

UNINTENDED PREGNANCY AND ASSOCIATED FACTORS AMONG HIV
POSITIVE WOMEN ATTENDING ANTIRETROVIRAL THERAPY CLINICS
AT PUBLIC HEALTH FACILITIES OF ILUABABORA ZONE,SOUTH
WESTERN ETHIOPIA

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JIMMA UNIVERSITY
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Abstract

Background: Unintended pregnancy reflects the existence of unprotected sex. Understanding factors associated with unintended pregnancy among HIV positive women is very important to design strategy for prevention of further transmission and infection with new virus. However, there is paucity of information in this regard. Given the degree of HIV prevalence among women and the current antiretroviral therapy scale up in Ethiopia, it is important to understand factors predicting un-intended pregnancy in order to prevent mother to child transmission.

Objective: To assess the magnitude and associated factors of un-intended pregnancy among HIV positive women attending antiretroviral therapy clinics at public health facilities of Ilu Aba Bora zone Oromia region, south western Ethiopia, 2017.

Methods: Institution based cross-sectional study design with both quantitative and qualitative method of data collection was used. The sample size was 353; all anti retroviral therapy clinics in the zone were included and simple random sampling was used to select if more than one antiretroviral therapy sites in one woreda. Consecutive sampling was employed to get study participants for quantitative study and purposive random sampling method was used for qualitative study and data collection period was from March 9 to April 13. The data was entered using EPI data version 3.1 and analyzed using SPSS version 21. Descriptive statistics was done and logistic regression was used to identify independent predictors of un-intended pregnancy among HIV positive women. P -value < 0.05 at 95 % CI was considered statistically significant. Qualitative data was analyzed through thematic analysis approach.

Result: The prevalence of unintended pregnancy among the participants is 40.9%. In the multi variate logistic regression, unemployment (AOR, 3.36[1.55, 7.26], 95%CI), being not knowledgeable on MTCT and PMTCT (AOR, 3.18[1.92, 5.24], 95%CI), having no discussion on reproductive health (AOR, 1.83[1.09, 3.07], 95% CI) issues are factors significantly associated with unintended pregnancy occurrence among HIV positive women on antiretroviral therapy.

Conclusion and Recommendation: The prevalence of unintended pregnancy among the women in the study is high. To avoid unintended pregnancies, HIV-infected women need access to effective family planning services and risk reduction discussions during routine care visits.

Key words: unintended pregnancy, women on ART, Ilu Aba Bora zone, South west Ethiopia.

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Table of Contents

Abstract.....	iii
Acknowledgement	iv
Acronyms and Abbreviations	vi
List of Tables	vii
List of figures.....	viii
Chapter One: Introduction.....	1
Chapter Two: Literature Review.....	4
Chapter Three: Objective	11
General objective	11
Specific objectives:	11
Chapter Four: Methods and Materials	12
Chapter 5: Results	18
Chapter six: Discussion.....	30
Strength and limitations of the study	33
Chapter Seven: Conclusion and Recommendation	34
Referenc es	36
Annex I- Data Collection Tools	41

Acronyms and Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ART	Anti-retroviral Therapy
ARV	Antiretroviral treatment
AZT	Zidovudine
CPR	Contraceptive Prevalence Rate
EC	Emergency contraception
ETB	Ethiopian Birr
FHAPCO	Federal HIV/AIDS Prevention and Control Office
HAART	Highly Active anti-retroviral therapy
HIV	Human immune deficiency virus
HTC	HIV Testing and Counselling
I UGR	Intra Uterine Growth Restriction
JUSH	Jimma University specialized hospital
LBW	Low Birth Weight
MKH	Mettu Karl Hospital
MOH	Ministry of Health
MTCT	Mother to Child HIV Transmission
PLWHA	People Living With HIV/AIDS
PMTCT	Prevention of Mother to Child HIV Transmission
RAG	Reproductive age group
RH	Reproductive Health
SPSS	Statistical Package for Social Sciences
WHO	World Health Organization

List of Tables

Table 1: Distribution of study participants by their Socio-demographic and economic characteristics at Ilu Aba Bora zone ART centres, Ethiopia, 2017 (n=347)

Table 2: Family planning use and types among HIV positive women attending 13 ART centres at public health facilities of Ilu Aba Bora zone, Ethiopia, 2017 (n=212)

Table 3: HIV status and knowledge of transmission methods among HIV positive women attending 13 ART centres at public health facilities of Ilu Aba Bora zone, Ethiopia, 2017 (n=347)

Table 4: Reproductive characteristics of HIV positive women attending 13 ART clinics at public health facilities of Ilu Aba Bora zone, Ethiopia, 2017 (n=347)

Table 5: Sexual behaviour of HIV positive women attending 13 ART centres at public health facilities of Ilu Aba Bora zone, Ethiopia, 2017 (n=347)

Table 6: Bivariate logistic regression result for factors associated with unintended pregnancy among HIV positive women attending 13 ART clinics at Ilu Aba Bora zone ART centres, Ethiopia, 2017 (n=347)

Table 7: Multivariate logistic regression result for factors associated with unintended pregnancy among HIV positive women attending 13 ART clinics at Ilu Aba Bora zone ART centres, Ethiopia, 2017 (n=347)

List of figures

Figure 1: Conceptual frame work on factors associated with unintended pregnancy among HIV positive women on ART

Figure 2: Schematic presentation of sampling procedure for a study done on unintended pregnancy and associated factors among HIV positive women attending 13 ART clinics at public health facilities of Ilu Ababora zone, Ethiopia, 2017.

Figure 3: Reason for failure to use contraception for study done on unintended pregnancy and associated factors among HIV positive women attending 13 ART clinics at public health facilities of Ilu Ababora zone, Ethiopia, 2017

Figure 4: Time to information given on family planning for HIV positive women attending 13 ART clinics at public health facilities of Ilu Ababora zone, Ethiopia, 2017

Figure 5: Type of recent pregnancy among HIV positive women attending 13 ART clinics at public health facilities of Ilu Ababora zone, Ethiopia, 2017

Figure 6: Situation of pregnancy among HIV positive women attending 13 ART clinics at public health facilities of Ilu Ababora zone, Ethiopia, 2017

Figure 7: Opinion of HIV positive women attending 13 ART clinics on provision of family planning in ART clinic at public health facilities of Ilu Ababora zone, Ethiopia, 2017

Figure 8: Reproductive health topics discussed between ART providers and HIV positive women at 13 ART clinics at public health facilities of Ilu Ababora zone, Ethiopia, 2017

Chapter One: Introduction

1.1 Background

Unintended pregnancy is the pregnancy that is reported to have been either unwanted(i.e., it occurred when no children or no more children were desired) or mistimed(i.e.it occurred earlier than desired)(1). Vaginal sexual activity without the use of contraception through choice or coercion is the predominant cause of unintended pregnancy; while prevention mechanisms includes comprehensive sexual education, availability of family planning services and increased access to a range of effective birth control methods(2)

HIV preserves both biological as well as behavioural effects on fertility issue among people living with the virus. The biological effect would be the effect of the virus and the disease progression on fecundity and the behavioural effect is exerted through the alteration in reproductive decision making of infected couples after they become aware about their HIV status (3).

Helping women living with HIV to avoid unintended pregnancy is one of the programmatic components of the global Plan towards the elimination of new infections among children by 2015 and keeping their mothers alive(4).In addition to that, promote and support integration of HIV prevention, care and treatment services within maternal, new-born and child health and reproductive health programmes is one of the WHO strategic directions to accelerate the scale-up of HIV prevention, care and treatment for women and children(5).

The Ethiopian national PMTCT guidelines is also based on WHO four-pronged approaches and Providing family planning counselling integrated into all potential PMTCT and VCT service sites was one of the national strategy to prevent unintended pregnancy among HIV infected women(6).The total number of HIV positive pregnant women and annual HIV positive births are 75,000 and 14,000 respectively. At present, 65,000 children below the age of 14 years live with the virus(7)

1.2. Statement of the Problem

HIV-positive pregnancies are associated with a high maternal mortality rate that is tenfold higher than that of HIV-negative women and there were an estimated 56,100 HIV-related maternal deaths, accounting for approximately 20% of maternal deaths globally(8).

Sub-Saharan Africa records the highest incidence of HIV as well as unplanned pregnancies (3, 4). And approximately 20-40% of the total number of pregnancies which occur in sub-Saharan Africa is estimated to be unplanned and 20-35% of women were also estimated to have an unmet need for contraception (4, 8). Previous studies conducted in sub-Saharan Africa indicated that, HIV infected women who are uneducated, young, unmarried, have more than two living children and have a low wealth index are more likely to experience an unplanned pregnancy (19, 20, 33).

Ethiopia is one of the countries having a large number of people living with HIV in Africa with an estimated 793,700 people living with HIV and adult prevalence was almost twice as high among females compared to males at 1.9% versus 1.0% respectively while the prevalence is 1% in Oromia region(9). The percentage of HIV-positive pregnant women who receive antiretroviral medicines to reduce the risk of mother-to-child transmission is 65%. However, pediatric ART coverage is below 15% in 2014(10). Yet, 4% of pregnancy related maternal deaths were attributed to HIV(11).

Unplanned pregnancies comprise of major public health concern mainly among HIV sero positive women as it is linked with poor maternal and child health outcomes which increases the possibility of mother to child transmission of HIV infection (MTCT) during the pregnancy and postpartum period (12–15). Unintended pregnancy can cause serious health, social, and economic consequences for women, families, and communities. It is linked with late entry into prenatal care as well as low-birth weight babies and poor maternal nutrition(16).

In addition to a higher risk of morbidity and mortality unplanned pregnancies have been associated with other adverse economic, physical and social effects (12,14,17).

In HIV positive women who became pregnant CD4 decline was faster after pregnancy than before and resulted in increased maternal and foetal mortality in AIDS-infected women(18).

But also, HIV or its treatment may be associated with increased risk of obstetric haemorrhage and HAART especially protease inhibitor containing combinations have been associated with preterm deliveries and low birth weight, particularly when initiated prior to the index pregnancy(19).

Yet, anaemia, pre-term labour, IUGR, foetal death, still birth and low birth weight are some of the complications associated with HIV in pregnancy(20).Unfortunately, HIV positive women are rarely told about assisted and safer conception methods, how to protect their health during pregnancy or how to reduce mother-to-child transmission(21).

On previous study conducted in Ethiopia among HIV positive women, unmet need for contraception and ever utilization of emergency contraception were significantly related with occurrence of unintended pregnancy(22).There is a need for further research on the impact of HIV status and ART use on pregnancy planning proceeding to conception. To effectively plan family planning interventions related to HIV care and PMTCT, there is a need for the knowledge on prevalence of unintended pregnancy and its associated factors among HIV-infected women.

So, the aim of this study was to assess the magnitude and associated factors of unintended pregnancy among HIV positive women on HAART in order to give an input in the process of preventing new HIV infection and making conception safer.

1.3. Significance of the Study

Pregnancies that are mistimed or unwanted can lead to adverse outcomes for both the mother and her new-born. Identifying the risk factors associated with unintended pregnancy can help with developing effective policy changes and interventions to minimize the odds of experiencing an unintended pregnancy and its associated consequences.

As the goal of PMTCT prong 2 is prevention of unintended pregnancies among women living with HIV, understanding of HIV-positive women's health reproductive needs help to prevent the maternal mortality rate, paediatric HIV and under-five mortality as a consequence of HIV.

It is one of the studies exploring occurrence of unintended pregnancy under ART treatment units.

Thus, it gives insight on preventing unintended pregnancy among HIV positive women.

Hence, filling the gap in wide ranging HIV prevention and care programmes; HIV-positive individuals, policy makers and healthcare providers to develop their programmes for safer, supportive pregnancy and family planning forHIV-positive individuals in their communities and it will be a resource for further studies to be used by researchers.

Chapter Two: Literature Review

2.1. Magnitude of unintended pregnancy among HIV positive women on ART

Institutional based cross-sectional study conducted in Addis Ababa, from December 2010 to february2011 by G. Zewdu, A.Mekonnen and M.Betre among a sample of 548 HIV positive women in the ART follow up units to assess unmet reproductive health care needs and occurrence of unintended pregnancy among HIV positive women revealed that, 147 (46%) of the pregnancies were unintended; of which 125 (38%)were mistimed and 22 (8%) unwanted(22).

Another institutional based cross sectional study conducted in two health centres, Kinyinya and Kimironko in Kigali Rwanda by Kimiyo Kikuchi, Naomi Wakasugi, Krishna. C. Poudel, Kayako Sakisaka and Masamine Jimba among 565 women attending the clinics to investigate the factors associated with unintended pregnancies or the non-use of contraceptives after knowing of seropositive status among HIV positive women under ART showed that, 82 (62.7%) of the pregnancies were unintended(23).Prospective cohort study done in Zambia by S.Okawa, C.Changala, N.Ishikawa from July 2011-2013 to assess the prevalence of unintended pregnancy showed that, 50.4% of pregnancies were unintended(24)

prospective cohort study done in 2012 by Sheree R. Schwartz,Helen Rees, Shruti Mehta, Willem Daniel Francois Venter,Taha E. Taha and Vivian Black among 850 non-pregnant women ages 18–35 from four public-sector ART clinics in Johannesburg, South Africa, from August 2009–March 2011 to determine the incidence of unplanned pregnancies in HIV-positive women on ART in South Africa, and to assess contraceptive use and associations with unplanned pregnancy indicated that, out of the 170 pregnancies, 105 (62%) were unplanned(25).

Cross-sectional study conducted by Euzebus C. Ezugwu, Chukwuemeka A. Iyoke, Peter O. Nkwo, Hygenius U. Ezegwui Jude C. Akabueze and Polycap U. Agu in Nigeria among 180 HIV-positive pregnant women receiving prenatal care at two tertiary health institutions in Enugu between March 1 and August 31, 2012 to determine the prevalence and factors associated with unintended pregnancy among HIV-positive Pregnant women showed, 37.2% of the pregnancy were unintended (26)

Another Cross-sectional study held in South Africa by Victoria Iyun among 2105 pregnant women (1512 HIV-infected; 593 HIV-uninfected) ages 18-44 , to estimate the burden of unplanned pregnancy and identify associated risk factors among HIV-infected and HIV-uninfected women entering antenatal care in Gugulethu, Cape Town showed that, 50% of the pregnancy among those HIV positive women were unintended(27)

Prospective cohort study held by Wall KM, Haddad L, Vwalika B, Htee Khu N, Brill I, et al. to describe rates and identify factors associated with unintended pregnancy among HIV positive couples in Lusaka, Zambia among oral contraceptive pill (OCP) using couples revealed that,87%of the pregnancy were unintended(28)

The prevalence of unintended pregnancy reported by women in Cross-sectional study held in Uganda which included HIV positive RAG male and female were43%(105),of which,53% (80) reported by women and 26% (25) reported among men(on their partners)(29).

A cross-sectional study conducted among HIV-positive women of reproductive age (18–52 years) living in Ontario, Canada from October 2007 and April 2009 by MR Loutfy *et al.* to explore rates and correlates of unintended pregnancies among adult HIV-positive women showed that, 56% their last pregnancies were unintended(30).

Another Cross-sectional study held by Madeline Y. Sutton, Roshni Patel and Emma L. Frazier among 1492 HIV-infected women in care to examine the prevalence of unplanned pregnancies among HIV-infected women in care in the United States showed that, 382 reported pregnancy, 85% were unplanned (31)

A study held in London, by Elgalib.B among HIV-infected pregnant teenagers aged 13-19 to describe pregnancies in HIV-infected teenagers showed that, 85% of the pregnancies were unplanned(32)Global community survey done on sexual and reproductive health and human rights of women living with HIV on 94 countries in 2014 showed that, there were 177 (56.7) unplanned pregnancies(33).

2.2. Factors associated with unintended pregnancy among HIV positive women at antiretroviral treatment units

Age, marital status, disclosure of HIV status to partner are factors associated with unintended pregnancy occurrence on prospective cohort study done in Zambia by S.Okawa, C.Changala, N.Ishikawa from July 2011-2013 and Cross-sectional study done in Kenya ; those married, age>30 years and disclosed their status are less likely to have unintended pregnancy; recommends on the improvement of contraceptive coverage among HIV positive women and their partners(24, 34).

Age, religion, education of women, duration of ART, number of alive children are factors associated with unintended pregnancy among HIV positive women; women with age<35, higher education, ART duration of >2 years and having less number of children are less risk to unintended pregnancy and recommends importance of improving condom negotiation skill among HIV positive women and understanding on the prognosis of paediatric AIDS(23,31) .

Unmet contraceptive need and ever use of emergency contraception were associated with occurrence of unintended pregnancy among HIV positive women on ART and 67.5% of women have disclosed their intention of discussing RH issues with their providers;52% of them had ever discussed RH issues with their provider beginning their ART unit visit ; family planning and condom were the RH issues most discussed with the providers as reported by 78% respondents while only 16% had received regular counselling and recommends the need for integration of RH services with ART clinics(22).

Use of family planning methods twelve months prior to current pregnancy was significantly associated with higher odds of having an unplanned pregnancy on study held in South Africa(27).While, obtaining family planning information from health facilities and awareness of MTCT were a significant predictors of modern contraception use consistently(35). Knowledge about mother to child transmission, obtaining family planning from healthfacilities and status disclosure to partner were factors affectingcontraceptive utilization.Having knowledge on MTCT, disclosure of status to partner and obtaining information on contraception increase the likelihood of using contraception (35–37).

Partners' desire for children, disclosure of HIV status to sexual partners and discussion on the number and timing of children with sexual partners were factors associated with use of modern contraception and recommends the need for integration and strengthening of FP services for PLHIV(29,38)

A cross-sectional study conducted among HIV-positive women of reproductive age (18–52 years) living in Ontario, Canada by MR Loutfy *et al* showed that, parity is significantly associated with unintended pregnancy and recommends as pregnancy planning programmes are needed for HIV positive women(30).

Perceived health status was a significant predictor of unintended pregnancy among women on HAART on a study held in Canada; women with perceived health of poor/fair was two times (42.4 %) more likely to have an unintended pregnancy as compared to those with excellent/very good health status 24.4%(39). On a study held in United States, most pregnancies (65%) resulted in live birth outcomes ; recommends as HIV-infected women need access to effective family planning services and risk reduction discussions during routine care visits (31).

However, study conducted in Rwanda and South Africa showed that, HIV-infected women, particularly those recently initiating ART compared to ART experienced women, had higher rates of unplanned pregnancy(23,40). In contrast to this studies, duration on ART was found to be not a predictor of childbearing desire on Cross-sectional study done in Botswana . However, childbearing desire increased with numbers of negative births, being aware of and availability of PMTCT and awareness of individual and partner status(41).

Cross-sectional study conducted in Kenya by Francis Obare, Anke van der Kwaak and Harriet Birungi among 1,059 HIV-positive adolescent girls aged 15–19 years to examine the factors associated with experiencing unintended pregnancies, poor birth outcomes, and post-partum contraceptive use among HIV-positive female adolescents revealed that, unintended pregnancy was not significantly associated with adverse birth outcomes and recommends the need for HIV and AIDS programs to provide appropriate sexual and reproductive health information and services to HIV-positive adolescent clients in order to reduce the risk of undesired reproductive health outcomes(34)

Prospective cohort study done in Zambia by S.Okawa, C.Changala, N.Ishikawa from July 2011-2013 to assess the prevalence of unintended pregnancy showed that, status disclosure to partner is associated with unintended pregnancy and those disclosed their status to partner are less likely to have unintended pregnancy and recommends, as provision of family planning services at antiretroviral therapy clinic and PMTCT services could increase contraceptive coverage(30)

On retrospective cohort study held in London, pregnancy related complications such as gestational diabetes, pre-eclamptic toxemia, and ante partum haemorrhage were seen in 13% of patients; mode of delivery was normal vaginal delivery in 29%, elective caesarean section in 56% and emergency caesarean section in 15%. Of the 67 deliveries, 14 (21%) were preterm (<37 weeks) with more than half occurring at 34 weeks (32).

Regarding knowledge of the transmission routes of HIV from mother-to-child, 97.5% knew about delivery, breast-feeding routes and 83.7% knew about HIV transmission during pregnancy. However, only (65%) knew that ART does not always prevent transmission of HIV(23).

In addition, study done in Ashanti region on knowledge and perception about ART and PMTCT, more than 90% knew MTCT could be intra-uterine, 81.1% during delivery and 98.4% through breastfeeding and 88% knew that vertical transmission was preventable while 7.2% did not know that MTCT was preventable(42).

Qualitative study done in a slum Kenya about decisions on motherhood among women on ART showed, participants felt that the clinic had no role in planning a pregnancy and the clinic was restricting them and expecting them to request for permission to become pregnant. Information on advertisements of PMTCT gave the women hope and inspired them to seek a pregnancy, but it did not mention discussing pregnancy intentions with the clinic or that a pregnancy needed special tests(26).

On study done in Maryland to assess HIV-infected women want to discuss reproductive plans with providers, nearly 40% of the sample reported the desire for a future child and the desire to talk with their provider; yet 23% of these women have had no communication with their provider about pregnancy and HIV(43)

A facility based cross-sectional study done in Fiche hospital from February 21-April 20th, 2013 by Dereje B., Bosen T. and Temamen T. to determine fertility desire and associated factors among PLHIV attending ART clinic showed that, 34.3% -44.3% had fertility desire and recommends policy makers and health planners in the developing countries of sub-Saharan African would better to plan and adapted assisted reproductive option/technologies for discordant partner which contribute to decrease HIV- new infections to sexual partner and new born(44).

Conceptual Framework

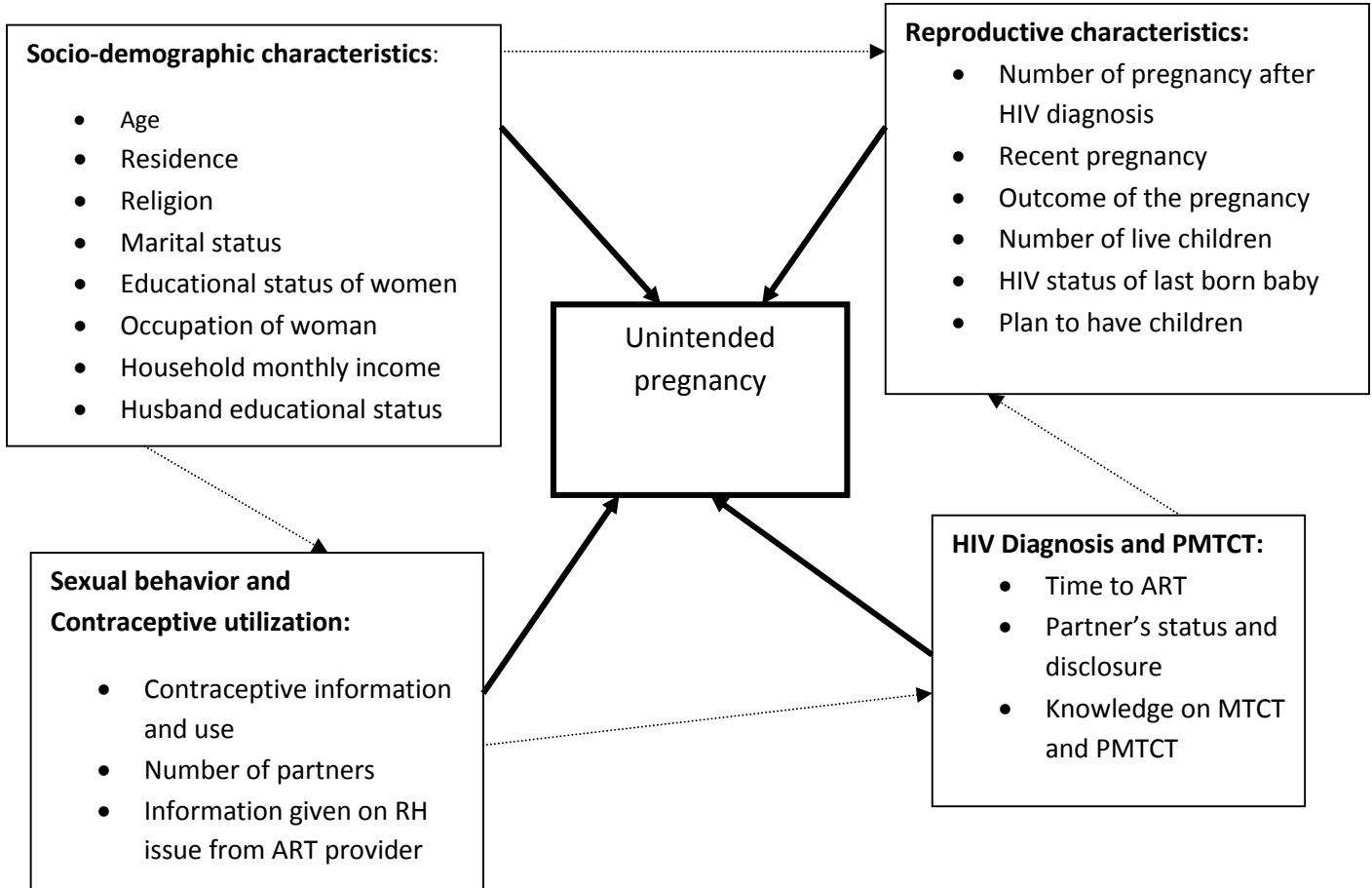


Figure 9: Conceptual frame work on factors associated with unintended pregnancy among HIV positive women on ART. The conceptual frame work for this study was developed after reviewing different literature (3,22,38,45). The solid line shows that the relationship between dependent and independent variables, the broken line shows the inter relation between independent variables which was not an interest of this study to see the relationship between them.

Chapter Three: Objective

General objective

To assess the magnitude and associated factors of unintended pregnancy among HIV positive women attending anti- retroviral therapy clinics at public health facilities of Ilu Ababora Zone South-western Ethiopia, 2017

Specific objectives:

- To assess the magnitude of unintended pregnancy among HIVpositive women attending anti-retroviral therapy clinics at public health facilities of Ilu Ababora Zone South-western Ethiopia, 2017
- To identify factors associated with unintended pregnancy among HIVpositive women attending anti- retroviral therapy clinics at public health facilities of Ilu Ababora Zone South-western Ethiopia, 2017

Chapter Four: Methods and Materials

4.1 Study area and Period

Illu Ababora is one of the zones of the Oromia regional state. Based on the 2012 Census conducted by the CSA, this Zone has a total population of 1, 271,609, of whom 636,986 are men and 634,623 women. Mettu is the capital city of the zone and has 600km distance from Addis Ababa. There are a total of thirteen woredas with fifteen ART centres and 2010 reproductive age group women are currently on ART in the zone. The study was conducted from March 9 to April 13, 2017.

4.2. Study design

A facility based cross sectional study design with both quantitative and qualitative methods were employed.

4.3. Population

4.3.1 .Source population

All HIV sero positive reproductive age women attending ART follow up clinics at public health facilities of Ilu Aba Bora zone.

4.3.2. Study population

All sampled HIV-positive women of reproductive age group (15-49) attending ART clinics and visit selected health facilities for ART service during data collection period.

4.4. Eligibility criteria

4.4.1. Inclusion criteria

HIV-positive woman whose age is between 15-49, have a history of pregnancy after their diagnosis and has at least one visit at the clinic for receiving ART before data collection time.

4.4.2. Exclusion criteria

HIV positive women who are critically ill and unable to respond during data collection time were excluded.

4.5. Sample Size Determination and Sampling Technique

4.5.1. Sample Size Determination

4.4.1.2. *Quantitative method*

On study done in Addis Ababa(22), the proportion of unintended pregnancy was 46%. So, the sample size was determined using single population proportion formula with the assumption of 95% confidence level and 5% marginal error.

Where;

n= the desirable calculated sample size

Z ($\mu/2$) =1.96 (95% confidence level for two side)

P = 46%

d = degree of accuracy desired setting at (5%)

$$n = \frac{(z_{\mu/2})^2 P (1-P)}{(d)^2} \implies \frac{(1.96)^2 * 0.46(1-0.46)}{(0.05)^2}$$

$$n = 382$$

Since the source population (2010) is less than 10, 000, by using population correction formula,

$$n_f = \frac{n}{1+n/N}, \frac{382}{1+382/2010}$$

$n_f = 321$, considering 10% non-response rate, total sample size was 353.

4.4.1.3 *Qualitative method*

The qualitative study sample included 12(twelve) people which included health professionals, expert patients (mother supporting groups) and reproductive age group female clients.

4.5.2. Sampling Technique

4.4.2.1. *Quantitative method*

All ART sites in the zone were included and SRS was used to select if more than one centre exists in one woredas. By using simple random sampling (lottery method), from the fifteen ARTcentres, thirteen of them were selected. The sample size was proportionally allocated to each ART centres based on one-month ART flow rate prior to the data collection.

By rule of sampling proportionate to population size, $p = \frac{353}{2010} = 0.17 = 17\%$ by the size of clients visiting ART clinics in one month in the health institutions to ensure proportionality.

Finally consecutive sampling method was used for women fulfilling the inclusion criteria on their appointment day using the registration log book until the required sample size was fulfilled.

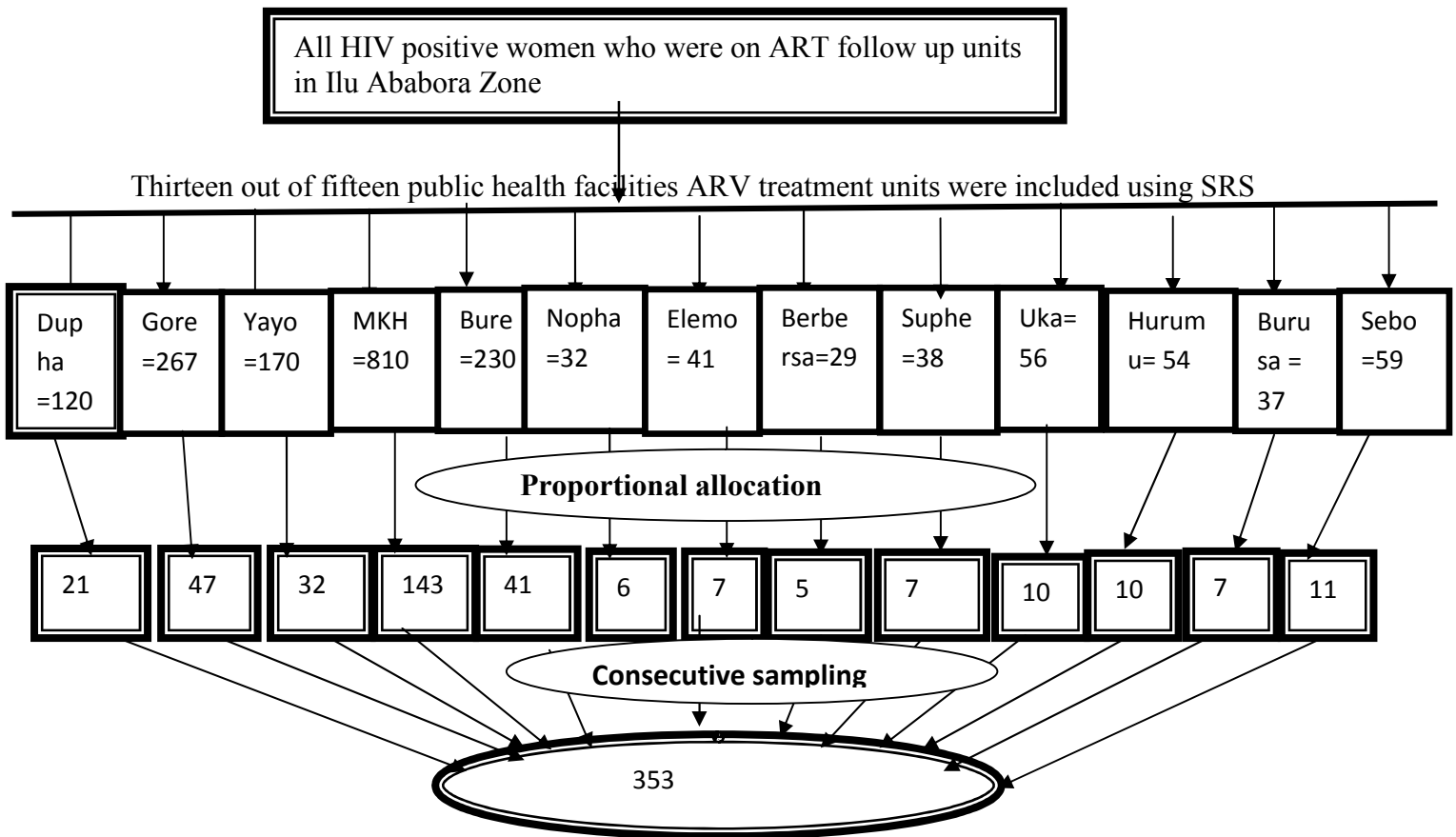


Figure 10: Schematic presentation of sampling procedure for a study done on unintended pregnancy and associated factors among HIV positive women attending 13 ART clinics at public health facilities of Ilu Ababora zone, Ethiopia, 2017.

4.4.2.2 Qualitative Method

Purposive random sampling was used based on professional back ground and experience in ART clinics; which included health professionals working in the ART clinic and HIV positive women (mother supporting groups, adherence supporters and female clients).

4.6. Variables of the study

4.6.1. Dependent/main variable

Unintended pregnancy

4.6.2. Independent variables

Socio-demographic and economic factors

Age, sex, religion, marital status, educational status of the women and their partner, ethnicity, occupation and income

Contraceptive Utilization

Family planning information, use, reason of not using contraception, information on unintended pregnancy

HIV diagnosis and PMTCT

Time of diagnosis, ART duration, status disclosure to partner and HIV status of partner, knowledge on MTCT, PMTCT, perceived health status

Reproductive characteristics

Number of pregnancy after HIV diagnosis, recent pregnancy, situation of pregnancy, number of unintended pregnancy, pregnancy outcome and HIV status of last born baby, reason not to avoid unintended pregnancy, number of live birth and alive children, plan to have children in the future and discussion with health care providers on pregnancy and childbearing and interest to discuss with health care providers on pregnancy and childbearing.

Sexual behavior and reproductive health information

Age at first sexual debut, number of partner, use of condom on the last sexual intercourse, reason of using condom, status disclosure to partner, opinion on provision of family planning method in ART clinic, need to discuss any RH issue (s) with ART provider, topics of discussion

4.7. Operational Definitions

Unintended pregnancy: a pregnancy reported by a woman as mistimed or unwanted(22).

Contraceptive utilization: practice of using at least one birth control methods(22).

Woman who are on ART follow up care: Women who had at least one visit to the selected treatment unit for receiving ART (22)

MTCT knowledge: if the client get a score mean and above then they will be categorized as knowledgeable and not knowledgeable if they get a score below the mean(46)

PMTCT knowledge: If they get a score below the mean then, they will be categorized as not knowledgeable and knowledgeable if score they score mean and above (46)

4.8. Data Collection Procedures (instrument and personnel)

A structured questionnaire for this study was adapted based on instruments that were used in other related and published studies in Ethiopia [(38)(22)]. The questionnaire has five parts; part I- SocioDemographic and economic data, partII-information on family planning use, partIII-HIV diagnosis, ART treatment condition and knowledge on MTCT and PMTCT, partIV-reproductive characteristics and partV-sexuality and reproductive health information.

The questionnaire was filled by ten diploma nurses working out of ART clinics and they were selected based on their qualification and previous experience. Interviewer guide was used for the in-depth interview in a separate class for those clients who were not participated in the quantitative study. Tape recorder; check list and field notes were used to record the relevant information. The in-depth interview took 30-45 minutes for each respondent. Supervisors were five health professionals who are BSc.nurses and were familiar with the study area to supervise the smooth running of data collection process before and during data collection period. The principal investigator has trained data collectors and followed and controlled overall data collection process.

4.9. Data management and quality control

The questionnaire was translated to Afan-Oromo and Amharic by language experts and then translated back to English to check for consistency by independent language expert. Five supervisors who have BScdegree were used for supervisory activities along with the principal investigator. Training was given to the data collectors and supervisor for two days on the objective, relevance of the study, confidentiality of information, respondent's right, about pre-test, informed consent and techniques of interview.

Before going to data collection, pre-test was conducted in Bedele hospital on 5 percent of the final sample (18 people) to ensure the validity of the survey tool. The result of pre-test was used to estimate the time allowed for each interview and to conduct some modifications in the questionnaire like; the logical flow of the questionnaire and changing the wording of questions.

The supervisors and the principal investigator has made frequent checks on the data collection process to ensure the completeness and consistency of the gathered information and errors found during the process was corrected daily at the end data collection.

Incorrectly filled or missed questionnaire was discarded from analysis. When there was a problem encountered during data collection, there was a discussion with supervisors and data collectors accordingly. For the qualitative data quality assurance, the interview was recorded in the tape recorder and the recorded information was transcribed in to written form word by word as described by the interviewee and then the word was transcribed in to English. The data was then categorized into major themes.

4.10. Data analysis procedures

The data was entered using EPI data version 3.4.3 statistical software and analyzed using SPSS version 21 statistical package. The descriptive statistics such as percentage, mean, cross tabulation, tables, and graphs were used to describe the data. Variables with P-value of less than 0.25 in binary logistic regression analysis were entered into the multivariate logistic regression analysis. So that, the separate effects of the various factors associated with pregnancy occurrence in HIV positive women was assessed. Odds ratio with 95 % confidence interval was used to examine associations between dependent & independent variables. P value less than 0.05 was considered statistically significant.

In qualitative data, the entire audio tape record interview was transcribed and translated to English language by language expert. The translated transcript was reviewed and examined thoroughly and was categorized into primary themes. Then the data was reviewed and combined into broader concepts. Finally the concepts were refined into major themes. Trends of contraceptive utilization, sexuality and reproductive health information is the major themes identified in the qualitative study.

4.11. Ethical Approval

Ethical Approval was taken from Jimma University, Institute of Health Sciences IRB, and IluAba Bora zone health department and to respective ART centres. The purpose, importance of the study and right not to participate and withdraw has been explained to the participants. Written informed consent was obtained from the participants after explaining the purpose of the study and for those participants age less than eighteen years, verbal consent was taken from their family. Confidentiality of the information was maintained throughout by excluding names as identification in the questionnaire & keeping their privacy during the interview by interviewing them in a separate class.

4.12. Dissemination of Results

The plan of diffusion of the result includes presentation at Jimma University faculty of health sciences school of nursing and midwifery and research conferences.

The report paper was also being disseminated to Oromia regional health bureau, IluAba Bora zone health department and other interested governmental and nongovernmental organizations. Publication on Scientific journal and online dissemination will be attempted.

Chapter 5: Results

5.1. Socio-demographic and economic characteristics of respondents at ART treatment units

Three hundred forty seven women were participated in the study giving a response rate of 98.2%. Majority of the respondents, 30% were in the age group of 25-29 and the mean age was 30.6 ± 5.8 years ().

Table 8: Distribution of study participants by their Socio-demographic and economic characteristics at Ilu Aba Bora zone ART centres, Ethiopia, 2017 (n=347)

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Table 8: Distribution of study participants by their Socio-demographic and economic characteristics at Ilu Aba Bora zone ART centres, Ethiopia, 2017 (n=347)

Age	Variable	N=347	Percent (%)
	15-19	18	5.2
	20-24	26	7.5
	25-29	104	30
	30-34	96	27.7
	>= 35	103	29.7
Residence	Urban	243	70.0
	Rural	104	30.0
Ethnicity	Oromo	226	65.1
	Amhara	95	27.4
	Tigre	20	5.7
	Others*	6	1.7
Religion	Orthodox Christian	133	38.3
	protestant	115	33.4
	Muslim	83	23.6
	Others**	16	4.6
Educational Status	Don't read and write	102	29.4
	Primary school	166	47.8
	Secondary school	53	15.3
	Diploma and above	26	7.5
Marital status	Married	202	58.2
	Single	34	9.8
	Widowed	47	13.5
	Divorced	64	18.4
	Unemployed	205	59.1
Occupation	Daily labourer	68	19.6
	Merchant	48	13.8
	Government employed	26	7.5
Income category	<500	134	38.6
	501-999	125	36.0
	>1000	86	24.8
	unstated	2	0.6
Spouse Education	Do not read and write	139	40.1
	Primary school	119	34.3
	Secondary school	43	12.4
	Diploma and above	46	13.3

* = Wakefata and catholic, ** = Gurage, Kafa, Agnuwak and Nuwer

5.2. Family planning use characteristics of respondents at ART treatment units

Majority, 303(87.6 %) of the respondents had ever heard any contraceptive method to avoid pregnancy of which 212 (61.4%) of them used at least one method of contraception after their HIV diagnosis. Most of the women, 65(30.6%) in the study used condom alone as a method of contraception ().

Table 9:Family planning use and types among HIV positive women attending 13 ART centres at public health facilities of Ilu Aba Bora zone, Ethiopia, 2017 (n=212)

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Table 9:Family planning use and types among HIV positive women attending 13 ART centres at public health facilities of Ilu Aba Bora zone, Ethiopia, 2017 (n=212)

Type of contraceptive used	N(212)	%
Tubal ligation	3	1.42
Condom alone	65	30.6
Dual method	25	11.7
Ocp	40	18.84
Depo	50	23.56
IUD	7	3.33
Implants	15	7.1
LAM	5	2.4
Abstinence	2	0.91

5.1.1 Reason of not using contraception

Among the non-users of contraception, 45(33.3 %) of them raise partner/spouse not willing to use contraceptive method as major reason (**Error! Reference source not found.**). The majority of in-depth interview discussants supported this finding; husband disapproval, pill burden and fear of contraception side effects make them to stop using contraception. Problem of husband decision making on contraception use was raised by some of the participant's. A 27 years old

married woman stated, “Since he is the house hold, I should have to ask him before I go to the health post to take my injection; otherwise he thought as disrespect and even so many things may happen....” A 30 years old divorced woman stated, “There is always a bleeding spot on my underwear due to the injection I took. So, I prefer to use condom even though didn’t use it always since it is not comfortable.”

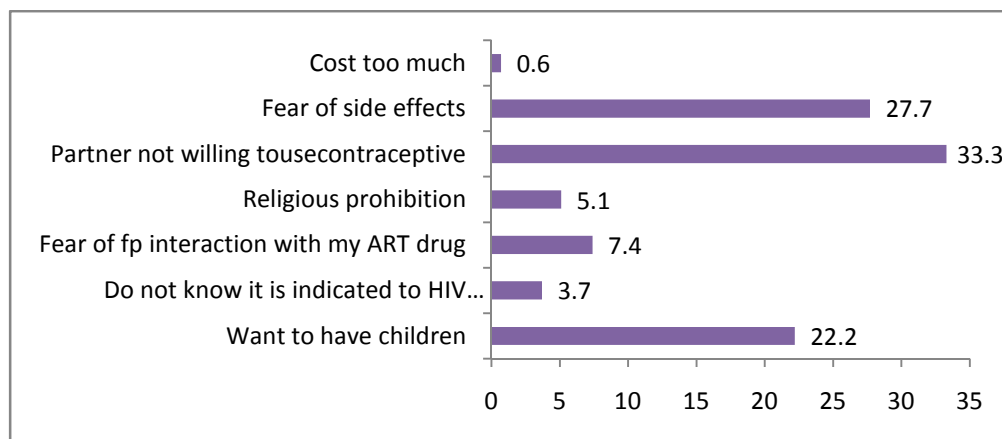


Figure 11: Reason for failure to use contraception for study done on unintended pregnancy and associated factors among HIV positive women attending 13 ART clinics at public health facilities of Ilu Ababora zone, Ethiopia, 2017

5.1.2. Information on contraception and unintended pregnancy

Among study participants, 207(59.7%) had been informed on family planning by their ART providers and 196(56.5%) were at the time of screening for ART eligibility. However, only 132(38.0 %) of the participants were informed on unintended pregnancy by their ART provider(Error! Reference source not found.) .The majority of in-depth interview discussants supported this finding, most of the health provider’s do not raise issues on contraception and its side effect management, pregnancy and child bearing mainly for those not married (has no formal marriage).A 25 years old single client said that, “They take our kilo, ask if any illness is there and give the prescription paper. This is the routine activity there; so, how can I mix this issue.”

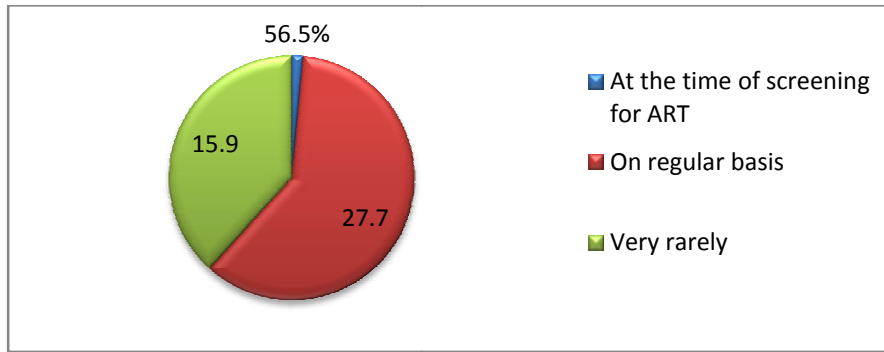


Figure 12: Time to information given on family planning for HIV positive women attending 13 ART clinics at public health facilities of Ilu Ababora zone, Ethiopia, 2017

5.3. HIV diagnosis and knowledge on HIV transmission methods of respondents at ART treatment units

Majority of the respondents, 213(61.4%) have a duration of five and above years since they know their HIV diagnosis while 284(81.8 %) of the participants had duration of thirty six and above months since they start ART treatment. Majority of the study participants, 303 (87.1%) have improved health status while 293(84.4%) of the respondents partner was tested for HIV and out of which 263(89.7%) of their husbands/partners are on ART. Most of the respondents, 320(92.2%) knew unprotected sexual intercourse as one method of HIV transmission; 239(68.9 %) knew breast feeding as means of MTCT and 214(61.7%) knew using ART as means of PMTCT and 195(56.2%) of the participants are knowledgeable on MTCT and PMTCT (

Table 10: HIV status and knowledge of transmission methods among HIV positive women attending 13 ART centres at public health facilities of Ilu Aba Bora zone, Ethiopia, 2017 (n=347):

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The majority of in-depth interview discussants supported this finding, they feel healthy after they start their ART and knew as HIV passes from mother to child, without specifying the prevention method and they have perception that consulting ART providers can prevent the transmission.

A 30 year’s female client stated, *“I am feeling healthy, even I don’t have headache that is why I didn’t afraid becoming pregnant as previous.”*

Table 10: HIV status and knowledge of transmission methods among HIV positive women attending 13 ART centres at public health facilities of Ilu Aba Bora zone, Ethiopia, 2017 (n=347):

Variable	Categories	Frequency	(%)
Duration of HIV	<5 years	134	38.6

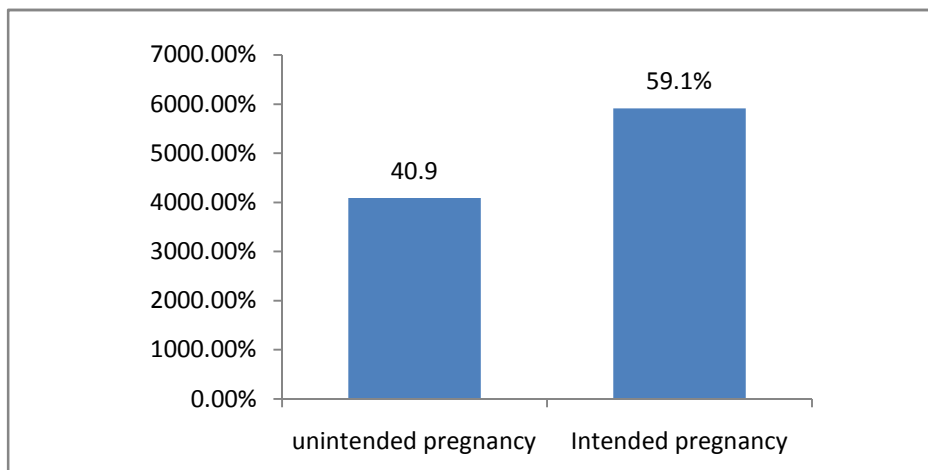
diagnosis	>= 5 years		213	61.4
ART duration	<36months		63	18.2
	>=36 months		284	81.8
Perceived health status	Improved		303	87.3
	No change		29	8.4
	Getting worse		6	1.7
	No response		9	2.6
Partner test	Yes		293	84.4
	No		36	10.4
	I don't know		18	5.2
Know partner status	Yes		289	83.3
	No		58	16.7
Partner status	HIV positive		191	66
	HIV negative		98	34
Partner ART status	Yes		263	75.8
	No		84	24.2
Methods of HIV Transmission	Un protected sexual intercourse	yes	320	92.2
		No	27	7.8
	Blood transfusion	yes	121	34.9
		No	226	65.1
	Unsterile instrument	yes	317	89.6
		No	30	9.6
	Mother to child transmission	yes	128	36.9
		No	219	63.1
Can HIV be transmitted from mother to child		yes	278	80
		No	69	20
When mother to child transmission(MTCT)	During pregnancy	yes	204	58.8
		No	143	41.2
	During delivery	yes	195	56.2
		No	152	43.8
	During breast feeding	yes	239	68.9
		No	108	31.1
Methods to decrease MTCT	Preventing un intended pregnancy	yes	109	31.4
		No	238	68.6
	Using ART	yes	214	61.7
		No	133	38.3
	CS delivery	yes	50	14.4
		No	297	85.6
	Exclusive breast feeding up to six months	yes	168	48.4
		No	179	51.6
Knowledge status	Not knowledgeable		142	43.8
	Knowledgeable		195	56.2

5.4. Reproductive characteristics of the respondents

Two hundred forty three (70%) of the respondents had a history of one to two pregnancy episodes after their HIV diagnosis. Of the recent pregnancy, 141(40.9%) were unintended (29%

mistimed and 11.9% unwanted) while 195(56.2%) of the total recent pregnancies resulted in live birth and 256(73.8%) of born babies were HIV negative. Contraceptive failure 51(36.1%) and 42 (29.7%) husband/partner disapproval are the major reason raised by participants faced unintended pregnancy.

One hundred ninety five (56.2%) of the participants have one to two live births in their life time while 288(83%) had one to two alive children. Majority of the respondents 130(37.7%) have a plan to have children in the future; 178(51.3%) have discussed with their ART providers on pregnancy and child bearing while 277(79.9%) of the participants still has a need to discuss on pregnancy and child bearing before pregnancy (



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The qualitative findings also strengthen this result. The in-depth interview participants explained, contraceptive failure (mostly oral pills and condom), partner’s disapproval on contraception use and discontinuation due to side effects were common causes for unintended pregnancy they had faced. A 35 years old adherence supporter said, “*The health provider’s do not raise issues on contraception side effects. This could be due to absence of separate room for family planning counselling and work load.....*”

The outcome of previous pregnancies influenced subsequent pregnancy intentions; having an HIV negative child gave some women confidence to become pregnant again. A 28 years client with HIV free baby stated, “*Even though the nurses discouraged my pregnancy, my decision makes me to have two HIV free babies which make my life joyful.*” Some of the respondents said that, most of the health professionals did not encourage them to get pregnant and that is why they hide their feeling and decide their pregnancy by themselves. A 25year’s married nuli para

woman stated, “Unfortunately, when I express my intention to get pregnant, the nurse strictly told me as pregnancy is life threatening for me. That is why I told my pregnancy after four months.”

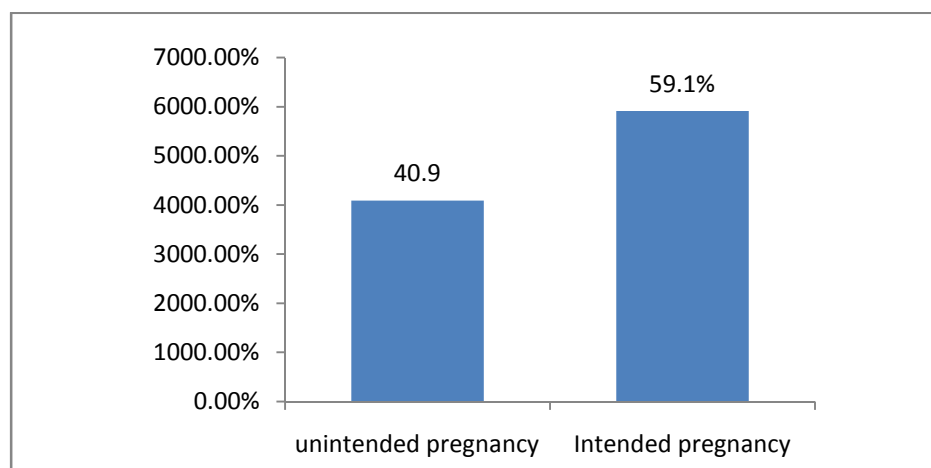


Figure 13: Type of recent pregnancy among HIV positive women attending 13 ART clinics at public health facilities of Ilu Aba Bora zone, Ethiopia, 2017

Table 11: Reproductive characteristics of HIV positive women attending 13 ART clinics at public health facilities of Ilu Aba Bora zone, Ethiopia, 2017 (n=347)

Variable		N	%
Number of pregnancy after HIV diagnosis	1-2	247	71.2
	>=3	100	28.8
Reason for failure to prevent unintended pregnancy	Luck of awareness on contraception	20	14.1
	Poor access	28	19.8
	Contraceptive failure	51	36.1
	Husband disapproval on contraceptive use	42	29.7
Outcome of the last pregnancy	Spontaneous abortion	77	22.2
	Wanted abortion	67	19.3
	Still birth	16	4.6
	Live birth	187	53.9
HIV status of last born baby	HIV positive	67	19.3
	HIV negative	256	73.8
	Not yet known/confirmed	24	6.9
Number of alive children	No children	39	11.2
	1-2 children	288	83
	>=3 children	20	5.7
Plan to have children	yes	130	37.5
	No	217	62.5
Number of children intended to have in the future	1-2 children	69	53.3
	>=3 children	61	46.7
Discussion with ART providers on pregnancy	Yes	178	51.3

and child bearing	No	169	48.7
Need to discuss on pregnancy and child bearing before pregnancy	Yes	277	79.9
	No	70	20.2

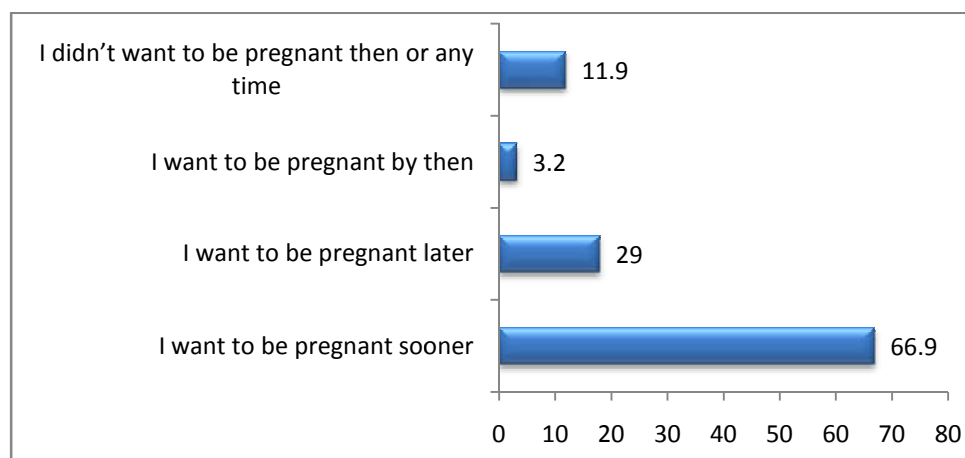


Figure 14: Situation of pregnancy among HIV positive women attending 13 ART clinics at public health facilities of Ilu Ababora zone, Ethiopia, 2017

5.5. Sexuality and Reproductive health information of the respondents at ART treatment units

5.5.1. Sexuality of the respondents at ART treatment units

More than half, 188(54.2%) of the study participants had their first sexual debut at the age of fifteen to nineteen. Majority of the study participants, 329(94.8%) had sexual intercourse in the last twelve months of which 271 (78.1%) had only one sexual partner and 200(57.6%) of them used condom usually. Three hundred seven (87.9%) of the participants had been disclosed their HIV-sero status to their partner and 289(83.3%) knows their partner's serostatus of which 229(66%) of their partners are HIV sero positive. Regarding the provision of family planning service in ART clinics, 154(44.4%) of them strongly support the idea (Figure 15) (

Table 12:Sexual behaviour of HIV positive women attending 13 ART centres at public health facilities of Ilu Aba Bora zone, Ethiopia, 2017 (n=347)

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Result from qualitative part indicated that, due to separation of family planning and ART service units, they face different problems such as long waiting time, lost their cards and forget their appointment day. In addition to that, the professionals in the other unit saw them differently and

this makes them afraid of openly discussing their problems. A 26 year client said that, “*After taking my ART, when I go for family planning the nurses were not there; I am angry for the long waiting time and go to my home. When I came on my next appointment, the urine test was positive.*”



Figure 15: Opinion of HIV positive women attending 13 ART clinics on provision of family planning in ART clinic at public health facilities of Ilu Ababora zone, Ethiopia, 2017

Table 12: Sexual behaviour of HIV positive women attending 13 ART centres at public health facilities of Ilu Ababora zone, Ethiopia, 2017 (n=347)

Variable		N	(%)
Age of first sexual debut(year)	15-19	188	54.2
	20-24	58	16.7
	25-29	101	29.1
Sexual intercourse with in the last 12 months	yes	329	94.8
	No	18	5.2
Number of sexual partner	1	271	78.1
	>=2	76	21.9
Condom use	Always	145	41.8
	usually	200	57.6
	sometimes	2	0.6
Last time sexual encounter	Last one week	143	41.2
	Last one month	108	31.1
	Last 1-6 months	12	3.5
	Last 6-12 months	5	1.4
	I don't remember	79	22.8
Condom use on recent sexual intercourse	yes	170	49
	No	115	33.1
	I don't remember	62	17.9
Reason of using condom	To prevent pregnancy	52	30.6

	To prevent other STI's	16	9.4
	My partner was HIV negative	34	20
	To protect myself from other strains of the virus	10	7.1
	Just health professional's advice	58	34.1
Status disclosure to partner	Yes	307	87.9
	No	40	12.1

5.5.2. Reproductive health information given for the respondents in the ART treatment units

Majority, 294(84.7%) of the study participants needs to discuss any RH topics with their ART providers. However, 158(45.5%) had ever discussed RH issues with their ART providers and condom use (92.6%) was the most commonly discussed topic while safe abortion service 20(12.7%) was the least from discussed RH topics (**Error! Reference source not found.**).

Qualitative part of the study identified that, there is a need of integrating reproductive health care services with the general ART services as this is advantageous for the quality as well as comfort and accessibility of these services for the clients.

A 35 years old female doctor said, "Since they are human beings, they have full right to have children; but, we always give emphasis to their health to decrease both MTCT and make mothers healthy. Hence, as to me, it would have been better for the clients as well as the quality of the service if RH services were linked to the general ART service."

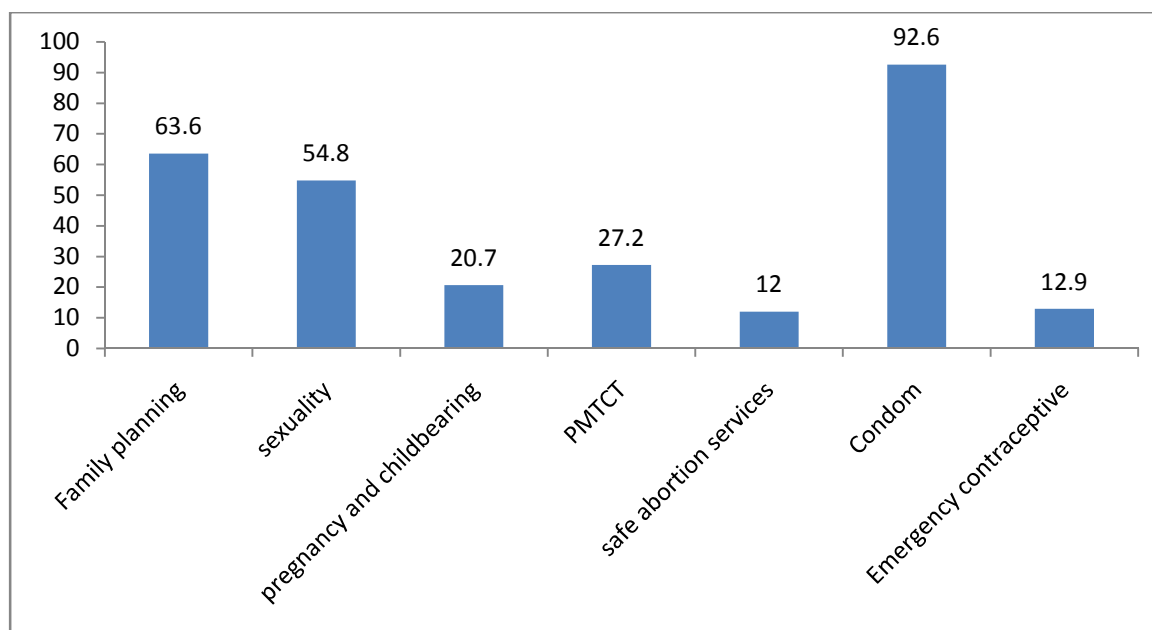


Figure 16: Reproductive health topics discussed between ART providers and HIV positive women at 13 ART clinics at public health facilities of Ilu Ababora zone, Ethiopia, 2017

Factors associated with unintended pregnancy among women attending ART clinics at public health facilities of Ilu Aba Bora zone

In the binary logistic regression, marital status, occupation, contraceptive use after HIV diagnosis, recent intended pregnancy, Situation of the pregnancy, sexual intercourse in the last 12 months and discussion with ART provider on RH issues are factors associated with unintended pregnancy occurrence among HIV positive women on HAART (

Table 13: Bivariate logistic regression result for factors associated with unintended pregnancy among HIV positive women attending 13 ART clinics at Ilu Aba Bora zone ART centres, Ethiopia, 2017 (n=347).

Table 13: Bivariate logistic regression result for factors associated with unintended pregnancy among HIV positive women attending 13 ART clinics at Ilu Aba Bora zone ART centres, Ethiopia, 2017 (n=347)

Variable		Unintended pregnancy		COR(95% CI)	p-value
		Yes	No		
Marital status	Married	93(46)	109(54)	1	.203
	Single	14(41.2)	20(58.8)	1.8[1.03,3.40]*	.039
	widowed	18(38.3)	29(61.7)	1.54[0.64,3.65]	.327
	Divorced	20(31.3)	44(68.8)	1.36[0.61,3.01]	.440
Occupation	Unemployed	105(51.2)	100(48.8)	3.5[1.35,9.07]*	.01
	Daily labourer	21(30.9)	47(69.1)	1.4[0.523,4.24]	.010
	Merchant	13(23.1)	35(72.9)	1.23[0.40,3.76]	.456
	Government employed	6(23.1)	20(76.9)	1	.707
Contraceptive use after HIV diagnosis	No	76(56.3)	59(43.7)	2.6[1.71,4.16]*	0.02
	YES	69(32.5)	143(67.5)	1	
Knowledge status on MTCT and PMTCT	Not knowledgeable	88(60.7)	64(31.7)	2.4[1.62,3.16]*	0.035
	Knowledgeable	57(39.3)	138(68.3)	1	
Recent intended pregnancy	No	117(53.2)	103(46.8)	4.0[2.44,6.59]*	0.049
	Yes	28(22%)	99(78)	1	
Situation of the pregnancy	I want to be pregnant sooner	84(36.8)	144(63.2)	1	.047
	I want to be pregnant later	27(45.8)	32(54.2)	.44[0.23,0.83]*	.015
	I want to be pregnant by then	9(56.3)	7(43.8)	.64[0.29,1.4]	.268
	I didn't want to be	25(56.8)	19(43.2)	.97[0.30,3.09]	.969

	pregnant any time in the future				
Sexual intercourse in the last 12 months	Yes	142(43.2)	187(56.8)	3.7[1.07,13.36] *	0.038
	No	3(16.7)	15(83.3)	1	
Discussion with ART provider on RH issues	Yes	139(88)	19(12)	1	
	No	63(33.3)	126(66.7)	14.6[8.3,25.7]	0.019

*significant

In the multivariate logistic regression, occupation, contraceptive use, knowledge on MTCT and PMTCT and discussion on RH issue are factors associated with unintended pregnancy occurrence among HIV positive women taking HAART (**Error! Reference source not found.**)

Table 14:Multivariate logistic regression result for factors associated with unintended pregnancy among HIV positive women attending 13 ART clinics at Ilu Aba Bora zone ART centres, Ethiopia, 2017(n=347)

Variable		Unintended pregnancy			
		Yes	No	AOR[95%CI]	P-Value
Occupational status of the woman	Unemployed	105(51.2)	100(48.8)	2.42[1.34, 4.36]*	0.032
	Daily labourer	21(30.9)	47(69.1)	0.72[0.25, 2.05]	0.16
	Merchant	13(23.1)	35(72.9)	0.80[0.34,1.84]	0.07
	Government employed	6(23.1)	20(76.9)	1	0.22
Contraceptive use	No	76(56.3)	59(43.7)	2.65[1.69,4.13]*	0.019
	YES	69(32.5)	143(67.5)	1	
Knowledge status on MTCT and PMTCT	Not knowledgeable	88(60.7)	64(31.7)	3.1[1.92,5.24]*	0.02
	Knowledgeable	57(39.3)	138(68.3)	1	
Discussion with ART provider on RH issues	Yes	139(88)	19(12)	1	
	No	63(33.3)	126(66.7)	1.83[1.09,3.07]*	0.04

*significant

Chapter six: Discussion

The study revealed that, 40.9% of the recent pregnancies after HIV diagnosis were unintended. The finding is in line with a study held in Addis Ababa 46%(22) and Enugu, Nigeria 37.2% (26). However, this finding is higher than the national unintended pregnancy 24% but in line with in Oromia Regional State report, 39.8% (47).

The finding is lower than a study done in Johannesburg, South Africa 62%(25), another study in Cape town South Africa 50%(27) and Zambia 54% (24). This variation could be attributed to difference in methodology, in case of Johannesburg study, only women in the age group of 18–35 and only non-pregnant were included, difference in sample size and year of study.

This finding is also lower than the study held in Uganda 53%(29). The variation could be due to, difference in population (i.e. includes male in case of Uganda), socio-demographic, economic and cultural difference among the study subjects, policy and health system structure difference.

This finding is lower than the study held in United states 85% (31). The discrepancy could be due to difference in the health care system and policy, sample size, year of study, Socio-demographic economic and cultural difference of the study participants; in case of USA, those only with the age of ≥ 18 years were included. This finding is also lower than study held in London 85% (32). The discrepancy could be due to difference in the health care system and policy, methodology, sample size, year of study, Socio demographic, economic and cultural difference of the study participants; in the case of London, it only includes HIV-infected pregnant teenagers aged 13-19 years.

On the other hand, the result is in contrast to the currently increasing awareness of modern contraceptive methods, availability of services and increasing contraceptive prevalence rate (48). This could be, since most of the methods used were exclusively short-acting requiring daily (OC), quarterly adherence (DMPA), or with every act of sexual intercourse (male condom). So, Incorrect and/or inconsistent use of FP methods also reduces the effectiveness of the user-

dependent contraceptive methods. In addition, 200(57.7%) of the participants are in their early reproductive age (25-34 years), 205 (59.1%) of them are also unemployed; 139(40.1%) of their husbands do not read and write.

These factors may predispose them by pressuring their decision making power on contraception use and less likely to get information on the risk of unintended pregnancy as knowledge of PMTCT increase with increasing education and wealth(48).

This study indicated that, occupation of the woman is associated with unintended pregnancy occurrence among HIV positive women attending ART clinics. Occurrence of unintended pregnancy is three times more likely among unemployed (AOR= 3.36, 95% CI = 1.55, 7.26) as compared to government employed. The majority of in-depth interview discussants supported this finding; as economical dependency makes them to accept the every saying of their partner's decision on contraception use and child bearing. A 35 year's married pregnant women said, *"I have no income, I have to make my husband happier to keep our marriage and fill his need that is the answer to this pregnancy."*

This is may be, majority of employed women have high educational status and they have access to information about unintended pregnancy from different sources, this may increase their understanding on the consequence of unintended pregnancy in addition to increasing their decision making power. In line with this study, women with unintended pregnancies were more likely to be unemployed on study held in Botswana(49). This could be, financial insecurity was not only a substantial barrier to obtaining the care needed to protect the women's sexual and reproductive health, but also affects the women's decision making about having children, more children or no children(33)

Finding from this study revealed that, contraceptive use after HIV diagnosis is associated with unintended pregnancy among HIV positive women taking ART. Unintended pregnancy is two times more likely to occur among women not using contraceptive after their HIV diagnosis (AOR=1.85, 95%CI =1.18, 3.65) as compared to contraceptive users.

Unlike this study, unintended pregnancy is two times more likely to occur among women used contraception in the past twelve months as compared to non-users on a study held in Cape town, South Africa(27). The discrepancy could be due to difference in the health care system and policy, methodology, sample size, year of study, socio demographic, economic and cultural and level of awareness difference of the study participants.

Having knowledge on MTCT and PMTCT is associated with unintended pregnancy occurrence among HIV sero positive women taking ART. Those not knowledgeable on MTCT and PMTCT are three times more likely (**AOR**=3.18, 95%CI =1.92, 5.24) to have unintended pregnancy as compared to knowledgeable. The majority of in-depth interview discussants supported this finding, women with an experience of unintended pregnancy did not have adequate knowledge on methods of MTCT and PMTCT; there is a confusion on transmission during pregnancy among some of them.

This may imply that, women having knowledge on MTCT and PMTCT knew the risk of HIV transmission and consequence of un-intended pregnancy; they protect themselves from the risk of unintended pregnancy. This was also supported by, women having awareness on MTCT are five times more likely to use modern contraceptive as compared to those not having information and this could decrease their risk to have un intended pregnancy(35). In addition, women not knowledgeable on PMTCT are 59% less likely to use family planning as compared to those knowledgeable; which increase their risk of getting unintended pregnancy(38).

Having discussion on RH issues with ART provider is associated with unintended pregnancy occurrence among HIV positive women on ART. Unintended pregnancy is two times more likely to occur among women having no discussion on RH issues with their providers as compared to those discussed (AOR=1.83, 95%CI=1.09, 3.07).

The majority of in-depth interview discussants supported this finding, low attention were given to discussion on RH issues and most of counselling focused on nutrition and adherence issues and they couldn't express their feeling on RH issues for fear of time constraint and work load.

A 25 years old single client said that, *“They take our kilo, ask if any illness is there and give the prescription paper. This is the routine activity there; so, how can I mix this issue.”*

This could be, contraception counselling which is one part of RH counselling has been shown to be effective to decrease inconsistency and misuse of available contraceptive methods; increase their use of modern contraception which prevent the occurrence of unintended pregnancy(35,50). And also, informing HIV-positive women of childbearing age about available reproductive options, planned conception and safer motherhood are necessary for preventing

unintended HIV-positive pregnancies by making them to discuss their intention without fear and misunderstandings(51)

Strength and limitations of the study

Limitations

Cross-sectional nature of the study: The study used cross sectional study design; hence it is not possible to clearly establish cause-effect relationship between the dependent and explanatory variables.

Social desirability bias: respondents may provide desired answers by their provider.

Chapter Seven: Conclusion and Recommendation

7.1 conclusions

The study revealed that, 40.9% of the recent pregnancies after HIV diagnosis were unintended; the prevalence is high. Unemployment, contraceptive non use, being not knowledge on MTCT and PMTCT and having no discussion with ART providers on RH issues were significantly associated with occurrence of unintended pregnancy among HIV positive women attending ART clinics in the zone.

7.2 Recommendation

To avoid unplanned pregnancies, HIV-infected women need access to effective family planning services and risk reduction discussions during routine care visits. So,

Ilu Aba bora zone health department

- It is better if the zone strength the monitoring and evaluation on active implementation of reproductive health integration with ART service.

Health care providers in the research setting

- Comprehensive and non-judgmental reproductive health counselling is better if implemented for all women in the ART units despite the marital status as every woman in the reproductive age group are potentially exposed to unintended pregnancy.
- Pro-active family planning counselling is better if provided not only at the time of screening patients for ART eligibility but also and more importantly, on a regular basis there after once a woman enrolled in the ART units.
- The counselling services are better if emphasize on the meaning of unintended pregnancy within the particular context of being HIV sero positive and the need to take in to account not only the risk of transmission to the child but also of the difficulty of combining being a parent with the constraint of their illness.
- HIV-positive women are better if supported and properly counselled to enable them to decide whether they want to be pregnant and when to be pregnant; in addition to laying emphasis on the risk, providing adequate information on practicable reproductive options for individuals affected by HIV will assist them in making an informed reproductive choice rather than risk taking behaviour.

Researchers

Researchers are advised to conduct further studies on same issue outside of the healthcare system and in different parts of the country to come up with more representative results. Moreover, occurrence of unintended pregnancy among HIV positive women can be better studied with a different study design (possibly with a follow up cohort design)

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Annex I- Data Collection Tools

Information sheet

Questionnaire Number _____

Hello! Good morning/ afternoon?

I am a research team member of Jimma University and carrying out a study for partial fulfilment of masters on a title **UNINTENDED PREGNANCY AND ASSOCIATED FACTORS AMONG HIV POSITIVE WOMEN ATTENDING ART CLINIC AT ILU ABA BORA ZONE, SOUTH WESTERN ETHIOPIA**. The result of this study will produce information that will be useful in giving insight to magnitude of pregnancy and it will support the way to prevention of mother to child transmission and new HIV infection by preventing un-intended pregnancy and discussing strategies to safer conceptions. Study will involve you completing the questionnaire that is enclosed with this data. Confidentiality and anonymity is fully assured, as your name is not required on the questionnaire and only the research team will have access to the

result. It will not affect you in any way. Therefore, you are kindly requested to respond genuinely and voluntarily with patience.

Thanks!

Name and Sign of the consenting _____

Signature of the volunteer participant _____

Date _____

Are you willing to participate in this study?

Yes - Continue to the next page

No- Skip to the next participant

Consent form

In signing this document, I am giving my consent to participate in the study titled magnitude and associated factors of unintended pregnancy among HIV positive women attending ART clinics at Ilu Aba bora zone, 2017. I have been informed that the purpose of this study is to assess the magnitude and associated factors of unintended pregnancy and I have understood that participation in this study is entirely voluntarily.

I have been told that my answers to the questions will not be given to anyone else and no reports of this study ever identify me in any way. I have also been informed that my participation or non-participation or my refusal to answer questions will have no effect on me. I understood that participation in this study does not involve risks.

I understood that Tigist Teklu is the contact person if I have questions about the study or about my rights as a study participant.

Respondent's signature _____

If no, skip to the next participant

Date of interview: _____ Time started: _____ Time finished: _____

Interviewer Name _____ Signature _____ Date _____

Supervisor's name _____ Signature _____

Results of interview questionnaire

Completed

Refused

Partially completed

Annex III: Questionnaire; English Version for quantitative part

PART I -SOCIO DEMOGRAPHICAND ECONOMIC CHARACTERISTICS			
No	Questions	Questions Categories	Skip
101.	How old are you?	_____ (age in full years)	
102.	Where is your current residence?	1. Urban 2.Rural	
103.	What is the highest level of education you reached?	1.No formal education 2.1-4th grade 3.5-8 th grade 4.9-12 th grade 5.Diploma and above	
104.	What ethnic group do you belong to?	1.Oromo 2.Amhara 3.Tigre others(specify)___99	
105.	What is your religion?	1.orthodox 2.muslim 3.protestant Others(specify)___99	

106.	What is your current occupational status?	1.un employed/house wife 2.daily labourer 3.merchant 4.government employee Others(specify) ___ 99	
107.	What is your current marital status?	1.married 2.single 3. widowed 4.divorced	
108.	What is the total monthly family income?	Your own income ___ ETB Husbands income ___ ETB	
109.	What is the highest educational level your spouse/partner completed?	1.No formal education 2.1-4th grade 3.5-8 th grade 4.9-12 th grade 5.Diploma and above	
PARTII. Information on contraceptive utilization			
201.	Have you ever heard of any contraceptive methods that couple can use to avoid or delay pregnancy?	1.yes 2.No	205
202.	If yes to Q. 201, which methods have you heard about? (Do not read the list. Check all that apply Probe: anything Else)	1. Female sterilization/Tubal ligation 2. Male sterilization/Vasectomy 3. Condom 4. Pills (OCP) 5. Injectable 6. IUD 7. Implants 8. Calendar/ 9. LAM 10. Abstinence	
203.	Have you (your partner) ever used any contraceptive methods after your HIV diagnosis?	1.yes 2.no Don't remember...98	208
204.	If yes for Q 203, specify the method you or your partner used? (More than one answer is possible)	1.Female sterilization/Tubal ligation 2.Male sterilization/Vasectomy 3. Condom 4. Pills (OCP) 5. Injectable 6. IUD 7. Implants 8. Calendar/ 9. LAM 10. Abstinence	
205.	Have you ever been informed by your ART provider/counsellor about any contraceptive methods?	1.yes 2.no I don't remember...98	
206.	Have you ever received information on unintended pregnancy from your counsellor?	1.Yes 2.No I don't remember-----98	

207.	If Q206 is yes, how often?	1.At the time of screening for ART, 2.Eligibility 3.On regular basis 4.Very rarely	
208.	Why don't you/ your partner want to use FP? (more than one answer is possible)	1.Want to have child/children 2.Don't know it is indicated to HIV positive women 3.Fear of FP method interference with my ART drug 4.Religious prohibition 5.Partner/spouse not willing to use contraceptive 6. Fear of side effects 7. Cost too much Other reason (specify)_____ 99	
Part III Information about HIV diagnosis, ART treatment condition and knowledge about MTCT and PMTCT			
301.	How long it has become since you know your HIV status?	____year/s and ____ month/s I don't remember.....98 no response.....97	
302.	When did you start receiving ART treatment?	____ year/s and ____ month/s Don't remember...98 No res No response.....97	
303.	In your opinion, how is your perceived health status after you start taking ART?	1.Improved 2. No change 3. Getting worse no response.....97	
304.	Is your partner tested?	1.Yes 2.No I don't know---98	
305.	If yes, what was his test result?	1. HIV positive 2.HIV negative No response...97	
306.	If your partner is positive, is he on ART?	1.Yes 2.No I don't know---97	
307.	If the answer to 305 is no, then what is the reason behind?	1.Because I tested 2.I don't disclose 3.He doesn't want 4.He is HIV sero negative	
308.	What methods of HIV transmission do you know? (more than one answer is possible)	1.Sexual intercourse 2.Blood transfusion 3.Unsterile instrument 4.MTCT	
309.	Can HIV be transmitted from mother to child?	1.yes 2.No I don't know---97	
310.	If the answer to Q308is yes, when will the transmission occur? (they can give more than one answer)	1.during pregnancy 2.during delivery 3.during breast feeding I don't know---97	

311.	Do you know any method that decreases the risk of MTCT?	1.Yes 2.No I don't know---97	
312.	If yes, what do you think is it? (They can give more than one response)	1.Preventing unintended pregnancy 2. Using ARVs 3. C/s delivery 4.Exclusive breast feeding up to six months after delivery others (specify)----99	
Part IV Information on pregnancy and child birth			
401.	How many times you become pregnant after you know your HIV status?	_____	
402.	Was your recent pregnancy after your HIV diagnosis intended?	1.Yes 2.No	If yes skip to 408
403.	Thinking back to just before you got pregnant, how did you feel about the situation of your pregnancy?	1.I wanted to be pregnant sooner 2.I wanted to be pregnant later 3.I intend to be pregnant by then 4.I didn't want to be pregnant then or at any time in the future	
404.	Would you tell me how many of those pregnancy/pregnancies was/were unintended by the time you became pregnant?	_____	
405.	What was the outcome of the last pregnancy?	1. Spontaneous abortion 2.Medical abortion 3. Still birth 4.live birth Others (specify)...99	
406.	What was the HIV status of the last born baby?	1.HIV positive 2.HIV negative 3.Not yet confirmed/known Others (specify)...99	
407.	If you had been pregnant when you did not want to, what was the reason you could not avoid becoming pregnant?	1.Lack awareness of contraception method 2. Poor access to contraception 3.Contraceptive failures 4.Husband or partner disapproval on contraceptive use 5.fear of method related side effects 6. fear of ARV interaction with the contraceptive method others specify-----99	
408.	How many live births have you had in your lifetime?	_____ (total number of live children) 1.never give a live birth	
409.	How many of them are alive now?	. _____ (total number of live children)	
410.	“Are you planning to have [any more] children in the future?”	1.yes 2.no	
411.	If yes, how many children do you want to have in the future?	. _____ (total number of live children)	
412.	Have you ever discussed with your ART provider/counsellor about issues related with pregnancy and child bearing?	1.yes 2.no Don't remember...98	

413.	Would you like to discuss with your ART provider/ counsellor about pregnancy and child bearing in advance?	1.yes 2.no No response...97	
Part V. Information on sexual behavior and reproductive health information			
501.	What was the age of your first sexual debut?	_____(age in full years) I don't remember...98 No response....97	
502.	Have you had sexual intercourse during the last 12 months?	1.yes 2.no I don't remember...98	
503.	How many different partners have you had sexual intercourse with during the last 12 month?	____number of partners I don't remember...98	
504.	Thinking about all times you had sex with any partner in the last 12 month; would you say that you and your partner(s) used a condom?	1. Always 2.usualy 3.sometimes 4.rarely 5.never used	
505.	When was the last time you had sexual encounter?	1. Last one week 2.last one month 3. Last 1 - 6 months 4. Last 6 - 12 months 5. I don't remember	
506.	Have you used condom during your last sexual intercourse?	1.Yes 2.No Don't remember...98	
507.	If yes to Q506, what was the reason you used condom? (They can give more than one response)	1. To prevent pregnancy 2.Toprevent other sexually transmitted infections 3. My partner HIV status was negative 4.To protect myself from acquiring other strains of HIV virus 5.Just health professional's advice Other (specify)...99	
508.	Did you disclose your serostatus to your current partner/spouse?	1. Yes 2. No 3.Don'thavespouse/partner currently Other (specify)...99	
509.	What is your opinion regarding the provision of FP service in ART clinic?	1. Strongly support 2.support 3.no opinion 4.oppose 5.strongly oppose	
510.	Do you have the need to discuss any RH issue (s) with your ART Provider?	1.yes 2.no	
511.	Have you ever discussed any RH Topic (topics) with your ART Provider?	1.yes 2.no Don't remember...98	

512.	If the answer to Q 602 is yes, What RH topics you have ever discussed with your provider? (They can give more than one response)	1. Family planning and contraception 2.sexuality 3.pregnancy and child bearing and HIV 4.PMTCT 5.safe abortion services 6.condom 7.emergency contraception	
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Questionnaire; English Version for Qualitative part (in-depth interview)

Background information
Age District: Kebele Name of Health facility Date : Start time Finish time: Participant: Transcriptists:
Participant information
Number of participants:

Participants	Age	Marital status	current occupation	monthly income	education level	Ethical consent
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1. How HIV is talked about in your community? Probe disclosure, stigma
2. How pregnancy among HIV positive talked about in your community? Respected as usual, special care
3. What do you think is/are the factors related with the occurrence of unintended pregnancy among women with HIV? What health services/care are important to prevent unintended pregnancy among them
4. Do you think maternal socio demographic and Socio-economic status had relation with occurrence of unintended pregnancy? probe age, parity, marital Status, family-size, spouse sero status, disc lore Knowledge about PMTCT, Information on access of family planning service, Initiation of ART, previous experience of delivery of free baby . If yes how?
5. How do you rate the utilization of family planning among HIV positive women...? (Probe, why Opposition from husbands about contraception use, knowledge/information lack, access to contraception, health providers approach (interaction), lack of confidentiality and counselling, fear of side effects.....)
6. What do you suggest as ways for improving pregnancy occurrence among women on ART?

Information sheet Afan Oromo Version

Maxxanne I- Odeeffannoo Dimshaashaa

Lakk.Gaafannoo_____

Baga nagaan dhufte - Akka, bulte /Akkam oolte?

Ani qorannoo ogeessa Yuunivarsitii Jimmaan gaggeeffamuuf akka odeeffannoo funaanaati gragaarsaKenuuf Kan hojjetaa jirudha. Qorannichi Kan gaggeeffamu Dubartoota HIV/AIDS faana jiraatan irrattidha. Kaayyoon qorannichaaSadarkaa uumama ulfaa’uu fi rakkoolee isaan muddachaa jiru addabaasuun yaada furmaataa kaa’uudha.Yaadni furmaataa qorannoo kanaan kennamu qaamoota dhimma Kana irratti gargaarsa kennaa jiraniif kallattii isaan itti

ojjechuuqaban agarsiisuuf tajaajila.Amanamummaan odeeffannoo ati kennituu kabajamaa Kan ta'eedha. Maqaan nama odeeffannoo kennuu qorannoo keessatti kan hin hammatamneef hiccitiin dhuufaa isaa kabajamaadha.Qorannoon kun karaa kamiinu miidha si irratti geessisu hin qabu. Odeeffannoon argamu hundi dhimma qorannoof qofa kan ooluudha.Kanaaf, Odeeffannoo kennitu hunda fedhii fi dhugaa irratti hundaaf'uun akka naa kennitu kabajaan si gaafadha. Atooma naa gootu hundaaf durseen si galateeffadha.

Mallattoo ragaa funaanaa _____

Mallattoo hirmaataa qorannoo _____

Guyaa _____

Argama nama qorannoo gaggeessuu

Tigist Takluu

Moobaayila: +251 910091307, E-mail tigist16teklu@gmail.com

Qorannoo kana keessatti hirmaachuuf fedhii qabdaa?

Eeyyee- Fuula itti aanutti fufi

Lakkii Hirmaataa biraatti darbi

Annex VI-Consent form Afan Oromo version

Maxxannee II: Guca waliigaltee

Guca kana mallatteessuun qorannoo dhimma dubartoota HIV/AIDS fana jiraatan irratti gaggeeffamu kanaaf fedhii kootiin hirmaachuuf waliigaleera.Qorannoon kun dhibbaa kamiyyuu akka narratti hin geessisnee fi fedhii kootiin qofa akkan hirmaadhu nati himameera.Gabaasni qorannoo kanaas karaa kamiinuu hiccitii koo maqaa koo faana walqabsiisuun qaama biraati akka hin dabarsine waadaan naa seenameera.

Gaaffii dabalataa yoon qabaadhes qorataa olaanaa Adde Tigist Takluu gaafachuun akkan qulqulleeffachuu danda'au hubadheera.

Mallattoo hirmaataa _____

Guyyaa gaaffii qomaa: _____ yeroo itti eegalame: _____ yeroo itti xumuurame: _____

Maqaa gaafataa _____ Mallattoo _____ Guyyaa _____

Maqaa too'ataa _____ Mallattoo _____

Gaafileen qorannoo

1. xumuuramaniiru

2. nididame

3. hanga tokko xumuurameera

Kutaa I - Odeefannoo dhuunfaa			
	Gaaffii	Gosa gaaffii	Dabri
101.	Umriin kee meeqa?	_____ (wagga guutuun)	
102.	Yeroo ammaa eessa jiraatta?	Magaalaa 2. Baadiyyaa	
103.	Sadarkaan barumsaa keetii kami?	1. Dubiisuf barreessu kan hindandeenye 2. Kutaa1-4 3. Kutaa5-8 4. Kutaa9-12 5. Diipiloomaa fi isaa ol	
104.	SabakamKeessattihammamatamta?	1. Oromoo 2. Amaara 3. Tigiree kanbiroo(barreessi)...99	

105.	Amantaa kam hordofta?	1.Ortodoksii 2.Musiliima 3.pirotestantii kanbiroo(barreessi)...99	
106.	Yeroo ammaa hojii kam irratti bobbaatee jiraatta?	1. Hojii hin qabu/Hadha warraati/ 2.Hojii humna 3. Daldala 4. Hojjetaa motummaa kanbiroo(barreessi)...99	
107.	Sadarkaan gaa'ila?	1. Eerumeen jira 2.Hin heerumne 3.Na irraa du'eera 4. Addaan baheen jira	
108.	Galiin maatii keetii ji'aa meeqa ta'a?	Galii mataa keetii () (Qarshii Itiyoophiyaan)	
109	Sadarkaan barumsaa abba manaa keetii meeqa?	1.Dubisuufi bareessu kan hindandenye 2.Kutaa1-4 3.Kutaa5-8 4.Kutaa9-12 5.Diipiloomaa fi isaa ol	
Kutaa II. Odeeffannoo itti fayyadama karoora maatii			
201.	Kanaan dura tooftaa ykn dawaan/qorichi ulfa tursiisu ykn dhorku jiraachuu isaa beektaa?	1.Eeyyee 2. Lakkii	205
202.	Deebinkee 201 eeyyee yoo jette, Mala isa kam dhageesee beekta? <i>(filannoo kennaman osoo hin dubbisiin akka sitti himan godhi)</i>	1. Dubartii kan masaneessu/Tuballigation/ 2. Dhiira kan masaneessu/Vasectomy/ 3. Kondomii 4. qoricha (OCP) 5. lilmoo 6. IUD 7. Harka keessatti kan awwaalamu 8. Marsaa lagu saganteessu 9. LAM 10. wal-qunamtii saalaa irraa of qusachu	
203.	Erga vayirasii HIV'n qabamtee, ati ykn abban warraa kee mala ulfa ittisu fayadamtee /ni beektaa/tuu?	1.Eeyyee 2.Lakkii Hin yaadadhu...98	
204.	Deebinkee 203 eeyyee yoo jette, Mala isa kam fayadamtee /ni beektaa/tuu? <i>(filannoo kennaman osoo hin dubbisiin akka sitti himan godhi)</i>	1. Dubartii kan masaneessu/Tuballigation/ 2. Dhiira kan masaneessu/Vasectomy/ 3. Kondomii 4. qoricha (OCP) 5. lilmoo 6. IUD 7. Harka keessatti kan awwaalamu 8. Marsaa lagu saganteessu 9. LAM 10. wal-qunamtii saalaa irraa of qusachu	
205.	Akkaataa fayyadama qoricha ulfaa'uu dhorkuu irratti gorsi ogeessaa sii kennamee beekaa?	1.Eeyyee 2.Lakkii Hin yaadadhu...98	
206.	Dhimma fedhii malee ulfaa'uu irratti gorsa ogeessaa argattee beektaa?	1.Eeyyee 2.Lakkii Hin yaadadhu...98	

207.	Deebiin Gaaffii 206, Eeyyee yoo ta'e, yoomii?	1. Yeroon qorannoo dhiigaa gaggeesse 2. Yeroo yerooti 3. Al tokko tokko	
208.	Maalif tajaajila karoora maatiiti fayyadamuu hin barbaaddan? (Deebii tokkoo ol kennuun nidandaa'ama)	1. Daa'ima/mman godhachuu gatii barbaanneef 2. Nama HIV faana jiraatuuf barbaachisummaa isaa gatii hin beekneef 3. Rakkoon inni qoricha fudhachuu irratti qabu beekuuf 4. Amantiin dhorkaa ta'uu isaa 5. Abbaan manaa koo fedhii isaa gatii hin qabaanneef 6. Miidhaa cinaachaa isaa gatiin sodaadheef 7. baasii olaanaa gatii gaafatuuf Sabababiroo(barreessi) 99	
Kutaa III Odeeffannoo dhimma HIV fi PMTCT			
301.	Vaayirsiin HIV qaama keessa jiraachuu isaa eega beektee hangami?	___ Waggaa fi ___ ji'a/oota Hin yaadadhu...98 Deebii hin qabu....97	
302.	Tajaajila ART eega eegaltee haangam turteeta?	___ Waggaa fi ___ ji'a/oota Hin yaadadhu ...98	
303.	Akka ilalcha keetitti, erga qoricha ART eegalte haali fayyakeeti maal fakkataa?	1. fooyya'eera 2. garaagarumma hin qabu 3. natti cimee jira Deebii hin qabu....97	
304.	Abban warraa keeti qorannoo dhiigaa gaageessee jiraa?	1. Eyyee 2. Lakkii Hinbeeku...98	
305.	Deebiin gaaffii 304 eeyyee yoo ta'e, Sadarkaan HIV isaa maalii?	1. HIV Pozatiivii 2. HIV nagatiivii Deebii hin qabu...97	
306.	Abbaa manaan kee vaayrasicha faana jiraata yoo ta'e tajaajila ART argachaa jiraa?	1. Eyyee 2. Lakkii Hinbeeku...98	
307.	Deebiin gaaffii 306 Lakkii yoo ta'e, sababni isaa maali?	1. An waanan qoratamef 2. Kun hiccitii kooti 3. kana himu hin barbadu 4. Vayirasii HIV irraa biliisa wan ta'ef	
308.	Karaalee HIV/Eedsiin itti daddarbu ni beektaa? (Deebii tokkoo ol kennuun ni dandaa'ama)	1. wal-qunnamtii saala dangaa hin qabnee 2. dhiiga nama vayirasiichan faalame fudhachuu 3. meeshalee qara qaban fayyadamun 4. haadhaa gara daa'immaatti	
309.	Vaayirsiin HIV haadhaa garaa daa'imaatti ni darbaa?	1. Eyyee 2. Lakkii Hin beeku...98	
309.	Gaaffiin 308 eeyyee yoo ta'e, yeroo kam darbuu danda'a?	1. Yeroo ulfaa 2. Yeroo dahumsaa 3. Yeroo harma hoosiisan Kana hin beeku...97	
310.	Tooftaa/lee Vaayirsiin HIV haadhaa gara daa'ima isheetti akka hin dabarne itti taasisan beektaa?	1. Eyyee 2. Lakkii	

311.	Gaaffii 310 tiif eeyyee yoo ta'e, tooftaa kamiin sitti fakkaata (Deebii tokkoo ol kennuun ni dandaa'ama)	1. Ulfaa'uu karoora malee dhufuu danda'u dhorkuun 2. Qoricha ARV fayyadamuun 3. CS'n dahu 4. Hanga ji'a jaha qofa harma hosiisun Debii biroo bareessi 99	
Kutaa IV-Odeeffannoo ulfa'uu fi daa'ima goodhachun walqabatan			
401.	Erga vayirasiin HIV si keesati argame si'a meeqa ulfofte?	_____	
402.	Eega vaayirasiin kun si keessa jiraachuu isaa bektee yeroo dhihootti barbadde ulfoftetta?	1. Eyyee 2. Lakkii	
403.	Kanaan dura yeroo ulfofte keessatti meeqatu osoo hin barbaadiin ta'e?	_____	
404.	Deebii gaaffii 403 eeyyee yoo ta'e, osoo hin ulfaa'iin dura maal yaadda turte?	1. Dafeen ulfaa'uu barbaada ture 2. Tureen ulfaa'uu barbaada ture 3. Yeroodhuma sanan ulfaa'uu barbaade 4. Yeroo sanas ta'e gara fuula duraatti ulfaa'uu hin barbaadun ture	
405.	Ulfa isa dhumaa maal tahe?	1. Akka tasaa na jalaa bahe 2. Gargarsa ogeessatiin gatachisee 3. eega dhalatee du'e 4. Fayyaan dahe Deebii hin qabu.....97 Kan biroo (barreessi _____) 99	
406.	Daa'ima ati deesse HIVn walqabatee akkami?	1. HIV keessa jira 2. HIVn keessatti hin argamne 3. Amma yoonaa hin qoratamne Deebii hin qabu.....97 Kan biroo (barreessi _____) 99	
407.	Saba kamiin fedhii kee malee ulfaa'uu dandeesse?	1. Qorichi ulfa dhorku jiraachuu isaa hin beekun ture 2. qoricha ulfa dhorku argachuu hin dandeenye ture 3. qorichatu hojjechuu dide 4. Abbaa manaa kootu akka hin fayyadamne na dhorke 5. Miidhaa cinaachaa qorichi qabu sodaadheen osoo hin fayyadamiin hafe 6. Rakko Qorichi ARV qorichaa ulfa dhorku faana qabu gatiin sodaadheef Kan biroo (barreessi)-----	
408.	Ammayonaadaa'immannagaadhaan deesse meeqa qabda?	_____ (Daa'imman nagaan dhalatan) 1..Fayyaan kan dahe hin qabu Deebii hin qabu...97	
409.	Yeroo ammaa meeqatu fayyaadhaan jiru?	_____ (Fayyaan jiru) Deebii hin qabu...97	
410.	Dabalataan daa'imma biraa argachuuf fedhii qabda?	1. Eyyee 2. Lakkii	
411.	Deebiin gaaffii 414 eeyyee Yoo ta'e, daa'imman meeqa argachuu barbaadda?	_____ (baay'ina daa'immanii)	
413.	Kanaan dura ogeessa tajaajila ART si kennaa jiruu irraa dhimma ulfaa'uu fi daa'ima godhachuun wal qabatee gorsa argattee/Mariyatee beektaa?	1. Eyyee 2. Lakkii Hin yaadadhu...98 Deebii hin qabu...97	

414.	Osoo hin Ulfaa'iinii fi daa'ima hin godhatiin dura gorsa ogeessa ART argachuu ni barbaaddaa?	1. Eeyyee 2. Lakkii Deebii hin qabu...97	
Kutaa V: Odeeffannoo dhimma walhormaataafi fedhii tajaajila walhormaataa			
501.	Umuriikam irratti walqunnamtii eegalte?	_____ (Umrii waggaa itti eegalte) Hin yaadadhu...98 Deebii hin qabu...97	
502.	Ji'oota 12 darban keessatti walqunnamtiisaalaa gaggeessiteetaa?	1. Eeyyee 2. Lakkii	
503.	Ji'oota 12 darban keessatti dhiroota meeqa faana walqunnamtii saala gaggeessite?	_____ baay'ina namootaa Hin yaadadhu...98	
504.	Ji'oota 12 darban keessatti nama isa faana walqunnamtti saalaagaggeessite yaadadhuutii, Hangi itti fayyadama kondomii maal fakkaata? (<i>Filannoowwan 1-5 duradubbisiif</i>)	1. Yeroo hunda 2. Yeroo hedduu 3. yeroo tokko tokko 4. yeroo muraasa 5. Fayadamnee hin beeknu	
505.	Yeroo dhumaaf walqunnamtii saalaa yoom gaggeessite?	1. Torban dabre keessa 2. Ji 'a dabre keessa 3. Ji'oota 1-6 darban keessa 4. Ji'oota 6-12 darban keessa Hin yaadadhu...98 Deebii hiben qabu...97	
506.	Walqunnamtii saalaa yeroo dhiyoo gaggeessitetti kondomii fayyadamteetaa?	1. Eeyyee 2. Lakkii Hin yaadadhu...98	
507.	Deebiin gaaffii 506 eeyyee yoo ta'e, sababni itti fayyadamtan maal?	1. Ulfaa'uu dhorkuuf 2. Dhukkuboota biroo walqunnamtii saalaan darban irraa ofeeguuf 3. Abbaan manaan kooHIV-nagatiivii gattii ta'eef 4. Vaayrasii HIV faana miidha na irraan geessisu irraa of-eeguuf 5. Gorsa ogeessaa irraa kan ka'e Kan biroo (barreesi)_____99	
508.	Sadarkaa HIV keessa jirtu abbaa manaa/hiriyaa keetti nihimtaa?	1. Eeyyee 2. Lakkii 3. Abbaa manaa ykn hiriyaa hin qabu Kan biroo (barreesi)_____99	
509.	Kiliniikii ART keessatti sadarkaa tajaajila karoora maatii irratti yaadni kee maal fakkaata? (<i>Filannoowwan 1-5 jiran dubbisiif</i>)	1. Baay'een deeggara 2. Nan deeggara 3. Yaada hin qabu 4. Nan morma 5. Baay'een morma	
510.	DhimmaFayyummaa walhormaataa irratti ogeessa tajaajila ART kennu faana mariyachuu ni barbaaddaa?	1. Eeyyee 2. Lakkii	
511.	Kanaan dura dhimmaa Fayyummaa walhormaataa irratti ogeessa ART faana mariyattee beektaa?	1. Eeyyee 2. Lakkii	

512.	Gaaffii 511 eeyyee yoo ta'e, Mata dureewwan Fayyummaa walhormaataa akkamii irratti mariyattan? (Deebii tokkoo ol kennuun ni dandaa'ama)	<ol style="list-style-type: none"> 1.Karoora maatii fi itti fayyadama qoricha ulfa dhorkuu 2. walqunnamtii saalaa 3.Ulfaaa'uu fi (ykn) daa'ima godhachuu fi HIV 4.PMTCT 5. Karaa nagaan ulfaa gatachiisuu 6.Itti fayyadama kondomii 7. Qoricha ulfaa'uu tasaa dhorku 	
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Questionnaire; Afan Oromo version for Qualitative part (in-depth interview)

Background information

age						
District:						
Kebele						
Name of Health facility						
Date :						
Start time						
Finish time:						
Participant:						
Transcriptists:						
Participant information						
Number of participants:						
Participants	Age	Marital status	current occupation	monthly income	education level	Ethical consent

1. Hawaasninaannoodhimma HIVirrattifaanirrattinidubbataa?Ifa of –baasuu.Dhukkubsatoota of irraafageessuu fi k.k.f
- 2.Dhimmiulfaa’uudubartootaHIVnqaamaaisaaniikeessajiruu hawaasakeessattiammamirrattidubbat ama? Akkumaduraaaniinikabajamu, kunuunsiaddaanitaasifamaaf.....
- 3.DhimmoonidubartootaHIVfaanaosoojirniifedhiisaaniimaleeulfaa’aniraattidubbachuunmaalfa kkaatu? Tajaajila fayyaa akkamiituisaanbarbaachisa jettee yaadda?
- 4.HaallidinagdeefihawaasummaadubartootaHIVfaanajiraataniifedhiimaleeulfaa’uuisaaniifaanaw alqabatajetteeyaaddaa?Fkn.Umuriiwaggaa,walqixxummaa,haalagaa’ilaa,baay’inamaatii,haalaabb aamaanaa,,beekumsaPMICT,odeeffannoodhimmakarooramaatii,Kaka’umsaART,muuxannoodaa’i magodhachuu.....yoo eeyyeeta’eakkamitti
- 5.DubbartoonniHIVfaanajiraatankarooramaatii fayyadamuunwalqabateemaal fakkaatu?Abaanman aaittifayyadamaisaaniindeeggaraa,odeeffannoogahaadhabuujiraa?qorachaargachuu irrattirakkoon jiraa?Haalaogeessoonniisaanittidhiyaatanrakkooqabaa?Hiccitiinisaaniinieegamaa?Rakkooisaanir ragahusodaachuunogeessattihindhiyaatanii?.....
- 6.Dhimmootalfaa’uudubartootaHIV/Eedsii faanajiraataniitajaajilaARTwalqabateeyaadadabalata aqabdumaal?

Information sheet Amharic version

/ /

HIV

HIV

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Consent form Amharic version

HIV

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- +251 910091307, tigist16tekl@gmail.com

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1

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101.	?	-----	
102.		1. 2.	
103.		1-4 5-8 9-12	
104.		1. 2. 3. -----99	
105		1. 2. 3. -----99	
106		1. 2. 3.	
107		1 2. / 3. 4.	
108		1. 2.	
109		----- -----98	
110.		1. 2. 1-4 3. 5-8 4.9-12 5.	

2

.			
201		1. 2.	205
202.	201 ()	1. /tubal ligation 2. / 3. 4. () 5. 6. 7. 8. 9. 10.	
203.		1.	

		2. ...98	
204.	203 ()	1. /tubal ligation 2. / 3. 4. () 5. 6. 7. 8. 9. 10.	
205.		1. 2. ...98	
206.	/	1. 2. 3. ...98	
207.	206	1. . 2. 3.	
208.	203	1. 2. . 3. . . 4. 5. 6. 7. ----- 99	

3. . . . - . . .

301.	. . .	____ / ...98	
302.	. . .	____ / ...98	
303.		1. 2. 3. 4.	
304.		1. 2.	
305.	304	1.HIV 2. HIV ...97	
305.	1. 2. ...97	
306.	305	1. 2. 3. 4. HIV	
307.	HIV	1. 2. HIV 3. HIV 4.	
308.	. . . ?	1. 2.	

	97	
309.	308 ?	1. 2. 3.97	
310.	?	1. 2.	
311.	310) (1. 2. . . 3. 4. 6 ----- 99	
4-			
401.	H V	-----	
402.		1. 2.	
403.		-----	
404.		1. 2. 3. "	----- 99
405.		1. 2. 3.	----- 99
406.		1. 2. 3. 4. 5. 6. HIV	-----99
407.		1. 2.	
408.		-----	
409.	()		----- 98
410.	409	1. 2. 297	
411.		1. 2. ----- 97	
412.		1. 2. ----- 97	

5-

-

501.		— ...98 ...97	
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502.	12	1. 2. ...98 ...97	
503.	12	----- ...98	
504.	502	1. 2. ----- 99	
505.		1. 2. 3. 1-6 4. 6-12 ...98	
506.		1. 2.	
507.	506	1. 2. () 3. 4. 5. ----- 99	
508.	/	1. 2. 3. / ----- 99	
509.	. .	1. 2. 3. 4. 5.	
510.	- .	1. 2. -----99	
511.	- .	1. 2. ...98	
512.	602 ()	1. 2. 3. 4. 5. 6. / 7.	

ASSURANCE OF PRINCIPAL INVESTIGATOR

The undersigned agrees to accept responsibility for the scientific ethical and technical conduct of the research project and for provision of required progress reports as per terms and conditions of the Health Science Institute in effect at the time of Grant is forwarded as the result of this application.

Name of the student: _____

Date. _____

Signature _____

APPROVAL OF ADVISORS

Name of the first advisor: _____

Date. _____ Signature _____

Name of the second advisor: _____

Date. _____ Signature _____

