UPTAKE OF INTRAUTERINE CONTRACEPTIVE DEVICE AND ASSOCIATED FACTORS AMONG WOMEN DURING IMMEDIATE TERMINATION OF PREGNANCY IN HARAR PUBLIC HEALTH FACILITIES, EASTERN ETHIOPIA

MPH RESEARCH THESIS

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May, 2018

HARAMAYA UNIVERSITY, HARAR

Uptake of Intrauterine Contraceptive Device and Associated Factors among Women during Immediate Termination of Pregnancy in Harar Public Health Facilities, Eastern Ethiopia

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ACRONYMS/ ABBREVIATIONS

ACOG	American College of Obstetricians and Gynecologists
ANC	Ante Natal Care
AOR	Adjusted odd ratio
CU T380A	Copper Intrauterine Contraceptive Device type T380A
CI	Confidence interval
COR	Crude Odd Ratio
CPR	Contraceptive prevalence rate
EDHS	Ethiopian Demographic Health Survey
FP	Family Planning
FGAE	Family Guidance Association Ethiopia
HC	Health center
HRHB	Harari Regional Health Bureau
IUCD	Intrauterine Contraceptive Devices
LARC	Long-acting reversible contraception
MPH	Master of public health
MMR	Maternal Mortality Rate
PNC	Post Natal Care
PAIUCD	Post Abortion Intrauterine Contraceptive Device
PPIUCD	Post partum Intrauterine Contraceptive Device
STI	Sexually Transmitted Infections
SPSS	Statistical Package for social science
WHO	World Health Organization

ABSTRACT

Background: Intra-uterine contraceptive device is one of modern family planning methods inserted by trained health personnel into a uterus which prevents pregnancy for about 12 years. Insertion of an Intra Uterine contraceptive device immediately following termination of pregnancy has a proven record of very high effectiveness, protection against unintended pregnancy. Despite these benefits, evidenceson IUCDuptake following termination of pregnancy were limited in Ethiopia.

Objective: uptake of Intra-uterine contraceptive device and associated factors among mothers during immediate termination of pregnancy in Harar public health facilities, eastern Ethiopia.

Methodology:facility-based cross-sectional study design was used from February 1-28, 2018.A total of 453mother immediatefollowing termination of pregnancy were included and used face to face interview by pre-tested structured questionnaire. Descriptive statistics were used to describe the data. Bivariate and multivariable logistic regression analyses were carried out to assess the association between independent and the outcome variables. Odds ratio along with 95% confidence interval was estimated to measure the strength of the association and statistical significance was declared at P-value ≤0.05.

Result: The overall magnitude of IUCD uptake was 24.5%. Age group of mother25-35[AOR=2.38, 95%CI (1.07-5.29)] and36-49years [AOR= 9.53, 95%CI (3.51-24.06secondary and above)], education of mother[AOR=0.26,95%CI(0.09-0.72)], mothers who have 5 and above children [AOR=3.67,95%CI:(1.58-8.95)],previous birth to current birth interval less than 24 month[AOR=4.6,95%CI:(1.542-13.6)] mothers who had receive IUCD counseling[AOR=13.20,95%CI(5.546- 31.429)]were significantly associated with uptake of IUCD.

Conclusions: In this study magnitude of uptake of IUCD was24.5%. Age group of mother25-35and 36-49, women education secondary and above, number of children five and above , birth to birth interval lessthan24 month , mother who had IUCD counseling were significant predictors for uptake of IUCD. The government should continue to promote education of women and strengthen family planning counseling on uptake of IUCD.

Keywords: Intra-uterinecontraceptivedevice,uptake.

1. INTRODUCTION

1.1. Background

Family planning is defined as the practice of controlling the number of children in a family and the intervals between their births. It allows individuals and couples to anticipate and attain their desired number of children and the spacing and timing of their births.(WHO, 2012).

Globally more than 120 million women want to prevent pregnancy, but they are not using contraception, if all couples who do not currently want to have child use effective contraception most of the estimated 46 million induced abortion each year would not occur .Family planning could avoid around 78000 maternal death worldwide .In this regard, people should be offered the opportunity to determine the number and spacing of their own children. Information about FP should be made available, and accessible to FP services should be actively promoted for all individuals desiring them. (Rati etal 2014)

About 1/3 of all pregnancies that occur in low and middle income countries are unintended .The majority of the unwanted pregnancies under gone unsafe abortion which is one of the five direct causes of maternal mortality and morbidity. Risk of child mortality is highest for less than 12 months pregnancy intervals. If all couples waited 24 months to conceive again, under-five mortality would decrease by 13% and couples waited 36 months, the decrease would be 25% (Rutstein, 2008).

According to different study conducted in parts of Africa show that married women in sub- Sahara Africa use modern contraceptive method only 18 % with great sub- regional different of modern contraceptive use in Sub Sara Africa 58%,in Eastern Africa 22% and only 7% in central Africa and 9% in western Africa respectively .(Smith et al ; 2009)

The long acting FP methods are the most effective contraception because they do not depend on the patient compliance. So their “typical use” failure rate, at least less than 1% per year is about the same as “perfect use” failure rate. In addition to being long lasting, convent, well linked by users they are cost effective despite their safety and effectiveness of LARC are underutilized (stoddared et al,2001).

Intrauterine contraceptive device and Implant their length of action lasts 1 to 12 years Intra-uterine contraceptive device is one of modern family planning methods inserted by trained health personnel into a woman uterus which prevents pregnancy for about 12 years.(Singh& Darroch, 2012).

Provision of postpartum contraception for women with met need is the most effective way to avoid unintended and unwanted pregnancies, and unplanned childbirth. Postpartum IUD insertion within 48 hours of delivery is safe and convenient, (Gong, Hao, et al 2013). Post abortion is an important and key strategy to prevent repeated unwanted pregnancies and unsafe abortion as a complication of maternal mortality and morbidity .After termination of pregnancy, fertility returns within 2 weeks in most women. So immediate insertion of IUCD as methods of contraceptive following abortion and post partum has been shown to be safe and effective at preventing un wanted pregnancies and repeated abortion(DavidMomanyi;2012)

In Ethiopia there are some efforts in family planning service to increase contraceptive prevalence rate .The population policy has the objective of reducing the total fertility rate as well as raising contraceptive prevalence rate to national coverage of 55%by the year 2016.Ther are some effort on expanding FP service for previously uncovered area by increasing the number of health institution, integration and linkage of family planning service with other RH service and other outlets. (FMOH, 2011)(RH strategy, 2014).

1.2 Statement of the problem

Rapid population growth has become the major threat facing the world today. Many developing countries are characterized by the rapid population growth that is partly attributed to high fertility rate, high birth rates accomplished by steady declining mortality rate (Oyedokun, 2007).An estimated 358 000 maternal deaths occurred worldwide in 2008 and developing countries continued to account for 355 000 of the deaths. Sub-Saharan Africa and South Asia accounted for 313000 of global maternal deaths fortunately, majority of maternal and newborn deaths can be prevented with proven interventions to ensure that every pregnancy is wanted using modern contraceptive and every birth is safe. (Jacob RB, 2008).

The use of modern contraceptives is still very low in Sub Saharan Africa (SSA), including Ethiopia where the level of fertility and unmet need for family planning is high (Brou et al.,2009). Only 18% of mother were utilizing family planning methods in sub-Saharan Africa while an estimated 35 million women in have unmet need for family planning (). A WHO 2012 report also indicated that in many Sub Saharan countries there is high proportion of unmet need for family planning methods especially the effective long acting family planning methods such IUCD. Utilization of IUCD among Sub-Saharan African women is less than 1% which very low compared other developing countries such as India (33.8%) and China (40%) (Singh& Darroch, 2012,Scott M and Sander T, 2007).

The Ethiopian reproductive health strategy set provision of all FP methods with special emphasis on long term and permanent methods as a key strategy of achieving one of its primary goals of reducing unwanted pregnancies and unsafe abortion enabling individuals to achieve their desired family size (Ethiopian National RH strategy, 2006). However, according EDHS report long acting reversible family planning (IUCD) utilization was insignificant which only about 3% compared to short acting family planning method such injectable and pill comprise 74%and 6% respectively. Which indicate almost all were used short acting FP (EMDHS, 2014; FMOH, 2015).Studies done in many parts of Ethiopia also revealed that low utilization of IUCD despite high prevalence of unmet need. According to a study conducted in Sidama zone only 22% of post-partum mother were utilized IUCD immediately after birth while (Lidetu Bezabih Teferaet al ;2017) 27.9% in post-partum mother Durame Town (Tamrie et al ,2015) and 31%post-partum mother Adigrate Town

were reported utilization of LARC (Gebru et al 2015).Although there is no a study conducted, a 2016EDHS report showed as contraceptive prevalence rate(CPR) in Harari region was 29%while only 2.9% utilized IUCD which is among the lowest in the country(EDHS, 2016).

Rare evidence available showed as many factors affect the uptake of IUCD among mothers in Ethiopia. According to a study conducted in Ethiopia Sidam zone lack of awareness, and poor counseling during ANC and PNC about IUCD were reported as predictors of not using IUCD(Lidetu et al; 2017).Even though many effort were made by Eastern Harari regional Health Bureau and different None Governmental Organization by providing training for Health worker on LARC implementation and equipping Health facility with necessarily material and still there is poor progress on LARC more IUCD utilization(Hassen, 2016) because of which identifying factors prohibit the most effect method is needed. Therefore, this study aimed to identify the level of IUCD uptake and associated factors among post abortion and post-postmen mothers in public Health facility Harar town.

1.3. Significance of the study

This study was measure the magnitude of uptake of IUCD and associated factor among women during immediate termination of pregnancy in maternity ward who actually was participate in the study .Thus the outcome of the study would contribute to the understand the level of IUCD use after termination of pregnancy and also identify potential factor predicting low uptake of IUCD in Harar public health facility. Theses would be an input for program planners and policy makers for evaluation and targeted action on specific factors identified to improve the utilization of IUCD. Consequently, it is could be prevent clients from undesired hormonal side effects of contraceptive methods. Moreover, it would serve as baseline for other researchers and scholars.

1.4. Objective of the study

1.4.1. General objective

To determine the magnitude of the uptake of IUCD and associated factors among mother during immediate termination of pregnancy in Harar Public Health Facilities, Eastern Ethiopia from February 1-28/2018.

1.4.2. Specific objectives

- To determine level of uptake of IUCD among mother during immediate termination of pregnancy in Harar public health facility, eastern Ethiopia.
- To identify factors associated with uptake of IUCD among mother during immediate termination of pregnancy in Harar public health facility, Eastern Ethiopia.

2. LITERATURE REVIEW

2.1. Utilization of IUCD

According to United Nation 2012 report indicated that, the global figure of IUD uptake make the variation of IUD use across the globe. Updates from World Contraceptive Use indicate that in Asia 25% of users of any contraceptive method use including IUD, followed by 20% in Europe. These proportions are reflected by the predominance of IUD use in China (50% of all users) where women prefer the device due to its long lasting nature as well as being safe, convenient, cost effective and high efficacy in preventing pregnancy (UN, 2012).

When excluding China from the global estimates, IUDs account for 12% of all contraceptive use worldwide (WHO, 2010). However, the IUD represents only 2% of modern method contraceptive use in Sub Saharan Africa, revealing the under utilization of this method in the region despite it being such an important choice for women elsewhere (UN, 2012). Only 2% percent of married women in Ethiopia are currently using the IUCD (CSA, 2016).

According to different studies the utilization of modern contraceptive methods among post partum mother varies 73.5% in Kafue, Zambia and 65.5% Nagpur ,Indian to 4% in Thatta , Pakistan; long acting reversible contraceptive where used by more than 10% in the two Indian site and less in the other sites. (Pash et al 2015) Similar study done on Bangladesh reveled the utilization of contraceptive use was 62.3% (NR and S, 2014).Stud done in Bangladesh and Kenya show that IUCD utilization post partum mothers were 32.5%and 50.3% respectively IUCD utilization was low among all FP method (Cooper et al, 2014,and Shabiby et al 2015)

Study show different part of Ethiopia the LARC utilization among post partum mother was 36.7%and 12.3% of this IUCD 7% and 13% in Durame town and Mekele Town respectively (Tamira et al; 2015) similar study in Gonder Town utilization of contraceptive use was 28.4%(Abera et al) . Other study revealed that LARC utilization among post partum mother were used IUCD 3.8% Adigrate Town (Gebru et al, 2015) and in Mojo town Oromiya Region show that utilization of IUCD 5.21% (Gizaw and Regassa 2011) and at Areba Minch 5.21% (Gulite 2016).

Another study done on different part of Ethiopian show that utilization of IUCD post abortion care clients 19.4%in Jimma Ethiopia and 12% in Southern Nation Ethiopia respectively (Erko EK et

al.2016 and Melaku S et al ,2016)and study done on youth friendly service76 YFS sites in Ethiopia , 9.7 % used an IUCD respectively ,(Tibebu Alemayehu et al 2010)

2.2 Factors associated with intrauterine contraceptive Device

Age

Study done on Bangladesh show that most of women 32.55%using contraceptive at the age group of 21-25 year.(NRand S 2014)Study done at Adigerat town showed that majority of the mothers 31% are not used long acting family planning method at the age between 25-29years old .However only 20%used long acting family planning method at reproductive age of this only 3.85% used IUCD (Gebru et al, 2015).The same cross-sectional study conducted in Mekele Town show the delivery age of the mother increase by one year the use of long acting reversible contraceptive also increased twice. (Alemayehu, et al, 2012and Abera, etal, 2015).

Another different study contacted in Jinka Town the age group of 25-34 and 35-49 year more than six times user of long acting method compared to those in the age group of 15-24years (Mokonnen et al 2014).

Educational Statues of the Mother

Different Research in developing country show that there is strong relationship between education and utilization of contraceptive .It has consistently establish by different study that education affected utilization of long acting reversible contraceptive service ,concluding that better educated mothers are more likely to use contraceptive than non educated mothers. (Mengesh et al 2015).

Study done in Ghana show that mothers with higher education were four times more likely to utilize LARC compared to those had no formal education (Eliason et al;2013).

Study done different part of Ethiopia show that in Jinka 53% of illiterate ,64.6% were can read and write ,68.3% of those modern education 52.2% of those college education have intention to use long acting family planning method and 31.5% have poor attitude for intrauterine contraceptive device. Similar study conducted in Mekele Town show thatmothers who have knowledge about LARC was six times more likely to use LARC as compared to those who had no knowledge about LARC (Alemayehu et al ;2012)

According to Ethiopian Demographic and Health Survey 2016, Women of educated and higher family monthly incomes have a much higher increased chance of contraceptive use compared to women with less educated and low monthly incomes Current contraceptive use increases with women's education(CSA, 2016).

Husband Educational status

Husband educational statues direct relationship with utilization of long acting family planning .study conducted in Ghana show that 76.2% of pregnant mothers perceived that their partner will conceder their adoption of PPFP acceptance .Higher proportion 82% of theme were requiring the permission of their partner before use the method .similarly among mothers who received that PPFP will be accepted to the partner 82.3% of them though they still need partner permission before using the method .(Eliason et al ;2013)

Study done on Amehara North west Ethiopia reveled secondary and above level of husband education, were the factor associated with contraceptive use among the mother in the extended post partum period (Mengesha et al; 2015).similarly study conducted in Adigrat Town reveled most of the participant husband level of education 4.31% were above grade 12 and had significant implication on utilization of LARC method. (Gebru et al 2015)

Marital status

Study conducted in Ghana show that 70% of pregnant mother have expressed the intention to adopt PPFP, those mothers who preferred to have more children the average desired time before the next pregnancy was 5 years (Eliason et al 2013)

A recent survey done across Ethiopia among married women of reproductive age group declared that married women had two times higher of using modern contraceptives than unmarried women. Similar study done in Debremarkos town, north-west Ethiopia declared that being old aged; having no desire for-more child, desire to have one child after two years, not ever heard of modern family planning methods, not ever used of modern family planning methods, and no spousal discussion were factors associated the utilization of modern family planning methods among married women with strong associations (Bulta Abdissa G., et al2014).Study done in Gonder town show that risk of pregnancy 49% and spouse absence 16.8% were the Maine reason for contraceptive method (Alemayehu et al 2012)

Region and Culture

Religious and cultural factors have the potential to influence the acceptance and use of modern contraceptive and decisions about family size and contraception (Srikanthan Aet al 2008). Study done in East Hararge zone showed that religion was strongly associated with utilization of modern contraceptives

Another study done in angolela and tera district north shewa , indicated positive attitude toward modern family planning methods but the result shows that 30% of the total respondent were agreed that causes health problem due to methods related side effect (Fasil H Georgis; 2006).

Study conducted in Ethiopian Somali Region in Kebribeyan, show that the prevalence of contraceptive utilization was 12.3%. Reason for non user of contraceptive was the most big issues of religion forbids, they want to have many children ,partner disapproval and lake of knowledge about family planning (Nigussie AT, et al.,2016) .

Antenatal Services

Mother who had antenatal service follow up and got counseling service on LARC method and strong relationship with utilization of LARC was 52.1%, study done on Dabat district and similar study done at Gonder Town was reveled mothers who obtained ANC were about five times higher to use contraceptive than who did not had ANC visit (Abera et al 2015: Mengesha et al 2015).

A study conducted in Durame Town show that 52.1% of mothers had received counseling service on LARC method .Among them who had ANC follow up and received counseling service on LARC .the most counseled IUCD which were 53.7%followed by implanol 97.8% respectively (Tamrie et al;2015).

Postnatal Service

Post natal service is one of the most important activities that enable mother to family planning service. .Study conducted in Sidama Zone, South Ethiopia show that post partum counseling was significantly associated with PPIUD utilization .In this study, most acceptors 45.5% received counseling during early labor, and 24.7% were counseled during the immediate post partum periodand16.7% were counseled during ANC. This finding indicates the importance of integrating

post-partum family planning counseling into early labor and the immediate postpartum period to increase PPIUD utilization. (Lidetu BT et al, 2017*)*

A study done in Dabat show that women who had PNC visit were 2.19 times more likely to use contraceptive as compared to those who did not have follow-up (Mengesha et el ;2015) .A study done at Durame Towne show that 84.4% were visited health facility during immediate post partum period, among those health facility visited only 13% of them obtains family planning service during the same period .Similarly 63.2% were received counseling service on LARC method at the same time of visit .Even those 30.6%of them were adopted LARC method .Mother who were counseled on LARC method during immediate post partum period were five times more likely to adopted LARC method compared to those mothers who were not counseled. (Tamri et al 2015)

Knowledge

Source of information about utilization of IUCD has significant factor. Study conducted in Pakistan mothers show that utilization of IUCD was very low due to clients reluctant to use the service due to many misconceptions and inadequate counseling skills, lack of competence and improper supporting infrastructure.(Amna Khan 2012). The same study in Pakistan has also revealed that number of myths and misconceptions associated with the method, For example most of respondents mentioned that IUCD causes infection and has interference with sexual intercourse and inadequate skill of health care provider (Babar T S, 2012)

Another study conducted in India showed that, out of the total FP clients, only 3.8 % of them were IUCD users and this was because of lack of insurance coverage, and fear of IUD related side effects, and lack of provider training and fear arising from the rumors and myths heard from their community, thinking that the IUCD might travel through the woman's body like heart or brain, they also believed that IUCD interferes with sex, prevents from normal activity and causes infertility. Knowledge and psychological factors were also other factors for low acceptance of IUCD in India. (Garima Namdev et, al, 2014)

Reproductive Health

Several studies showed that intention to have more children is an immediate factor that can cause negative effect for the utilization of Long Acting family planning toward the married women, for example a study done in Nigeria in 2013 states that the major reason for the non-use of Long Acting family planning was intention to have more children, 31.46% followed by pressure from the husband and religious factors respectively 12.5%, 18 10.9% (JA Zaman; 2013). Similar study done in Northern Shewa Amhara region Ethiopia revealed the need for more children, husband approval and family income were important factors for low utilization of family planning with strong association (Mohamed Abdurrahman., et al;2014).

A study done Mojo Town show that mothers who had 3-4 children were 3.6 times more likely to utilize IUCD more than who had no children ,mother who had five and more children were 7.3 times more likely to utilize IUCD than mothers who had no children (Gizaw and Regassa ,2011).

Study conducted in Durame Town 22.7% current birth were not planned and un planned birth 56% of mothers were note using modern contraceptive .Mothers who had ever used LARC method 7.8 times than mothers who were not used previously (Tamrie et al ;2015).

2.3 conceptual frameworks

Distal → **Intermediate** → p**roximal** → **outcome**

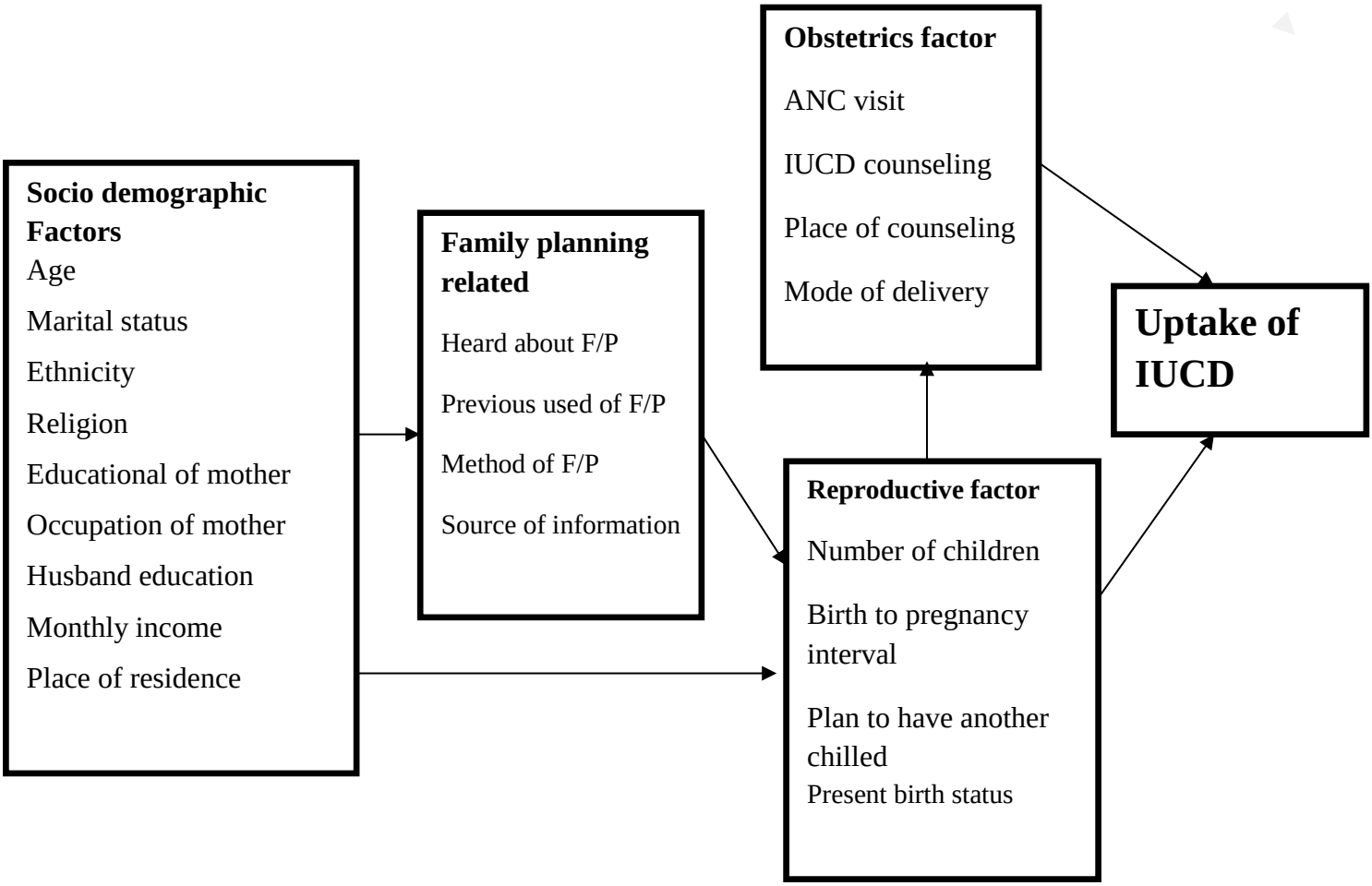

Figure 1: Adapted conceptual frameworks on uptake of IUCD in public health facility Harar Eastern Ethiopia

3. METHODS AND MATERIALS

3.1 Study area and period

The study was conducted in Harar Town. Harar is located at a distance of 525 Km away from Addis Ababa at an elevation of 1,885 meters. Based on figures from the Central Statistical Agency in 2007, Harar has an estimated total population of 122,000, of whom 60,000 were male and 62,000 were females (CSA National Statistics 2007). The Harar city has two public Hospitals (Jugal hospital and Hiwot Fana specialized university hospital), Police Hospital, Army Hospital, two private hospitals (Harar General Hospital and Yemaje Hospital),branch of Family Guidance Association of Ethiopia (FGAE) , eight health centers and one regional public health laboratory. It is neighbored to the north by Kombolcha and Jarso, to the east by Gursum and Babile Woreda, to the south by Fedis, and to the west by Haramaya Woreda of the Oromia regional state. The town is divided into six districts and 19 kebeles. The health service coverage of the region reached to 100 %.(HRHB, 2010). The study was conducted from February 1-28/2018.

3.2 Study Design

Facility based cross sectional study design using quantitative method was implemented.

3.3 Source Population

All mothers who had termination of pregnancy in the public health facilities Harar town.

3.4 Study Population

All mothers who had termination of pregnancy in the selected public health facilities specific time period, from February 1-28/2018.

3.5 Inclusion and Exclusion Criteria

3.5.1 Inclusion Criteria

All mothers who have termination of pregnancy in the mentioned public health facilities.

3.5.2. Exclusion Criteria

Mothers with the following gynecologic or obstetric problems were excluded from the study. Infection following chilled birth or abortion, Sexually Transmitted Diseases (STD); Ruptured membranes for more than 24h period, ruptured uterus, unexplained vaginal bleeding, HIV infection with sever or advanced clinical diseases.

3.6 Sample Size determination

Sample Size was determined using single population proportion formula, taking 22%, utilization of IUCD based on study conducted in Sidama Zone [Lidetu B, 2017] and considering the following assumption:

P= proportion of mother utilized IUCD during immediate post partum care= 0.22

q= proportion of mother not utilized IUCD during immediate post partum care=0.78

d= Desire precision=0.04$\mathbf{z}_{\frac{\alpha}{2}}2$ = Confidence Level l = $Z_{\alpha/2} = 1.96$ at 95%

n= sample size

n= $\frac{(Z\alpha/2)^2 * P(1-P)}{D^2} = \frac{(1.96)^2\ 0.22(1-0.22)}{(0.04)^2}$ = **412**

Considering 10% non response rate and the final sample size was **453**

For second objective double population formula using Epi Info7 software for individual factors at 95% confidence level with 5% margin of error, 80% power and 1:1 ratio of exposed to unexposed.

Table 1 Sample size determination for magnitude and factors associated with utilization of IUCD different studies, 2017/18.

Variables	IUCD utilization		Sample size	10% non-response	Reference
	Exposed (%)	Non-exposed (%)			
Heard about IUCD	Yes =29.1	No =12.6	212	233	(Lidetu *et al.* 2016)
ANC follow up	Yes =24.9	No =6.1	136	150	
Knowledge on FP	Yes =27.4	No =13.3	282	310	
Maximum sample size			282	310	

Then the final sample size of the study is 453 by adding 10% of non-response on maximum sample size of the first objective.

3.7 **Sampling technique/Procedure**

The sampling procedure was used among mothers immediate termination of pregnancy, four representative public health facilities in Harar town providing IUCD services are selected. Stratified sampling technique was used to selecting the study population assess the subject matter. Accordingly in public health facility was stratified as Hospital and Health center, then sample was drawn using systematic sampling method to get the final sample in accordance with their provision of delivery service. Namely; Hiwot Fana Specialized Teaching Hospital, Jugla Hospital, Amire nur Health center and Jenila Health center. After the selection of these facilities, the sample size of the study were proportionally allocated to each selected facilities based on their total number. (Figure2)

- Sampling procedure

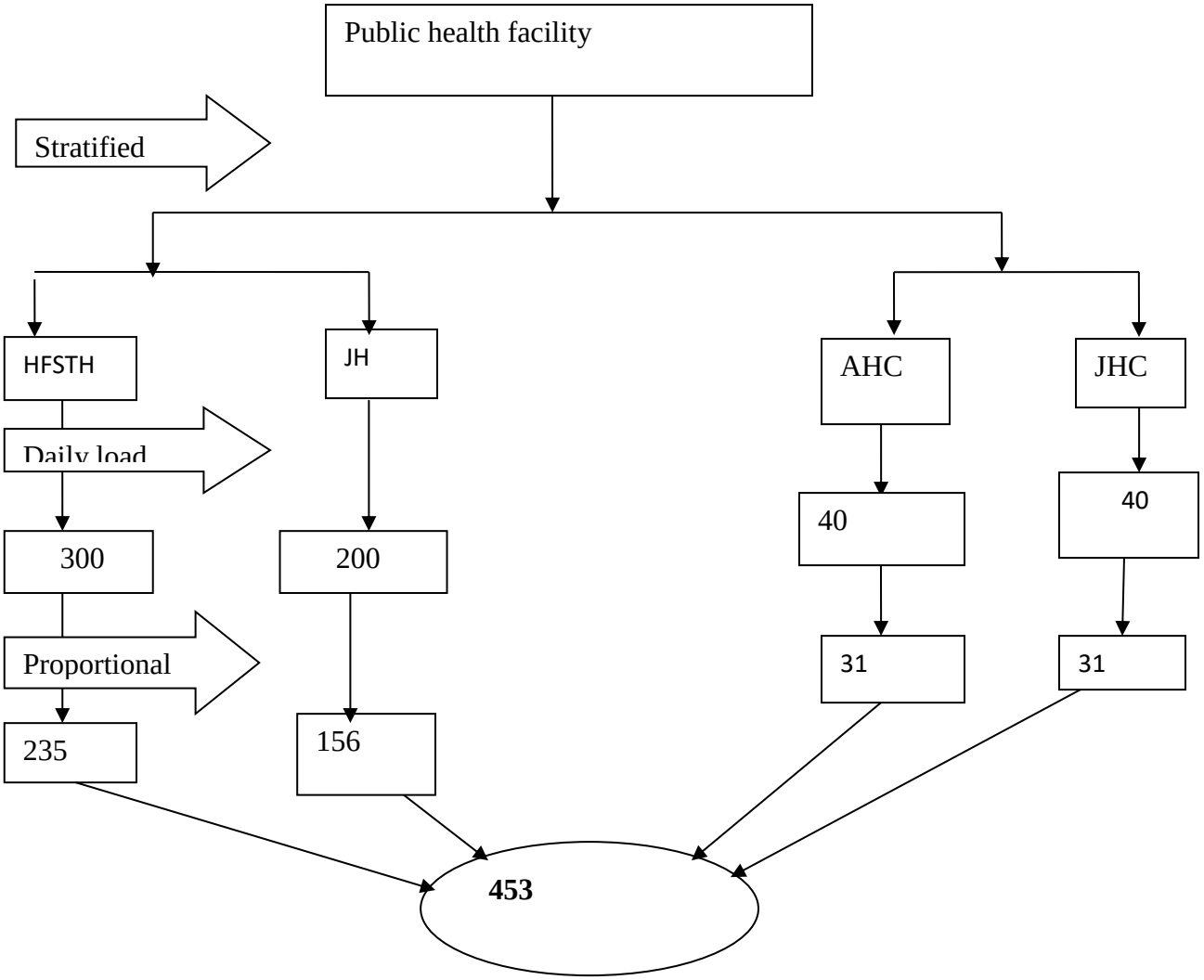

Figure 2:Schematic presentation of sampling procedure of uptake IUCD in immediate termination of pregnancy in Harare public health facilities, Eastern Ethiopia from February 1-28/2018.

HFSTH: Hiwot Fana Specialized Teaching Hospital

JH: Jugula hospital

AHC: Amernur health center

JHC: Jenilla health center

3.8 Data Collection Method

3.8.1Data collection instrument

The data were collected by using pretested and structured questionnaire.

3.8.2 Data collectors

Data were collected over period of one month by two senior midwives and five Nurses that was trend one and half day practical orientation was given for who was collect data. Regular supervision was carried out for the entire length of the data collection period. The collected data was reviewed daily for completeness, accuracy, clarity, and consistency by a trained two senior midwives supervisor and the principal investigators. Data was collected from the mothers who delivered and or get abortion care.

3.8.3 Data collection procedure

The data were collected by using face to face interview of mothers who give birth or abortion in maternity word.

3.9 Variables

3.9.1 Dependent Variable

IUCD Uptake Status

3.9.2, Independent Variables

- **Socio-demographic characteristic:** Age**,** Religion ,Ethnicity ,Educational status of mother , Occupational status of mother ,Educational sates of husband, Marital status, monthly income, place of residence.
- **Reproductive History:** have children, Plan to have children, Number of children, birth to birth interval, mode of Delivery, ANC follow up.
- **Family planning related variable: Ever** heard about F/P, Ever use of F/P, methods of F/P, Counsel on IUCD, and Place of counseling.

3.10 Operational Definitions

Uptake of IUCD: women who accepted IUCD as a method of family planning and actual insertion of IUCD after the post-placental period, but within 48h of delivery..

Not using IUCD: Those women who refused insertion of IUCD after termination of pregnancy, butwithin48hofdelivery

Immediate Post Partum: Is for the purpose of family planning immediate post partum is after delivery of placenta within 48h of delivery.

Birth to birth interval: the time between delivery of previous infant and conception of current pregnancy.

Termination of pregnancy: is the natural process of ending pregnancy, so it does result in the birth of baby or not.

Counseling: mothers were as counseled about IUCD during ANC or latent phase or within 48h of delivery if the midwives told her at least either of the benefit, side effect or duration of IUD use.

3.11 Data Quality Control

The structured questionnaires was prepared in English Language and translated to Amharic language and Afan Oromo to make easy and understandable for data collectors .The quality of data were controlled using senior midwives who was trained for data collection. A one and half day practical orientation was given for data collectors on how to collect the necessary data. During data collection, there was close supervision by senior midwifery supervisor and principal investigator. Questionnaires were checked for completeness of information and any gap identified was immediately communicated to the data collectors. After data completeness was checked manually, data was entered to Epidata 3.1 version soft ware to ensure data quality by using double entry verification

3.12 Method of Data analysis

The completed questionnaire was checked for consistency and completeness by principal investigator and coordinator each day and code was give to the completed questioner. The principal investigator with an experienced data clerk was enter the data using Epidata version 3.1software then exported to SPSS version 20 software for further analysis.

Data cleaning was performed to cheek for accuracy, consistencies and values. Then any error was identified and corrected. Bivariate logistic regression and multivariable logistic analysis was used to evaluate the strength of the association of dependent and independent variable.

3.13 Ethical Consideration

Ethical clearance was obtained from Haramaya University Institutional Health Research Ethics Review Committee (IHRERC), of Harar campus Collage of Health and Medicine Sciences .Permission latter was obtained from collage of Health and Medicine Science and was submitted to selected public health facility.

The study subject was informed clearly about the aim of the study and written consent was obtained from them while finger signing was used for those who not sign by pen .In addition the name of the study subject was not be include in the questionnaires which address concern of the study subject to insure confidentiality .

3.14 Information Dissemination

Finding of the study was submitted to Haramaya University School of Graduate study in both oral and written forms. Finding will also shared to health facilities of the study area and HRHB.

4: RESULTS

4.1. Socio-Demographic characteristic

All sampled study subjects participated in the study (n=453). The response rate was100%.The mean age of the participant was 28.13(±5.91).Majority, 235(51.9%) of the participant were found in the age group of 25-34year old. The majority of the women 429(94.7%) were married and 24(5.3%) non married. Occupation of the respondent 152 (33.6%) housewives, 73 (16.1%) government employed, 110 (24.3%) Farmers, 71(15.7%) merchant 18(4.0%) dillylaborerand29 (6.4%) private employed .Their religious background, the majority of respondent were 223 (51.4%) 178 (39.3%), 42 (9.3%), of them were, Muslim, Orthodox and protestant, respectively. Out of all respondents, 290 (64.0%) were Oromo, followed by Amhara68 (15.0%), Harari 61(13.5%), somali17 (3.8%) and Gurage17 (3.8%) respectively.

With respect to educational status of the respondents, 76(16.8%) had no formal education, 56(12.4%) was primary, 321(70.9%) was secondary and above secondary respectively. Their husband educational status 101 (22.3%) was no formal education, 54(11.9%) was primary education, 298(65.8%) was attending secondary and above education. Most of the respondant299 (66%) place of residence were urban and 154(43.0%) was rural, in addition, that the family monthly income 56(12.4%) lessthen1000ETB, 166(31.6%) betwen1001-2000ETB and231 (51.0%) greater than 2000ETB (Table 2).

Table 2: Scio- demographic characteristic of the study participants in Harar Towne public health facility, 2018 (N=453)

Variable	Category	Frequency(n)	Percentage
Age (year)	18-24 years	152	33.6
	25-34 years	225	49.7
	35-44 years	76	16.8
Marital States	Single	17	3.8
	Married	429	94.7
	Divorce	7	1.5
Religion	Orthodox	178	39.3
	Muslim	223	51.4
	Protestant	42	9.3
Ethnicity	Amhara	68	15.0
	Oromo	290	64.0
	Harari	61	13.5
	Somali	17	3.8
	Gurage	17	3.8
Educational stutus of the mother	No formal educ.	76	16.8
	Primary	56	12.4
	Secondary&(+)	321	70.9
Occupation of Mother	House wife	152	33.6
	Farmer	110	24.3
	Governmental Employee	73	16.1
	Merchant	71	15.7
	Private employee	29	6.4
	Dailey laborer	18	4.0
Educational status of husband	No formal education	101	22.3
	Primary	54	11.9
	Secondary & (+)	298	65.8
Family Income	< 1000.00 ETB	56	12.4
	1001.00-2000.00ETB	166	36.6
	>2000.00ETB	231	51.0
Place of precedence	urban	299	66.0
	Rural	154	34.0

4.2. Reproductive and Obstetrics variable

Majority of the participant 412(90.7%) of them have children. This study show that 242(53.4%) and 211(46.6%) of the respondent have plan to have another children in the future and they do not have plan in the future. In addition that 192(46.6%) of the study respondents had a history of one to two children, 122(29.6%) three to four children and98 (23.8%) five and above children.

On the other hand 118(48.6%)of the respondent wants to give birth in the future less than two years ,54(22.2%)had wants to give birth two to three years and 71(29.2%)of the respondent to give birth four and above year. Slightly above half of the 251(55.4%) of participant current Birth were planned and 202(44.6%) was unplanned. On the other hand 278(67.5%)of the respondent previous birth to birth interval less than2year,69(16.7%)previous birth interval two to three yearand63(15.8%)above four years.

Most of the respondent348 (76.8%) have ANC follow up during their pregnancy time and 105(23.2%) they do not have ANC follow up in their pregnancy, from them 201(57.8%) attend about 1-2times, 114(32.8%) attend 3-4 times and 33(9.8%) attend above 4times.312 (68.9%) of the mother mode of delivery spontaneous vaginal delivery, followed by 139(30.7%) cesarean section (Table 3).

Table3: Reproductive and obstetric characteristics of the study participant in Harar town public health facility, 2018.

Variable	Category	Frequency(n)	Percentage
Do you have children	Yes	412	90.7
	No	42	9.3
Number of children (N=412)	1-2	192	46.6
	3-4	122	29.6
	5and above	98	23.8
Plan to have another children	Yes	243	53.4
	No	211	46.6
When to have another child in the future(N=243)	After a year	118	48.6
	2-3years	54	22.2
	4 and above	71	29.2
Present birth	planned	251	55.4
	Un planned	202	44.6
Last Birth interval (N=412)	<2 year	278	67.5
	2-3 year	69	16.7
	>4year	65	15.8
Had ANC follow up (N=453)	Yes	348	76.8
	No	105	23.2
ANC frequency (N=348)	1-2 times	201	57.8
	3-4 times	114	9.8
	>4 times	33	7.3
Mode of delivery	SVD	312	68.9
	C/S	139	30.7
	Instrumental delivery	2	0.4

4.3. Family planning related characteristics

Majority of the study participants 391(86.3%) had heard about modern F/P methods. Most of the participant had got information through different sources. A large proportion got information through health professionals 197 (50.3%) or through mass media 106(27.0%) and their friends 61(16.0%), neighbor 29(7.0%). (Figure 3)

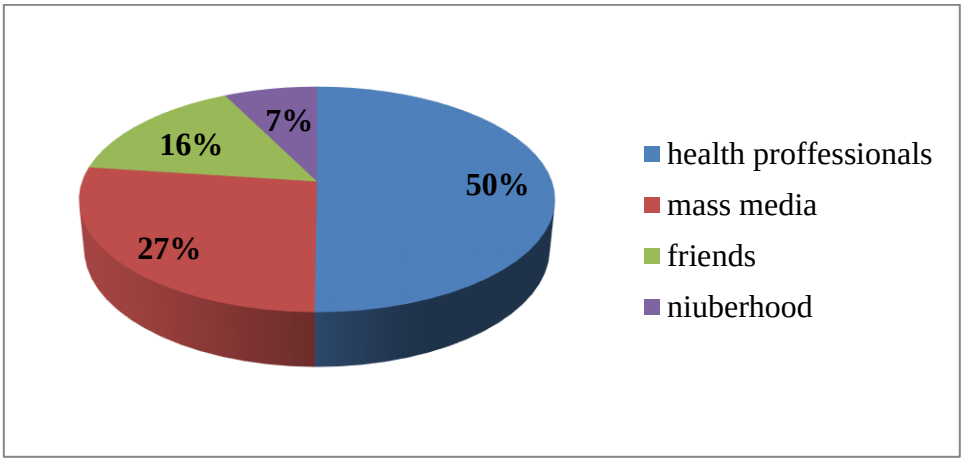

Figure3: source of information about family planning of the respondents in Harar town public health facility, 2018. (n=392).

Among the study participant most of 328(72.4%) had used F/P method before the resent pregnancy. Majority125(27.6%)used pill,110(33.6%) injectable ,68(20.8%)male condom and 46(41.1%)implant and interval IUCD was the last used 20(6.1%).Almost all of the study participants had used short term F/P method(Figure 4).

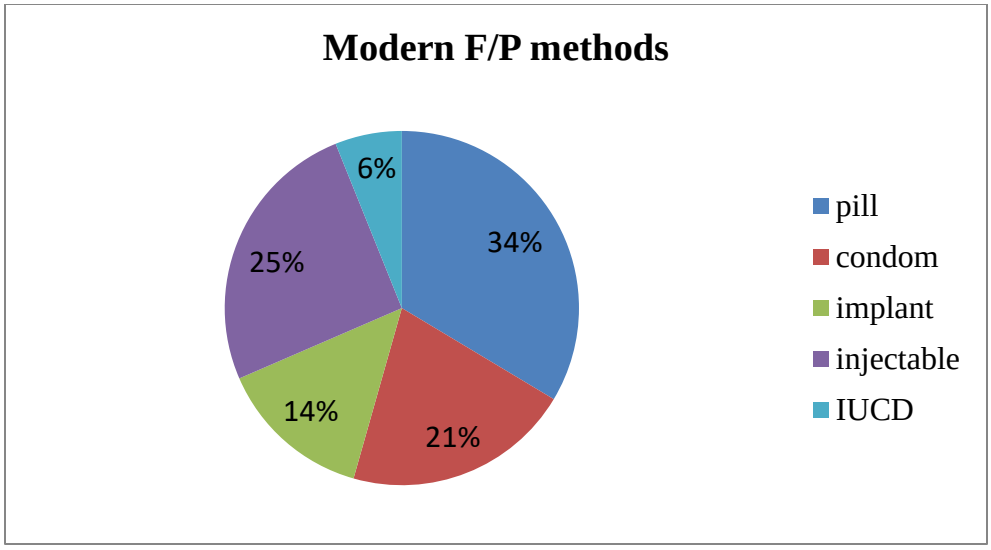

Figure 4: methods of modern family planning used before resent pregnancy in Harar Public Health Hospital 2018.(n=327)

4.4. Uptake of IUCD and reasons for rejection

Among one hundred eleven 24.5%; 95%CI: (20.5-28.5) of the study participants actually used IUCD as a method family planning. Above half 250(55.2%) of the mothers received counseling about IUCD; during ANCwas35 (7.7%), during latent phase of delivery 20(26.5%) and after delivery was 97 (21.4%).(Table6).

Table 4: uptake of IUCD among mother following termination of pregnancy, Harar town public health facility Harar, 2018.

Variable	categories	Frequency(n)	Percentage
Ever heard F/P before resent pregnancy	Yes	391	86.3
	No	62	13.7
Ever used F/P in the past	Yes	328	72.4
	No	125	27.6
IUCD Counseling during or after pregnancy	Yes	250	55.2
	No	203	44.8
When receive counseling (N=250)	ANC	35	7.7
	Latent phase	120	26.5
	After delivery	97	21.4
Uptake of IUCD	Yes	111	24.5
	No	342	75.5

Reason to not using IUCD after termination of pregnancy was;163(47.7%) lackof awareness of the respondent, 185(54.1%) fear of side effect, 106(31%) wants to give birth soon,155(45.3%) preference of short acting family planning, in the other 73(21.3%) of them husband disapproval,36(10.5%)religious aspect was one reason for respondent for not using IUCD as a family planning method. However; multiple responses were included. (Figure5)

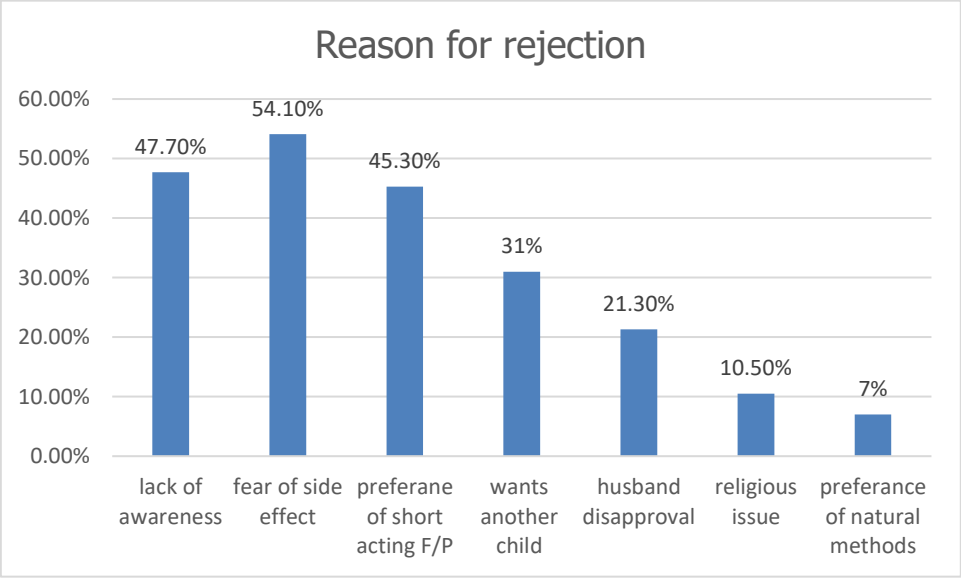

Figure 5: reason for not using IUCD after termination of pregnancy among mother in Harar public health facility, 2018. (n=342)

4.5. Factors associated with uptake of IUCD after termination of pregnancy

Bivariate logistic regression analysis was carried out to determine the association between independent variables and uptake of IUCD. Mothers age, marital status, religion, mothers education, number of children, plan to have another children in the future, previous birth to current birth interval, and IUCD counseling before or after pregnancy was association on binary logistic regression.

Mothers age 25-34and35-49[COR=14.57, 95%CI (7.295-29.25)] and [COR=2.244, 95%CI :(1.22-4.129)], marital status [COR=0.36, 95%CI(0.156-0.827)],religion of mother [COR=1.59,95%CI:(1.01-2.51)], mothers' education [COR=6.15,95%CI (2.408-15.704)], plan to have another child in the future [COR=1.90, 95%CI (1.229-2.928)], number of children [COR=4.14,95%CI:(2.197-7.806)]and [COR=8.74,95%CI (4.62-16.262)], current birth interval [COR=4.04,95%CI (1.68-9.74)],IUCD counseling before or after delivery [COR=13.0,95%CI (6.60-25.90)] were significant at p-value <0.05 and candidate to multivariable analysis, but variable like marital status, religion, plan to have another child in the future, were not at p-value< 0.05. (Table 5)

Table 5: Factors associated with uptake ofIUCD after termination of pregnancy bivariateanalyses in Harar Town, Eastern Harar Ethiopia, 2018.

Variable	Category	IUCD uptake		COR{95%CI)	P value
		Yes	No		
Age	18-24	16(10.5%)	136(89.5%)	1	-
	25-34	47(20.9%)	178(79.1%)	2.24(1.22-4.13)	0.009
	35-49	48(63.2%)	28(36.8%)	14.57(7.26-29.25)	0.000
Marital status	Married	100(23.3%)	329(76.7%)	0.36(0.16-0.83)	0.016
	Not married	11(45.8%)	186(54.2%)	1	-
Religion	Muslim	47(20.2%)	186(54.4%)	1	-
	Orthodox	51(28.7%)	127(71.3%)	1.59(1.01-2.51)	0.046
	Protestant	13(31.0%)	29(69%)	1.78(0.86-3.67)	0.123
Education of mother	No formal education	5(4.5%)	71(20.8%)	1	-
	Primary	9(8.1%)	47(13.7%)	2.719(0.858-8.619)	0.089
	Secondary and above	97(87.4%)	224(65.5%)	6.149(2.408-15.7)	0.000
Plan to have another child	Yes	46(19.0%)	196(81%)	1	-
	No	65(30.8%)	146(69.2%)	1.89(1.229-2.928)	0.04
Number of children	1-2chiledern	17(8.9%)	175(91.1%)	1	-
	3-4childern	35(28.7%)	87(71.3%)	4.03(1.68-9.71)	0.00
	5and above children	45(45.9%)	53(54.1%)	8.74(4.62-16.26)	0.00
Previous birth to current birth interval	<2year	81(29.1%)	197(70.9%)	4.04(1.68-9.74)	0.002
	2-3 years	9(13.0%)	60(87%)	1.47(0.49-4.40)	0.482
	>3 years	6(9.2%)	59(90.8%)	1	-
IUCD Counseled	Yes	101(40.4%)	149(59.6%)	13.0(6.60-25.9)	0.000
	No	10(4.9%)	193(95.1%)	1	-

*For all significant variables p <0.05

Multivariable analysis

In multivariable logistic regression analysis, five variables were independently associated with IUCD uptake, mother's age, mothers education, number of children, birth to birth interval, and IUCD counseling before or after delivery were variable that showed significant association with IUCD uptake.

Age group of the mothers was found to be association with the uptake of IUCD, Those who were in age group of twenty five to thirty four and thirty five to forty nine were2.38and9.20times more likely uptake of IUCD [AOR=2.38, 95%CI (1.07-5.29)] and [AOR= 9.20, 95%CI (3.51-24.059) than mothers who were in the age group of eighteen to twenty four respectively.

Educational status of the mother was found one of significant predictor for up take of IUCD, mother who were secondary and above education were 4.66 times more likely to choice IUCD [AOR=4.66, 95%CI (0.09-0.72)] than mother who had no formal education.

Number of children also found to be factor for choice of IUCD mother who had three and four and five and above children 2 and 3.6 times more likely to uptake of IUCD [AOR=2.06, 95%CI:(0.89-4.72)] and[AOR=3.67,95%CI:(1.58-8.95)] than who had one and two children .

Previous Birth to current birth interval was found to be significantly association on choice of IUCD mothers who has birth interval less than 24month4.58 times more likely utilize IUCD[AOR=4.58,95%CI:(1.542-13.6)] than those birth interval above 35 month.

Mothers who had revived counseling about IUCD during pregnancy and after delivery were 13 times more likely association to use IUCD[AOR=13.2,95%CI:(5.546-31.429)] than to those mothers who do not counseled before or after delivery respectively. However; variable like, marital status, religion, and plan to have another child in the future, in multivariable analysis were not at p-value< 0.05. (Table 6)

Table 6.Factors associated with IUCD uptake in Harar Town, Eastern Harar, Ethiopia, 2018

Variable	**Category**	**IUCD uptake**		**COR (95%CI)**	**AOR (95%CI)**	
AGE		YES	NO			
	18-24 year	16	136	1	**1**	
	25-34 year	47	178	2.24(1.22-4.13)	2.38(1.06-5.29)**	
	35-49 year	48	28	14.57(7.26-29.25)	9.20 (3.515-24.059)***	
Marital status	Married	100	329	0.359(0.156-0.827)	0.34(0.07-1.65)	
	Not married	11	13	1	1	
Religion	Muslim	47	186	**1**	1	
	Orthodox	51	127	1.59(1.01-2.51)	0.95(0.602-1.58)	
	Protestant	13	29	1.78(0.86-3.67)	0.73(0.43-2.19)	
Educational of mother	No formal education	5	71	**1**	**1**	
	Primarily	9	47	2.719(0.86-8.619)	3.49(0.825-14.78)	
	Secondary & +	97	224	6.149(2.408-15.70)	4.66(1.439-15.103)**	
Number of children	1-2	17	175	1	1	
	3-4	35	87	4.141(2.197-7.8)	2.06(0.89-4.71)	
	5 and above	45	53	8.74(4.623-16.526)	3.67(1.58-8.95)**	
Birth to birth Interval	<2 years	81	197	4.04(1.67-9.732)	4.581(1.542-13.609)*	
	2-3 years	9	60	1.47(0.49-4.40)	1.92(0.524-7.045)	
	>3 years	6	59	1	**1**	
Had plan to Another child	Yes	46	196	1	1	
	No	65	146	1.89(1.229-2.928	1.42(0.71-2.85)	
Had counseling	Yes	101	149	13.08(6.60-25.9)	13.20(5.556-31.42)***	
	No	10	193	1	**1**	

*Adjusted for all significant variables *****=p-value<0.05, **=p-value<0.01, ***p-value<0.001

5. DISCUSSION

The magnitude of the present study showed that the current uptake rate of IUCD was 24.5%among mothers participant actual IUCD insertion with 48 hour of delivery. Moreover, factor like the age group of the mother twenty five to thirty five years and thirty six to fortify nine years, education of mother secondary and above education, number of children three to four and five and above children, previous birth to current birth interval less than twenty four month, mother who received IUCD counseling.

The present study showed that the current uptake rate of IUCD was 24.5% among mothers participant actual IUCD insertion with 48 hour of delivery. This is in line with study conducted in the in Egypt were 23.7% had actual insertion of IUCD (Mohamude M Ali, 2005), Ghana 22% and Sidama 22 %.(TessaM, et al, 2014) (Ledetu B.T, 2017). Lower than study done in china 40%.(Amy etal,2006).The high uptake in china could be due to government policies that enhances uptake of IUCD .Higher than study done in Durame and Mekele town, 7%, 13%respectively (Tamira etal, 2015and Gebru etal, 2015). This variation due to heath care provider training, non governmental involvement, mothers educational background

Ethiopian Demographic and Health Survey showed that only2%IUCD users as method of family planning (EDHS,2016).Apossibleexplanationfortherelativelygoodacceptanceof IUCDthan the general public may be the presence of health care provider straining and material support from a non-governmental organization in the study area .Postpartum IUCD insertion is an opportunity not to be missed in developing countries ,where delivery may be the only time when a healthy woman comes in to contact with health care providers and the chances of returning for contraceptive device is uncertain[WHO, 2017].

In this study age group of the mothers was found to be associated with the uptake of IUCD, those who were in age group of twenty five to thirty four and thirty five to forty nine was 2.3 and 9.1times more likely uptake of IUCD than mothers who were in the age group of eighteen to twenty four years of age .The finding appeared to be consistent with the study done in Jinka by (Mokonen, et al, 2014) .Another study in Mekele (Alemayhu et al, 2014) consistently similar fining.. The possible explanation for this finding could be choice of IUCD among younger age this may be explained that increased use of IUCD with increase in age may be due to the fact that women in younger age group may not have yet given birth thus have desire to give birth soon. On the other hand older age

group women may have given births and don't like giving birth soon such that they want to use long acting method of contraception.

Educational status of mother was found as one of significant predictor for the uptake of IUCD. Mothers who were attend secondary and above education 4.6 times more likely uptake of IUCD compared to who were primary and no formal education. On the other study have shown comparable result within this finding in Ghana by (Eliason, 2015) educated mother more likely utilize IUCD than non educated mother, study conducted by in Mikele (Alemayhu, et al, 2014), in Jinka by(Mokonnen,et al,2014)also similar finding. Ethiopian demographic health survey (EDHS) women education much higher increase the chance of contraceptive use compared with less educated, current contraceptive increase with women education(EDHS,2016). Possible explanation educated women are expected to have knowledge and awareness about the advantages of family planning. They are more likely to utilize contraceptive modern health care than those who are not. Education is likely to improve the general status of women and help them to build up confidence to make decisions about their own health. Educated women could have better access to information through reading and following media about maternal health care and they could have better knowledge about the advantages of maternal health care and pregnancy related complications.

In this studies finding number of children, Mother who have five and above children 3.6 times more likely uptake of IUCD. Than whose mother have one and two children. This is similarly in Nigeria (Innocent L O, 2016), Bangladesh also similar result (Amy et al, 2016).The possible explanation may be due to the fact those mothers who have more children may require controlling their family and they do not want any more child or spacing for long time is likely to motivate to uptake of IUCD as a method of family planning.

In this study previous birth to current pregnancy interval was found to be significantly association on choice of IUCD mothers who has previous birth to current birth interval less than 24month 4.5 times more likely uptake of IUCD than those birth intervals above 36 month. Similar findings were reported in the study conducted in India(UNFPA, 2012).Possible explanation this could be due to the fact that women who had short pregnancy interval to the index pregnancy required along acting and reliable method of contraception .This also has the added advantage of giving the mother enough time to recover from the physical stress of one pregnancy before moving on to the next and gives

enough time for lactation .As result, healthy timing and spacing of pregnancies provides an opportunity to have appositive effect on maternal health and new-born outcomes.

In this study strong significant predictor was IUCD counseling before or after delivery. Mothers who counseled were 13.2 times more likely uptake of IUCD than whose mother did not get counseling. Study conducted in Sirlanka find that women who were counseled more likely to use IUCD (Mahesh et al, 2017).Similar finding conducted in Sidama zone by (Ledtu et al, 2017). Possible explanation for this finding was in this study, those mothers or acceptors which received good counseling were create awareness on use and advantage of long acting family planning more attention on IUCD. This finding clearly indicates that post-partum family planning counseling will make difference on IUCD uptake.

Limitation of the study

The study being a facility based cannot be generalized the entire study population. The study sample was made up of only mothers. This means the sample did not include the partners (spouses) of the mother. The limitation of this could be that it didn't include the qualitative part; due to this it was not possible to capture detail reasons from different angles for not accepting IUCD.

6. Conclusion and Recommendation

6.1 Conclusion

In conclusion, this study revealed low IUCD uptake in selected public health facilities in Harar town. The younger age of mother, women with no formal education, having one to three children, long birth interval with more than three years, unconcealed mothers for IUCD before or after delivery were significant predictors for low uptake of IUCD.

6.2 Recommendations

Based on the study findings, the following recommendations are for warded:

- ✓ Health providers must put great emphasis to counseling especially for younger age mother and all mothers before and after delivery
- ✓ The government should continue to promote formal education of women by improving access to women up to higher levels of education.
- ✓ Strength the family planning service which given by heath extension workers special emphasis on those mothers which has long birth interval and small number of children to use LAFP.
- ✓ Strengthen family planning counseling with special emphasis on IUCD during ANC, during delivery and after delivery increase the uptake of IUCD at post partum time.
- ✓ Public health facility and Regional Heath Bureau should strength the heath care provider skills through training, higher supervision and integrated supply to increase uptake of IUCD in public health facility.

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8. ANNEXES

Appendix I. Information sheet and informed voluntary consent form for head of health facility

Good morning dear manager /head! My name is……..Iam working as a data collector for the study being conducted in this facility by Meron Abate who is studying for her Master's degree at Haramaya University, college of Health and Medical Sciences. I kindly request you to lead me your attention to explain you about the study and your institution being selected as the study setting.

Study title:uptakeof IUCD and associated factor among women attending during immediate termination of pregnancy in public Health facility Harar, Eastern Ethiopia

The purpose of the study: The principal aim of this study is to write a thesis as a partial fulfillment of the requirement for Degree of Master of Science in public Health at Haramaya University Moreover the finding of this study will be used as an input fore district health manager and other stakeholder to identify factor that hinder the uptake of IUCD in the facility

Benefit and risk: Participating in the study does not involve risks. your participation in this research may not give you direct benefit but the finding from this research may revile important information fore locale health planer .in addition all mothers will be counseled on IUCD method by data collector and those mothers willing to have IUCD will be immediately use the service

Confidentiality: The information that you provide me will be kept strictly confidential. There will be no information that will identify you in particular. The findings of this study will be general for the study community and will not reflect any thing particular of individual persons. No reference will be made in oral or written reports that could link participants to the research

Rights: participation for this study is fully voluntary. You have the right to declare to participate or not in this study. If you have still discomfort, you have right to withdraw from the study at any time and your refusal will not label you for any loss of benefit which you otherwise are entitled. Beside this, if you want to ask any unclear idea, I am happy to give you further elaboration and you are not obliged to answer any question you do not wish to answer.

Contact Address: If there are any questions or enquires any time about the study or the procedure please contact me through the address Principal investigator: Meron Abate;email; meron abate223@gmial.comMobile phone 0912929369 Institution Research Epical review Committee : office phone 0254662011 Or P.OBox 235 Harar Ethiopia

Declaration of informed voluntary consent: I have read / was read the participant information sheet. I have clearly understood the purpose of the research, procedures, the risks and benefits, issues of confidentiality, the rights participating and the contact address for any queries. I have given the opportunity to ask question for things that may have been unclear. I was informedthatparticipant have the right to withdraw for the study at any time or not to answer any question that they do not want. I am also informed that the hospital has the right to stop this study from beingconducted if any misdeeds and unethical procedure are observed during the data collection process in the hospital premises. Therefore, I dealer my voluntary consent on behalf of ……management to allow this study to be conducted in the Hospital with my initial my signature.

Name and signature of manger/head ----------date--------/-----

Name and signature of Data collector ----------date-------/--------/-----

N.B: This is to be signed face to face in the presence of data collector. Pleas provide a copy of this signed consent to the manager/head.

Thank you for your cooperation!

Appendix IIParticipant information sheet and informed volunteer consent form

Good morning dear client! My name is……..I am working as a data collector for the study being conducted in this facility by Meron Abate who is studying for her Master's degree at Haramaya University, the college of Health and Medical Sciences. I kindly request you to lead me your attention to explain you about the study and your institution being selected as the study setting.

Study title: uptakeof IUCD and associated factor among women attending during immediate termination of pregnancy in public Health facility Harare, Eastern Ethiopia

The purpose of the study: The principal aim of this study is to write a thesis as a partial fulfillment of the requirement for Degree of Master of Science in public Health at Haramaya University Moreover, the finding of this study will be used as an input fore district health manager and other stakeholder to identify factor that hinder the use of IUCD in the facility

Benefit and risk: Participating in the study does not involve risks. your participation in this research may not give you direct benefit but the finding from this research may revile important information fore locale health planer .in addition all mothers will be counseled on IUCD method by data collector and those mothers willing to have IUCD will be immediately use the service

Confidentiality: The information that you provide me will be kept strictly confidential. There will be no information that will identify you in particular. The findings of this study will be general for the study community and will not reflect any thing particular of individual persons. No reference will be made in oral or written reports that could link participants to the research

Rights: participation for this study is fully voluntary. You have the right to declare to participate or not in this study. If you have still discomfort, you have right to withdraw from the study at any time and your refusal will not label you for any loss of benefit which you otherwise are entitled. Beside this, if you want to ask any unclear idea, I am happy to give you further elaboration and you are not obliged to answer any question you do not wish to answer.

Contact Address: If there are any questions or enquires any time about the study or the procedure please contact me through the address Principal investigator: meron abate;email;

meron abate223@gmial.comMobile phone 0912929369 Institution Research Epical review Committee : office phone 0254662011Or P.OBox 235 Harar Ethiopia

Declaration of informed voluntary consent

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

Name and signature of participant----------date----------/--------/------

Name and signature of data collector----------date----------/----------/-----

N.B; this is to be signed face to face in the presence of data collector. please proved copy of this signed consent to the participant**.**If the participant is a lay person and cannot sign initial, can put her thumb print in front of a competent witness; and the witness has to sign alongside

Thank you for your cooperation

Appendix IIIEnglishversion questionnaires for client interview

Code of health facility…… Code number of the client …….

Date of interview …/……/……Time start interview ……. Time of end ……./……/…….

Interviewer; Name…….

Part I: Socio-Demographic Characteristics

No	Question	Response	Code	Skip pattern
01	How old are you?	……..		
02	What is your current Marital Status?	1. Single 2. Married 3. Separated 4. Divorced 5. Widowed		
03	What is your Religion?	1. Orthodox 2. Muslim 3. Protestant 4. Catholic 5. Others……		
04	What is your ethnicity?	1. Oromo 2. Amehara 3. Somali 4. Hariri 5. Other_____		
05	What is your Educational Status of the mother?	1. NO formal education 2. premeriey (1-8) 3. seconderey and above		
06	What is your Occupation mother?	1. Farmer 2. Government employed 3. Daily laborer 4. House wife		

		5. Merchant 6. Privet employed		
08	What is your Educational Status of husband?	1. No formal education 2. Premerley 3. Seconderey and above		
09	What is your monthly family income?	_____ETB		
10	Place of residence	Urban		
		Rular		
Reproductive and obstetric related characteristics				
10	Did you have children?	1. Yes 2. No		
11	If yes, how many children do you have?	_____children		
12	Have you plan another child?	1. Yes 2. No 3. No answer		
13	When to have another child in the future?	_____years		
14	What is status of resent birth?	1. Planned 2. Unplanned		
15	What is birth interval between current and previous births?	_____		
16	Did you have ANC follow up?	1. Yes 2. No		
17	If yes, how many times did you visit?	_____		
18	What was your current mode of Delivery	1. SVD 2. C/S 3. Forceps/vacuum		
Part III. Family planning methods related character tics				
19	Have you ever heard about F/P?	1. Yes 2. No		
20	If yes, Where?	1. Health professional 2. Mass media 3. Friend 4. Neighborhood		

21	Have you ever used family planning in the past?	1. Yes 2. No		
22	If yes, use of F/P before resent pregnancy?	1. Pill 2. condom 3. Implant 4. Indictable 5. IUCD 6. Others_____		
23	Did you receive counseling about IUCD during current pregnancy?	1. Yes 2. No		
24	If yes, when you did you receive counseling?	1. ANC follow up 2. Delivery 3. After delivery 4. Others_____		
Parte IV: Uptake of IUCD				
25	Haveyou usedIUCDnow?	1. Yes 2. No		
26	If no, what is your reason to reject?	_____		

Appendix IV Participant Information Sheet and Informed volunteer Consent Form (Afan Oromo Version)

Ibsa Hirmaattotaa qorannoof kennamuu fi Unka Waliigaltee

Seensa:Akkam bultan/ooltan,Maqaan koo_____jedhama.An qorannoo Aaddde Meeron Abaatee,digirii lammafffaaf(maastersiif) yuniversitii Haramayaa,koolllejiii saayinsii fayyaa,dhaabbata hawaasa Harar keessatti itti fayyadama IUCD(Ittisa ulfaa kan gadameessa keesssa ka'amuu) irratti gaggeesssaa jiraniif akka sassabaa ragaattin dalagaa jira.

Kanaaf waa'ee qorannoo kanaa fi akkaataa qorannoo kanatti hirmaattaniif ittiin filatamtan akkanisinii ibsuuf xiyyeefffannnaa xiqqoo akka naaf kennitan isin gaafadha.

Mata Duree Qorannichaa:Dubartoota ulfa addaan kutan keessatti IUCD fudhachuu fi dhimmoota isaan walqabatan dhaabbatoota hawaasa Harar,Baha Itiyoophiyaa keessatti.

Sababa Qorannichaa: Sababni guddaan qorannnoo kanaa abbaan qorannichaa Aadde Meeron Abaatee qorannoo digirii lammaffaa argachuuf isaan barbaachisu guutuufi dha.Dabalataanis,bu'aan qorannoo kanaa galtee hoggantoota fayyaa fi deggartoota fayyaa biroof kan fayyaduu fi rakkooowwan gama itti fayyadama IUCD jiru adda baasuuf ni gargaara**.**

Faayidaa fi Miidhaa Qorannichaa: Sababa qorannoo kana irratti hirmaattaniif rakoon isin irratti gahu hin jiru.Faayidaan kallattiin sababa hirmaannaa keessaniif argattan hin jiru.Garuu odeeffannnoon isin kennitan karoorsitoota fayyaa sadarkaa gadiitiif akka galteetti ni barbaachisa.Dabalataan hawwan IUCD Irratti gorsa ni argatu;akkasumas kanneenIUCD fayyadamuufedhan tajaajilakana niargatu.

Iccitii Eeguu: Ragaan isin nuuf kennitan iccitiin qabama.Kallattiin wanti addatti isin ibsu asirratti kan barreeeffamu hin jiru.Bu'aan qorannoo kanaa ummata naannoo malee addatti namoota dhuunfaa kan calaqqisu miti.Deebiin keessan yommuu galmeeffamu maqaan keessan hin dhahamu,afaaniinis tahe bareeffamaan hirmaattotaaddatti qorannoo kanaan walitti kan hidhu hin jiru.

Mirga: Hirmaaannaaan fedhii keessan irratti kan hundaa'ee dha.Qorannoo kana irratti hirmaachuu murteessuu yookiin dhiisuu ni dandeessu.Hirmaachuuf yoo murteessitan illee yeroo

barbaaddan qorannoo kana addaan kuttanii bahuuf mirga guutuu qabdu.Sababa kanaan faayidaan isin argachuu qabdan kan dhaabdan hin jiru.Gaaffiin isin deebisuu hin barbaanne yoo jiraate deebisuuf dirqama hin qabdan fi yaada isinii hin galle gaafachuu yoo feetan ibsa isiniif kennuuf fedha nin qaba.

Walqunnamtii Kamuu Barbaachisuuf:

Gaaffii yoo qabaattan yookiin ibsa yoo barbaaddan yeroo barbaaddanitti lakkoofsa bilbilaa qorannoo kanaa:

AaddeMeeron Abaatee, Teessoo:Harar, Bilbila:0912929369

Email:meronabate223@gmail.com

Koree naamusa qorannaa dhaabbata koollejii fayyaa: Lakk Bil: 0254662011 yookaan Lakk Poostaa: 235, Harar Ethiopia

Ibsa Fedhii Hirmaataa Qorannoo Tahuu Yookaan Mirkaneessu

Ibsa hirmaattoota qorannoof kennamuu dubbiseera/naaf dubbifameera.Kaayyoon qorannoo kanaa naaf galeerra,faayidaa fi miidhaa,waa'ee iccitii eeguu,mirga hirmaataan qabu,akkasumas walquunnamtii kamuu barbaachiseef teesssoon natti himameera.Waan naaa hin galle gaafachuuf carrraan naafa kennnameerrra.Wayita kamiyyuu qorannoo kana addaaan kutee bahuu,akkan dandahu,akkasumas gaaaffiin deebisuu hin barbaanne deebisuuf akkan hin dirqamne natti himameera.Kanaaf qorannoo kanatti fedhiin akkan hirmaadhu ta'uu mallattoo koo nan mirkaneessa.

Maqaa fi Mallattoo

Hirmaataa _____Guyyaa_____

Mallattoo Ragaa Sassabaa_____Guyyaa_____

Appendix V Gaaffilee IUCD Fudhachuu fi Wantoota Isaan Walqabatan

Lakk	Gaaffii	**Deebisaa**	**Koodi**	**Irra darbi**
Kutaa I:Gaaffilee Haala Waliigalaa				
1	Umriin kee meeqa?			
2	Haala gaa'ilummmaa	1.Kan hin heerumne 2.Kan heerumte 3.Kan adda bahan 4.Kan dhirsi irraa du'e 5.Kan wal-hiikan		
3	Amantaan keessan maali?	1.Musliima 2.Ortodoksii 3.Pirootestantii 4.Kaatolikii 5.Kan biro		
4.	Sablammii	1.Oromoo 2.Amaara 3.Hararii 4.Sumaale 5.Kan biroo		
5.	Sadarkaa barumsa Haadha	1.Kan hin baranne 2.Sadarkaa 1ffaa(1-8) 3.Sadarkaa 2ffaa(9-12) 4.Sadarkaa olaanaa		
6.	Gosa hojii haadha	1.Qotee bulaa 2.Hojjattuu mootummaa 3.Hojjattuu guyyaa 4.Haadha warraa 5.Daldaltuu 6.Kan biro		

7	Sadarkaa barumsa Abbaa manaa	1.Kan hin baranne 2.Sadarkaa 1ffaa(1-8) 3.Sadarkaa 2ffaa(9-12) 4.Sadarkaa olaanaa		
8	Gelli kee ji'aa meeqaa	----------		
9	Eessa jiraatta	----------		
Kutaa II: Haala Hormaata jiruuf jireeyaa				
10	Ijoollee qabda?	1.Eeyee 2.Hinqabu		
11	Deebiin kee eeyyee yoo tahee meeqa qabeda?	_____		
12	Deebitee dhaluuf keroora qabda?	1.Eeyye 2.Hin karoorfanne		
13	Eeyye yoo jette yoomith keroorafatte?	_____		
14	Ulfi ammee kun keroora keetii?	1. Eeyyee 2. miti		
15	Mucaa ammaa fi isa duree dhaluta jidduu waggaa meeqa tu jira?	_____		
16	Hordofii da'uumsa duraa teesiftee?	1.Eeyye 2.Miti		
17	Eeyyee yoo jette yeroo meeqa taasifte/raawatee?	_____		
18	Amma akkamitti dhalte?	1. Ciniimsuun 2. Baqafsanii 3. Meeshalida		

19	Waa'ee qusannoomaatii dhageessee beektaa?	1.Eeyye 2.Miti		
20	Eeyyee yoo jette eessaa?	1.Ogeessarraa 2.Miidiyaa 3.Hiriyaa 4.Ollaa		
21	Qusannoo maatii ykn maqa ittisaa daumssaa fayyadaamte?	1.Eeyye 2.Miti		
22	Deebiin kee eeyye yoo ta'e Gosa kan fayyadamte?	1.kinina 2.kondom 3.Irreerra 4.Gadameessa keessa ken taa'uu 5.Lilmeedhan		
23	Wayitii ulfa turte kanatti mala ittisa taa'uu(luuppii)gorfamtee?	1.Eeyye 2.Miti		
24	Eeyye yoo ta'e,yoom gorfa mte?	1.Yeroo hordoffii ulfaatti 2.Yeroo da'uumsaa 3.Ergan dhale		
	Kutaa IV-Haaala Luuppii gadameessa keessaa itti fudhefame			
25	Yeroo ammaa kane luuppii gadameessaa fayyadamtee jirtaa?	1.Eeyye 2.Miti		
26	Deebiin kee 'miti'yoo ta'e maaliif?	_____		

Suparivzaraan mirkanaa”a

Maqaa……..Mallattoo……..

Hirmaachuu Keessaniif bay”ee isin galateeffanna!

Appendix VI የጥናቱተሳታፊዎችመረጃመስጫእናየፍቃደስምምነትመግለጫቅጽ

ስሜ----------ይባላል።

መረጃሰብሳቢስሆንየምስራውለሜሮንአባተማለትምየድህረምረቃትትምህርታቸውንበሀረማያዩኒቨርሲቲጤናሳይንስኮሌጅየሚከታተሉሲሆንበተጨማሪምበመሃጸንውስጥሚቀመጥየወሊድመቆጣጠሪያአወሳሰድላይጥናትእናምርምርበሀረሪጤናተቋማትእያደረጉነው።

ስለሆነምበትህትናየምጠይቀውትኩረቶችንእንዲሰጡኝእናየጥናቱአካልእንዲሆኑነው።

የጥናቱአላማ፡-

የዚህጥናትዋናአላማበሀረማያዩኒቨርሲቲበህዝባዊጤናተቋማትውስጥየማስትሬትዲግሬሟሚያየጥናትምርምርወረቀትሲሆንከዚህምበተጨማሪየዚህጥናትውጤትለጤናተቋማትኃላፊዎችእናለሚመለከታቸውአካላትግብአትበመሆንበተቋማትውስጥእንዳይጠቀሙየሚያደርጋቸውንምክንያትይለያል።

ጥቅምእናጉዳት፡-

በዚህጥናትተሳታፊዎችምንምአይነትጉዳትአያስተናግዱምበዚህጥናትበመሳተፎምንምጥቅምላያገኙይችላሉሆኖምግንከዚህጥናትየሚገኘውውጤትለአካባቢጤናእቅድአውጪዎችጠቃሚመረጃይሰጣልከዚtህምበተጨማሪሁሉምእናቶችስለበመሃጸንውስጥሚቀመጥየወሊድመቆጣጠሪያአጠቃቀምበመረጃሰጪውይመከራሉእናምፍቃደኛየሆኑእናቶችወዲያውኑተጠቃሚእንዲሆኑይደረጋል

ሚስጢራዊነቱ፡-

ለእኔየሚሰጡትመረጃፋፅሞሚስጥራዊነውምንምዓይነትመረጃእርሶበተለየሁኔታየሚያጋለጥአይደለም።

የጥናቱውጤትለወደፊቱየማህበረሰቡጥናትሲሆንበምንምዓይነትሁኔታግለሰቦችንባነጣጠረሁኔታአይደለም።

ምንምዓይነትማጣቀሻበቃልምይሁንበፅሁፍሀተታተሳታፊዎችንከጥናትእናምርምሩጋርአያያይዝም

መብቶች፡- የዚህጥናትተሳታፊዎችበሙሉፍቃደኞችናቸው።

በዚህጥናትውስጥየመካተትምሆነያለመካተትሙሉመብትአሎት።

ስለዚህበጥናትውስጥምቾትካልተሰሞትበየትኛውምጊዜራስዎንማግለልይችላሉ።

እንቢማለትምምንምዓይነትጥቅምአያሳጣምለእርሶመብትከመስጠትውጪ።

ከዚህጎንለጎንያልገቦትንሀሳብይጠይቁ።

ተጨማሪማብራሪዎችንየምሰጥሲሆንመመለስየማይፈልጉትንጥያቄእንዲመልሱአይገደዱም።

አድራሻ፡- ስለጥናቱወይምስለሂደቱጥያቄካሎትበየትኛውምጊዜበጥናቱአድራጊበኩልሊያገኙኝይችላሉ::

ሜሮንአባተኢሜል meron abte 223 @gmail ተንቀሳቃሽስልክ 0912929369ተቆጣጣሪየጢናምርምርስነምግባርኮሚቲየቢሮስልክ0254662011 ወይም፦ሳ.ቁ 235 ሐረርኢትዬጲያ

የፍቃደኝነትስምምነትመግለጫ

የተሳታፊዎችመረጃቅፅአንብቤያለውወይምተነቦልኛልየጥናቱአላማ፣ሂደቱ፣ጥቅምእናጉዳቱ፣ሚስጢራውነቱን፣ የተሳተፊዎችመብትንእናለሚኖሩጥያቄዎችአድራሻንበግልፅተረድቻለው

ግልፅያልሆኑነገሮችለይእንድጠይቅሙሉመብትተሰጥቶኛልእንዲሁምበፈለግንጊዜከጥናትእንድወጣከስፈለገምደ ሞመመለስየማልፈልግውጥያቄያለመመለስመብትእንዳለኝተነግሮኛልስለሆነምበጥናትውስጥለመሳተፍየፍቃደኝ ትስምምነትመግለጣበፊርማዬእንደሚከተለውአረጋግጣለው።

የተሳታፊስምእናፊርማ----------ቀን----------

የመረጃሰብሳቢውስምእናፊርማ----------ቀን----------

ሰለትብብሮትአመሰግናለን።

የሚፈረመውመረጃሰብሳቢውካሉበትፊትለፊትነው።

አባከንቀሪውንየፊርማውንስምምነትለተሳታፊውንይስጡትስለትብብሮትእናመሰግናለን።

Appeddix VII: Amharic questionnaire for client

የጤናድርጅቱመለያቁጥር----------

የመደበኛመለያቁጥር----------

የጠያቂውስም----------

ክፍል1፡ሶሽዮዲሞግራፊክዳታ				
ተ.ቁ	ጥያቄ	መልስ		
1	እድሜሽስንትነው	----------		
2	የጋብቻሁኔታ	1)ያላገባ 2)ያገባ 3)ባልየሞተባት 4)የተፋታች		
3	ሃይማኖትሽ	1)ኦርቶዶክስ 2)ሙስሊም 3)ፕሮቴስታንት 4)ሌላካለ		
4	ብሄርሽ	1)አማራ 2)ኦሮሞ 3)ሀረሪ 4)ሶማሌ		

		5)ሌላካለ		
5	የት/ትደረጃ	1)ያልተማረ 2)የመጀመሪያደረጃ(1-8) 3)ሁለተኛደረጃ(9-12) 4)ከዚያበላይ		
6	የስራሽአይነት	1)ገበሬ 2)የመንግስትሰራተኛ 3)የቀንሰራተኛ 4)የቤትእመቤት 5)ነጋዴ 6)ሌላካለ		
8	የትምህርት ደረጃሽ	1)ያልተማረ 2)የመጀመሪያደረጃ(1-8) 3)ሁለተኛደረጃ(9-12) 4)ከዚያበላይ		
9	የወር ገቢሽ	.....		
10	የመኖሪያ ሰፈራሽ	ከተማ		
		ገጠር		
ክፍል 2 የስነ-ተዋልዶጋር ሁኔታ				
11	ልጆች አሉሽ;	1 አዎ 2 የለኝም		
12	አዎ ከሆነ መልስሽ፣ስንትልጆችአሉሽ	1)1-2 2)3-4 3)5 እናከዚያበላይ		

13	በመጨረሻእናበአሁኑእርግዝናሽመካከልየምንያህልየጊዜልዩነትአለ	1)ከሁለትአመትበታች 2)2-3 አመት 3)4ከዚያበላይ		
14	የአሁኑንእርግዝናአቅደሽነው	1)አዎ 2)አይደለም		
15	ከዚህበፊትየቤተሰብምጣኔአገልግሎትተጠቅመሽታውቂያለሽ	1)አዎ 2)አይደለም		
16	አዎካልሽ፣ከየትተጠቀምሽ	---------- -		
17	የተጠቀምሽው አይነት	1,ኪኒን 2 ኮንዶም 3 በክንድ ስር የሚቀበር 4 በመሀጸን የሚቀመጥ 5 በመርፌ		
18	ቀጣይልጅለመውለድእቅድአለሽ	1)አዎ 2)አይደለም		
19	አዎ ከሆነ መልስሽ፣ መቼ አሰብሽ	1)ከ2 አመት በታች 2)ከ2-3 አመት 3)ከ3 አመት በላይ		
20	የቅድመ ወሊድ ክትትልአለሽ	1)አዎ 2)አይደለም		
21	አዎ ከሆነ መልሱ ለምን ያህል ድግግሞሽ	1)1-2 ጊዜ 2)3-4 ጊዜ 3)5 እና ከዚያ በላይ		
22	የወለድሽበት መንገድ	1)በተፈጥሮ መንገድ		

		2)በቀዶ ጥገና 3)በመሳሪያ በመታገዝ		
ክፍል 3 የሉፕ አጠቃቀም/መጠቀም				
23	በመሀፀን ውስጥ ስለመሚቀመጥ የወሊድ መከላኪያ ተመክረሻል	1)አዎ 2)አይደለም		
24	አዎ ካልሽ መቼ ተመከርሽ	1)በወሊድ ክትትል ወቅት 2)በምጥ ጊዜ 3)ከወሊድ በኃላ		
25	በመሀጸን ውስጥ የሚቀመጥ የወሊድ መከላኪያ ተጠቅመሻል ?	1)አዎ 2)አይደለም		
26	መልስሽ አይደለም ከሆነ ለምን	---------- ----------		

Appendix VIII. Curriculum Vitae

1. Personal details:
   - Name: Meron Abate Esayas
   - Place of birth: Haramaya ,Woreda
   - Date of birth: 28, June, 1986
   - Sex: Females
   - Marital status: Married
   - Nationality: Ethiopian
   - Contact address: email: meron Abate223@gmail.comPhone: 0912929369

2. Educational background:
   - Elementary: Haramaya primary school (1-8)
   - Secondary: Haramaya High School (9-12)

3. Educational qualification

   -Graduated from Haramaya University with B.sc .public health office.

4. Work experience

Institution	Duration	Job position
Bisidimo Hospital	Nov2003-June20018	Sinourhealthofficer professional

5. Language skill

Languages	Listening	Speaking	Reading	Writing
Oromifa	Excellent	Excellent	Excellent	Excellent
Amharic	Excellent	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent	Excellent

6. **Skills**: -Basic clinical skills

   -Teaching skills

   -Basic computer skills

   -Managing, monitoring and evaluating skills

7. **Interests**

   -Reading different books

-Helping the patients

-Conducting research and serving community

10. **References:**

Mr.Chala Abrahim,email:chalaabrahim@gmail.com Phone: 0922800788

Position: Bisedimo hospital manager

Dr .Esethiowt Teref, email: yahwenesi@gmil.com Phone: 0911628023

Position: Bisedimo hospital in patient coordinator