain that there was misconception regarding implanon method. *“a client using implanon come to my work place (health post) and asked me to remove it. She said that it causes cancer. I heard last night from radio that prime minister said that implanon causes cancer... ..”* (A26 years old health extension workers Babo health post). Among a male participant there were some people believed that implanon had bad effect on the women and their fetus. Many shared idea and stories

related to how implanon affect the women. tried to describe as follow “*the implanon stores menstruation in the women’s stomach. When she got pregnant after removal she suffered from pregnancy complication. She couldn’t deliver baby because the menses that stored in the stomach block the way that the baby come out. Then family took her to hospital and doctor took out the baby from her body by surgery*” (A 36 years old male FGD discussant). Another participant also explains similar concern. He said that “*Let us say something about implanon. It causes dryness of the women’s uterus and finally cause birth complication even after they remove and got pregnancy*” (A 27 years old male village leader).

Partner influence was also found to have significant contribution to discontinue the implanon. One FGD discussant put his reason not to approve for his partner. “*When we married to represent ourselves and keep up our generation as our ground father did, having more children*” (A 33 years old male).

“*women those use implanon as birth control don’t have husband interest regarding sex because the medicine that found in implanon serve as a male hormone*” (A 28years old male)

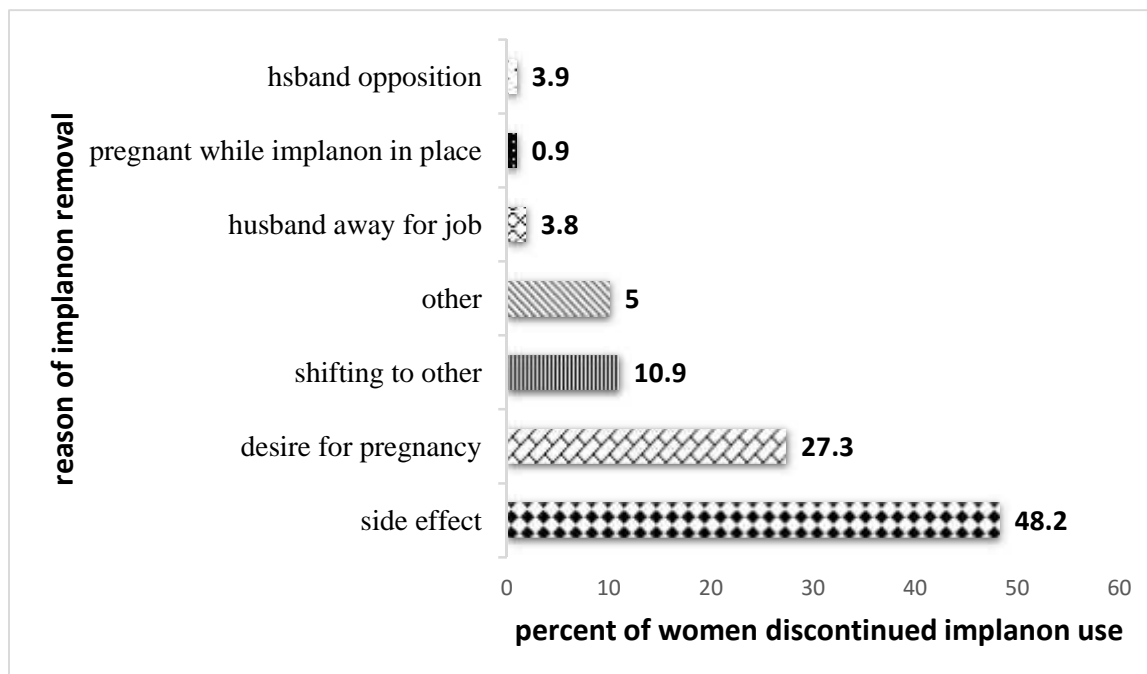


Figure 2 The main reason for implanon discontinuation in Kersa District, Oromia, South-west Ethiopia



### 5.3 Factor associated with implanon discontinuation

All the sociodemographic, information of modern contraceptive, service-related, method related factor were assessed for the presence of association with discontinuation rate of implanon on bivariate analysis. Hence women's educational level, occupation, having information of effectiveness of modern contraceptive method, appointment for follow-up, place of insertion and service provider were significantly associated with implanon discontinuation on bivariate regression analysis.

In multivariate logistic regression analysis showed that having information of effectiveness of modern contraceptive, service provider and appointment for follow-up were found to have statically significant association with discontinuation of implanon.

The odds of woman who had not have information on effectiveness of contraceptive method before implanon insertion were 2 times more likely to discontinue implanon as compared with those who have information on effectiveness of contraceptive (AOR=2;95% CI:1.13-3.55). The focus group discussion participants have acknowledged the benefit of having information of modern contraceptive as to complete the adjusted time for implanon. *"I am using implanon repeatedly at least for more than seven years, because I know its effectiveness and I am no worry to be pregnant"* (A 37-years old women community health agent).

According to this analysis odds of discontinuation among women who were not appointed to follow-up were 1.8 times more likely to discontinue implanon as compared with those who have follow-up after insertion of implanon (AOR=1.8;95% CI:1.01-3.19). Some of the qualitative study participants identified that the presence of limitation in the providers as counseling about the follow up and close monitoring. *"when our wife inserted implanon at health center the health workers do not tell them to come back if they face any problem regarding this method. Some time it is difficult our wife confused where to seek solution"* (A 30 years old male participant).

The study also revealed that odds of discontinuation among women who were served by health workers 1.8 times more likely to discontinue compared to with those served by health extension workers (AOR=1.8;95% CI:1.03-3.22).

**Table 6 :** Factors associated with discontinuation rate of Implanon among women who used Implanon from January 01/2015 to August 30/2016 in Kersa District Oromia, South west, Ethiopia, 2019

Variable	category	Implanon discontinuation		COR(95% CI	AOR(95% CI	P value
		Yes	no			
<b>Level of education</b>	Unable to read and write	47 (19.34%)	196 (80.6%)	1	1	
	Able to read and write	45 (31.10%)	100 (68.90%)	1.87(1.17-3.02)	1.8(.966-3.37)	.064
	1-4	7(13.7%)	44(86%)	.90(.33-2.51)	.65(.17-2.44)	.525
	5-8	47(19.3%)	196(80.7%)	1.84(.84-3.99)	1.36(.48-3.83)	.564
	9-12	11(30.5%)	25(69.4%)	.39(.09-1.75)	1.81(.96-3.38)	.135
<b>Information of effectiveness modern contraceptive</b>	yes	26 (17.56%)	122 (82.43%)	1	1	
	no	43 (28.85%)	106 (71.14%)	<b>1.9(1.1-3.3)</b>	<b>2(1.13-3.55)</b>	<b>.018</b>
<b>Appointment</b>	yes	61 (20.13%)	242 (79.86%)	1	1	
	no	49 (28.5%)	123 (71.5%)	<b>1.6(1.02-2.4)</b>	<b>1.8(1.01-3.19)</b>	<b>.045</b>
<b>Service provider</b>	HEW	45 (17.24%)	216 (82.75%)	1	1	
	HW	65 (30.37%)	149 (69.62%)	<b>2.1(1.4-3.2)</b>	<b>1.8(1.04-3.23)</b>	<b>.039</b>

**1 reference**

## CHAPTER SIX: DISCUSSION

Contraceptive implant is long-acting reversible with high contraceptive effectiveness used for three years. However, it is effectively used for three years the median duration of use  $15 \pm 5.8$  which is less than half of the expect service year was recorded in this study. This has serious health and economic implication concerning the investment of government to family planning service delivery in the region.

In this study, the overall magnitude of discontinuation rate was 23.3% (95% CI: 19.4% to 27.2%) with the mean duration of use  $15 \pm 5.8$  months. This rate is consistent with study conducted in dale district, Southern Ethiopia where 23.4% and in Arsi zone South East Ethiopia in which showed that around 25% of women using implanon had discontinued (13,34). However, it is higher than study done in Senegal where the overall implanon discontinuation was 6.3% (40). The difference is might be due to educational status of the study participant's, as a major of women in the current study 243(51.2%) were unable to read and write. The other possible reason might also due to age level. Because women of the current study younger than the previous study (46) and being young has high probability desire to have more children which intern this leads to high discontinuation rate. The third reason might be lack of counseling service during implanon provision and follow-up as 43.2% were not counseled on possible side effect in this study. Effective counseling, close monitoring and follow-up service enable women to cope with minor disorder.

This study showed that discontinuation rate was 5.5% within six months, 37.3% in one year and 54.7% in two years. This result is higher than the study done in Tigray Mekele. In that study the discontinuation rate was 2.6% within 6 months, 15.7% in 1 year and 19.7% in 2 years. The reason for this discrepancy might be counseling service given during inception of mother in to the method and continuous follow up on those mothers. For instance, in this study 17% of participants were counseled on the side effect and 25% on effectiveness of the contraceptive method, whereas in the study done in Mekele 84.7% of the participants were counseled.

Regarding the obstetric factors this study revealed that 27.3% for discontinuation of implanon was desire for pregnancy in near future. This can be related with the fact that majority of the study participants (74%) were below age of 30 years and majority (74.9%) possessed 1-3 currently alive

children. Which is in line with other study in south Africa and Ethiopia in which plan to conceive in near future is the main reason (29,31,34).

This study also shows women who had no information of modern contraceptive and appointment for follow-up significantly association with implanon discontinuation. The odds of discontinues among women who had no information of effective modern contraceptive were two times than those had information. The possible explanation could be if women have clear information on about the provided service, they will give up with minor side effect and may have a higher chance to continue the method.

Regarding contraceptive assessment main reason cited by the women for the discontinuation of implanon were health concern and side effect followed by desire to have more children. This is consisted with other study conducted in Tigray region (41). Even though menstrual disruption have no serious health effect but can interfere with daily activity, especially with their sexual relationship with their husband. Male participants of FG discussant reported that their wife has no sexual interest. This might be due to side effect of the method that women faced and shamed to deal with the issue with their partner as some of the women didn't get husband approval. Women with lack of prior information may be also concerned about vaginal bleeding and would want the implanon discontinued in order not to interfere with their sexual relationship with their husband. Providing counseling about expected potential side effect of the method and support by service providers may be the most important way to help women continue on implanon contraceptive. A study in Ethiopia also confirmed that the inadequacy of the counseling service during implanon insertion resulted in high rate of discontinuation. (14,36,42).

Another important determinant of implanon discontinuation was service related factors. This study found that those clients who served by health professional (nurses or midwives) were 1.8 times more likely to discontinue the method as compared to those served by health extension workers. This might be due to health extension workers always in the community and they are friend with them which helps to convince the method to continue. Other possible explanation since the health extension workers always in the community the client might be early report any complain regarding the method.

Women who didn't appointed for follow-up were 1.8 times more likely to discontinue the implanon as compared to those who had follow-up. This might be during follow-up visit, if any complaint coming from the users, they will get appropriate solution from service provider and also might be post insertion counseling on the expected side effect specific to implanon. This finding is also similar to study done in dale district in southern Ethiopia, Tigray in northern Ethiopia and Louis (13,27,41).

In this study some sociocultural factors such as partner pressure, myth and misconception were also reported as one of the main reason for discontinuation of implanon. This may be related to failure to provided participatory pre-insertion counseling at beginning as evidenced by 41(15.2%) couple counseling seen in this study and partner desire to have more children. The other possible explanation is lack of awareness and having missed information about the method by different person in the community. One women of FG discussant reported intention to discontinue implanon because of unable to detect the rod of implanon, feeling that the implant shifted from its original position and affects me. This could be associated with local myth and lack of proper two sided counseling service at each service delivery point. In qualitative study of implanon discontinuation in Butajira, researchers found that myth, peer and partner pressure as main reason for discontinuation.(43)

**Strength of the study** Triangulation of qualitative design helps to explore local context related with the discontinuation and including both rural and urban participant.

**Limitation** Temporal relationship between exposure and outcome variable couldn't be established as it is a cross sectional.

#### **Implication of finding for policy**

The provision of information for client regarding contraceptive effectiveness, accessing contraceptive education and quality counseling service to ensure desired and intended fertility, including prevention of miss-timed and unwanted pregnancies is one of the strategic focus of national reproductive health policy in Ethiopia. Therefore, the study will contribute to knowledge development especially in the area of implant.

## CHAPTER SEVEN: CONCLUSION AND RECOMMENDATION

### 7.1 Conclusion

About quarter of the participants discontinued implanon before two and half years. The predictor factors that which have been found positively association with implanon discontinuation are having information of modern contraceptive effectiveness, being appointed for follow-up, being served by health extension workers while side effect, desire for pregnancy, peer and partner pressure myth and misconception are negatively associated with implanon discontinuation.

### 7.2 Recommendation

#### ➤ Health workers and programmers

- ) Health care provider should give appropriate counseling service pre and post insertion and close follow-up to monitor minor side effect to increase continuation rate
- ) Woreda health office should work with community, elder and other influential persons and community health agent women to decrease the rumors and misconception related to implanon.
- ) Health promotion activities on benefit of implanon must be under taken to increase awareness.

#### ➤ For government

- ) Implanon education should be incorporated in current government strategy of adult education in district and kebele level.
- ) Working with NGO and local community organization should be essential to increase continuation rate and to resolve indicated predictors.

#### ➤ Researcher

Studies on designing effective behavior change communications regarding completing the recommended three year implanon use were be recommended.

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## Annex 1

Questionnaire- English version.

### Part I: Demographic characteristics

QN	Questions and filter	Coding categories	Skip
101	What was your age at time of insertion?	-----	
102	Where is your permanent resident	1. rural 2. urban	
103	What was your marital status at time of insertion?	1. Single 2. Married 3. Widowed 4. Divorced /separated	
104	What is the highest grade you completed?	1. ----- 2. unable to read and write 3. able to read and write 4. primary education 5. secondary education 6. college and above	
105	What is the highest grade your husband completed?	1. ----- 2. unable to read and write 3. able to read and write 4. primary education 5. secondary education 6. college and above	
106	What is your religion?	1. Orthodox1 2. Muslim 3. Protestant 4. Other(specify)	
107	What is your main occupation?	1. House wife 2. Employer 3. Merchant 4. Daily labor	

### part II socioeconomic factor

S/No	Questions	Responses	Remark
------	-----------	-----------	--------

201	What is the main source of water for members of your household?	<ol style="list-style-type: none"> <li>1. tap water</li> <li>2. piped water</li> <li>3. protected well</li> <li>4. unprotected well</li> <li>5. protected spring</li> <li>6. unprotected spring</li> <li>7. Surface water (River)</li> </ol> 99. other specify _____	<input checked="" type="checkbox"/> multiple answer is Possible <input checked="" type="checkbox"/> probe and mark all that apply
202	What kind of toilet facility do members of your household usually use?	<ol style="list-style-type: none"> <li>1. ventilated improved pit latrine (VIP)</li> <li>2. pit latrine with slab</li> <li>3. pit latrine without slab/ open pit</li> <li>4. No facility/bush/field</li> </ol> 99. other specify _____	
203	Does your household have:	<ol style="list-style-type: none"> <li>1 A bed</li> <li>2 A bicycle</li> <li>3 A motorcycle</li> <li>4 A car</li> <li>5 A table</li> <li>6 A chair</li> <li>7 A watch</li> <li>8 A radio</li> <li>9 A mobile telephone</li> <li>10 Electricity</li> <li>11 electric mitad</li> <li>12 Generator</li> <li>13 Solar</li> <li>14 Television</li> </ol>	<input checked="" type="checkbox"/> multiple answer is Possible <input checked="" type="checkbox"/> probe and mark all that apply
204	Do you have separate room that is used as kitchen?	<ol style="list-style-type: none"> <li>1. yes</li> <li>2. no</li> </ol>	
205	Main material of the floor	<ol style="list-style-type: none"> <li>0. earth/ mud</li> <li>1. wooden</li> <li>2. cement</li> </ol> 99. other specify-----	<b>RECORD OBSERVATION</b>
206	Main material of the roof	<ol style="list-style-type: none"> <li>1. leaf</li> <li>2. corrugated iron sheet</li> <li>3. cement</li> </ol>	<b>RECORD OBSERVATION</b>

		99. other specify	
207	Main material of the walls	1. wooden and mud 2. wood/sticks and Cement 3. Bricks(shekila) 4. other [specify	<b>RECORD OBSERVATION</b>
208	How many household members are sleeping in one room?	<input type="text"/>	
209	Does any member of this household own land that can be used for agriculture?	1. Yes 2. No	
210	Does this household own any livestock, herds, or farm animals?	1. Yes 0. No	Skip to Q. 212
211	How many of the following animals do this household own?	1. Milk cows <input type="text"/> 2. Oxen or bulls <input type="text"/> 3. Horses <input type="text"/> 4. Donkeys <input type="text"/> 5. Mules <input type="text"/> 6. Goats <input type="text"/> 7. Sheep <input type="text"/> 8. Chickens <input type="text"/>	
212	Do you have bank account?	1. Yes 0. No	Skip to Q. 301
213	How many birr do you have on the account?	_____ ETB	

### Part -III obstetrics factors

	Questions and filter	Coding categories	Skip
301	Did you have children during insertion of implanon?	1. Yes 2. No	If No skip to 304
302	If yes how many children did you have?	_____ children(s)	
304	Did you have any history of abortion?	<b>1. Yes</b> <b>2. No</b>	If No skip to 401
305	If yes how many times?	—	

### Part III knowledge of modern contraceptives

QN	Questions and filter	Coding categories	Skip
401	Have you ever heard of any modern contraceptive methods?	1. Yes 2. No	If No skip to 405

402	Which kind of contraceptive method have you ever heard of? You can answer more than one.	1. Pills 2. IUCD2 3. Injectable 4. Female Sterilization 5. Male Sterilization 6. Implanon 7. Jadelle 8. Lactation Amenorrhea 9. Male condom	
403	From where did you obtain the information?	1. HEW 2. media 3. television 4. friend 5. school 6. relative	
404	What type of information did you know? (Multiple answers possible)	1. Effectiveness 2. Side effects 3. Duration of action 4. Benefit	
405	Have you ever used any contraception before using Implanon?	1. Yes 2. No	If No skip to 307
406	Which method you did use? (last method)	1. Pills 2. IUCD 3. Injectable	

**Part-IV service-related factors**

QN	Questions and filter	Coding categories	skip
501	Did you get counseling service before insertion of the implanon?	1. Yes 2. No	If No skip to 506
502	What type of counseling did you obtain?	1. Individual counseling 2. Mass counseling 3. couple counseling	
505	What type of information did you obtain during the counseling? (Multiple answers possible)	1. Advantage 2. Side effects 3. Duration of action 4. Effectiveness 5. When to insert and remove	
506	Did you first discuss with your partner exactly to use this method of FP?	1. Yes 2. No	If "yes" skip to 508
507	Why not you discuss with your husband	-----	
508	Did he accept at that time?	1. yes 2. no	

509	Who was decided inserting the Implanon?	3. my self 4. my husband 5. method provider 6. I and my husband 7. I and provider 8. I and significant person 9. others(specify)	
510	How long did it take to reach the source of implanon from your Home?	.....	
511	After the insertion of implanon did they appointed you at specific time	1. yes 2. no	

**Part-V discontinuation of Implanon**

601	When did you insert the Implanon?	...../...../..... E.C	
602	Where did you insert Implanon	1. health post 2. health center 3. private clinic 4. NGOs 5. Outreach by others(specify)	
603	Who provides you the Implanon?	1. HWs 2. HEWs 3. Other specify	
604	Why did you choose to use Implanon?	1. duration of action 2. no side effects 3. effectiveness 4. other specify	
605	Are you still using the implanon?	1.Yes 2.No	If Yes skip to 609
606	What was the reason you had removed using of implanon	1. Side effect 2. Pregnant while implanon in-place 3. husband opposition 4. husband away for job 5. desire for pregnancy 6. shifting to other method 7. other(specify----)	
607	If side effects, what type of side effect(s)?	1. Increased monthly bleeding 2. Decreased monthly bleeding 3. Headache 4. weight gain 5. weight loss 6. other specify	
608	If the reason is shifting to other method, which method is using currently	1. Pills 2. IUCD 3. Injectable 4. Others (specify)	
609	For how long did you utilize implanon?	.....	
610	When did you remove the implanon?	...../...../.....E.C	



## Focus group discussion guideline with women

### **Questions for discussions**

1. What is your view on the need of implanon within your community?
2. How does the community understand Implanon using?
3. Who make the decision for implanon use within the family?
4. Do women in this community typically talk about implanon with their husband?
5. With whom do members of your community consult regarding questions and concerns about implanon (probe: influence of neighbors, relatives or friends)
6. What are the taboos/cultural or beliefs associated with implanon in this community?
7. How you explain social acceptance for a woman who used implanon?
8. What did you understand about implanon?
9. What are the challenges or barriers to use implanon?
10. Under what circumstance does women discontinue the use of implanon?
11. What are the solutions and recommendations to improve using of implanon?
12. If you have suggestion or comment welcome, thank you for your attention

### **Focus Group Discussions Guideline with Men**

1. Have you ever held a discussion meeting about family planning? (if yes)
  - i. Where did you hold it?
  - ii. What has been heard about implanon services?
2. Did you participate with your partner when they insert implanon? (if not why)
3. How you explain implanon in your view?
4. What did community think/say in using implanon regarding to their partner's use?)
5. Does using of implanon contradict with religion, culture or beliefs of your community?
6. In families, who make decision about implanon using?

7. Can you explain why husband didn't support or approve over their partner's use of implanon.
8. What were the effects of implanon using in terms of social relationships within the community?

### **Key Informant Interview Question with Service Provider**

1. In your opinion what are the demographic factors that affect completion rate of implanon in this community? Probe: - women's education, husband's education, parity, age of women at marriage or at pregnancy, marital status, religion, family size, poverty and knowledge on implanon.
2. Are there social factors that affect implanon using in this community? (probe such as misconception, neighbors influence, husband go abroad
3. How do people view implanon services in this community?
4. Are there any traditional practiced in this community? (if so what are they?
5. What are the cultural, taboos or beliefs challenges that affect implanon in this community?
6. Are there economic reasons that affect the implanon completion rate you know off? Probe: socio-economic status or income of the household, occupation of woman/husband and employment
7. What are the problems associated with implanon in this community?
8. How is the use of implanon by women, perceived by members of your community?
9. What are the awareness/knowledge challenges facing women regarding implanon using in the community?
10. What is the general trend of women regarding implanon service seeking practice? Probe - who decides,
11. Do you have any other comment or question you would like to share regarding the topic?

Afan Oromo version

**Kutaa I gaaffilee raga hawaasummaa**

Lakk.	Gaafi fii calallii		yaada
101	Umriin kee meeqa ture yeroo galfattu	-----	
102	Bakki jireenya kee eessa	1. Baadiyyaa 2. magaalaa	
103	Haalli gaa'ila kee akkamture yeroo galfattu	1. hin heerumne 2. heerumeen jira 3. walhiikne jira 4. walkiikne /adda bane jira	
104	Sadarkaan barnootaa kee akkam	1..... 2.dubbisuus barreessus hindanda'u 3. dubbisuus barreessus nidanda'a 4.kollajji fi isa ol	
105	Sadarkaan barnootaa abbaamanaa kee akkam	1..... 2 dubbisuus barreessus hindanda'u 3. dubbisuus barreessus ni danda'a 4.kollajji fi isa ol	
106	Amantiin kee maali	5. Orthodoxl 6. Muslim 7. Protestant/pheenxee 8. Other(specify)	
107	Dalagaan kee maali	5. Haadha manaa 6. hojjattuu mootummaa 7. Daldaltuu 8. dafqaan bulaa	

**Kutaa II Ragaa hawaasummaa fi dinagdee**

S/N	Gaaffilee	deebii	yaada
201	Maatiin kee bishaan akkamii fayyadama	1. bishaan boombaa 2. bishaan biirii kuunfamaa 3. biirii hin kununfamne 4. burqa kununfamaa 5. burqa hin kununfamne 6. laga 99.kanbiroo_____	✓ deebiin tokkoo olnidanda'am a ✓ kakaasi kan deebie hundatti mari

202	Mana fincaanii gosa akkam yeroo baay'ee maatiin kee fayyadama	<p>5. boolla mana fincaanii foolii alatti baasu</p> <p>6. mana fincaanii boolla qadaadame</p> <p>7. mana fincaani boolla qadaadaa hinqabne/ banaa</p> <p>8. boolla fincaanii hinqabnu</p> <p>100. kambiraa yoo jiraate ibsi _____</p>	
203	Maatiin kee wantoota kanaa gadii niqabuu?	<p>1. siree</p> <p>2. A bicycle</p> <p>3. A motorcycle</p> <p>4. Konkolaataa</p> <p>5. minjala</p> <p>6. teessoo</p> <p>7. sa'aatii</p> <p>8. raadiyoonii</p> <p>9. bilbila mooba' ilaa</p> <p>10. ibasaa</p> <p>11. Eelee ibsaan dalgu</p> <p>12. jeneretara</p> <p>13. Soolarii</p> <p>14. Television</p>	✓ deebiin tokkoo ol nidanda'ama
204	Kutaa adda bahe akka mana nyaata itti qopheessan qabdu?	<p>1. eeyyee</p> <p>2. lakkii</p>	
205	Ooydiin manaa maal irraa hojjatame	<p>1. biyyee</p> <p>2. mukkeen</p> <p>3. simintoo</p> <p>99.kambiraa</p>	<b>Laaluun galmeessi</b>
206	Waantoota manni irraa ijaarame	<p>4. citaa</p> <p>5. qorqorroo</p> <p>6. simintoo</p> <p>99.kanbiroo(ifa godhi)</p>	<b>Laaluun galmeessi</b>
207	Meeshaa dhaabni manaa irraa hojjatame	<p>5. mukaaf dhoqqee</p> <p>6. mukaafi simmintoo</p> <p>7. xuubii</p> <p>8. waan adda(ibsi</p>	<b>laaluun galmeessi</b>
208	Kutaa tokko keessa maatii meeqatu ciisa	<input type="text"/>	
209	Miseensa maata kana keessaa namni lafa qonnaaf oolu kan dhuunfsaa qabu jira?	<p>1. eeyyee</p> <p>2. lakkii</p>	
210	Maatiin kun beeyladaa manaa qabuu	1.eeyyee	Gara gaafii 212 ce'i

		2.lakkii	
211	Kanneen armaan gadii keessaa maatiin kun hammam qaba	9. sa'a aannanii <input type="checkbox"/> 10. sangaa/jibicha <input type="checkbox"/> 11. faradoo <input type="checkbox"/> 12. harroota <input type="checkbox"/> 13. gaangee <input type="checkbox"/> 14. re'ootas <input type="checkbox"/> 15. hoolota <input type="checkbox"/> 16. lukkoota <input type="checkbox"/>	
212	akkawantii baankii qabdu?	2. eeyyee 3. hinqabu	Gara G,301ce'i
213	Qarshii meeqa qabda dabtararraa?	_____ ETB	

**Kutaa III Odeeffannoo karoora maatii Ammayyaawaa**

	Gaaffii calallii	deebii	yaada
301	Ijoollee qabda turte yeroo galfattu	3. eeyyee 4. lakki	Yoo qabne gra 303 ce'i
302	yoo qabaatte meeqa qabda	_____ children(s)	
303	Amma dura ilmoon siraa baatee beekti?	<b>3. eeyyee</b> <b>4. lakkii</b>	Yoo lakkii tae gra 401ce'i
304	Yoo baatee ta'e meeqa?	___	

QN	Gaafiifii calallii	Deebii	yaada
401	Waa'ee karoora maatii dhageessee beekta amma dura	3. eyyee 4. hin dhagenye	Yoo dhagain gara 405ce'i
402	Karoora maatii gosa kamdhageesse beekta? deebiin tokko olnidanda'ama.	1. kiniina 2. kan gadamessa keessa kaa'amu 3. kan marfee waraannatan 4. masheenummaa dubartoota 5. maseenummaa dhiiraa 6. kan irree jala awwaalan waggaa sadi turu 7. kan irree jala awwaalatani waggaa shanif turu 8. harma hoosisaa 9. kondomii dhiiraa	

403	Odeeffannoo kana eessaa argatte?	7. hojjetuu ayyaa 8. radioo 9. television 10. hiriyaa 11. mana barumsaa 12. firootan irraa	
404	Odeeffannoo akkamii qabda?deebiin tokkoo ol nidanda'ama	5. bu'a qabeessummaa 6. midhaasaa 7. yeroo turtiisaa 8. faayidasaa	
405	Amma dura karoora maati fayyadamtee beektaa kanan dura	3. eeyyee 4. hinfayyadamne	Yo fayyadamne gara 501 ce'i
406	Gosa kam fayyadamtee?	4. kiniina 5. kan gadamessa kaa'amu 6. marfee	

#### Kutaa IV Tajaajila ilaachisee

QN	Gaafii fi calallii	Deebii	yaada
501	Tajaajila gorsa argateettaa oso hingalfatin dura	3. eeyyee 4. hinarganne	Yoo hinargatin gara 506 darbi
502	Gosa Tajaajila gorsaa akkamii argatte?	4. tajaajila dhuunfaa 5. tajaajila gareen 6. abbaa worraa wojjin	
505	Ergaa akkamii argatte gorsa irraa	6. faayidaasaa 7. Miidhaasaa 8. turtii yeroo saa 9. bu'a qabeessummaa 10. yoom akka galfatanif baafatan	
506	Abbaa warraa keetii waliin mariatte beekta osoo galfatin dura?	3. eeyyee 4. lakkii	Yoo eeyyee ta'e gara 508
507	Maaf hin Marianne?	-----	
508	Ishii jedheera	10. eeyyee 11. lakkii	
509	Eenyu simutreesa galfachuu	12. anuma matakoo 13. abbaa manaa koo 14. warra tajaajila kennu 15. Anafi abbaa manaa koo 16. Anaafi warra tajaajila kennu 17. Anaafi namoota biraa(ibsi)	
510	Hagam sitti fudhata bakka tajaajila gahuuf	.....	
511	Eega galfattee booda beellama siif kennaniru?	1. eeyyee 2. hinkennine	

**Kutaa V: Addaan kutuu ilaalchisee**

601	Yoom galfatte	...../...../..... E.C	
602	Eessatti galfatte	6. kella fayyaa 7. buufata fayyaa 8. kilinica dhuunfaa 9. miti mootummaa 10. duulan (ibsi)	
603	Eenyu siif galche?	4. hojjettuu fayyaa 5. ogeessa fayyaa 6. noma biraa	
604	Maaf isa irree jalaa kana filatte?	5. turtii yeroo saa 6. miidhaa dhabuusaa 7. bu'aaqabeessummaa isaa 8. kanbiroo(yojiraate ibsi)	
605	Ammallee fayyadamuu jirta?	1.eeyyee 2.miti	Yoo eeyyee tae kan hafe hin guutin
606	Sababa maaliitiif baafatte	1. midhaasaa/rakkoosaa 2. waan ulfaaheef osoman fayyadamuu 3. abbaa manaa kootii nadide  4 sababa abbaan manaa koo hojii deemeef  5ulfaahuu waanan barbaadeef	
607	Yoo sababa rakkoosaa/midhaasaa ta'e miidhaa akkamii?	1. dhiiga jianii natti baayyise 2. dhiiga jianii irrise 3. dhukkubii mataa 4. ulfaatina koo dabal 5. ulfaatina koo hir'ate 6. kanbiroo(ifa godhi)	
608	Yoo jijjiirrannaf ta'e gosa kamitti jijjiirratte	1. kiniina 2. kan gadameessa keessa kaa'amu 3. kan marfee 4. kanbiroo(ibsi)	
609	Yoom baafatte	-----/-----/-----E.C	
610	Yeroo hagamiif fayyadamte?	.....	