ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

Reproductive Intentions and Reproductive Health Care Needs of Men and Women living with HIV/AIDS in Nekemte town, East Wollega, Ethiopia

BY: Tesfaye Regassa (BSc)

Advisor: Mesganaw Fantahun (PhD, Professor)

A Thesis submitted to the School of Graduate Studies of Addis Ababa University in partial fulfillment of the requirements for the Degree of Master of Public Health.

June 2010

Addis Ababa, Ethiopia

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

Reproductive Intentions and Reproductive Health Care Needs of men and women living with HIV/AIDS in Nekemte town, East Wollega, Ethiopia

BY: Tesfaye Regassa (BSc)
ADDIS ABABA UNIVERSITY, SCHOOL OF GRADUATE STUDIES

APPROVED BY EXAMANING BOARD

1. CHAIRMAN, SCHOOL OF GRADUTAE COMMITTEE

   _____ _____ _____

2. ADVISOR,

   _____ _____ _____

3. EXAMINER,

   _____ _____ _____

Acknowledgments

My especial gratitude and appreciation goes to my advisor Professor Mesganaw Fantahun for his unreserved encouragements and provision of constructive comments and guidance from proposal development to thesis writing.

I would like to express my heartfelt gratitude to Ethiopian Public Health Association for funding this research project.

I am also grateful to the Nekemte hospital, Nekemte health center and the heads of the respective ART units for providing me the necessary information and cooperative support.

My deepest gratitude also goes to the data collectors and respondents without whom this thesis would not have been realized.

At last but not the least, I would like to thank my family and friends for their continuous support.

Abstract

Background: - Most people living with HIV/AIDS are in the childbearing age and face difficult choices concerning their sexuality and childbearing. Improvements in life expectancy and quality of life for HIV-positive women and men coupled with reduced vertical transmission will likely lead numerous HIV-positive women and men to consider having a child. Their fertility desire and reproductive health care needs of HIV positive individuals are changing as their health get improved and the change in quality of life.

Objective:-The objective of the study was to assess the fertility intentions and reproductive health care needs of men and women living with HIV/AIDS in Nekemte town, East Wollega, Ethiopia.

Methods:-An institutional based comparative cross-sectional study was carried out among men and women living with HIV/AIDS from February to March 2010 on total sample of 592 in Nekemte public health institutions. Patients who visited the health facility and fulfilled the inclusion criteria were interviewed consecutively. Data was collected using a pre-tested structured questionnaires supplemented by qualitative in-depth interview. Quantitative data were entered and cleaned by EPI info then exported to SPSS version 16 for analysis.

Result: - About 36% (n=211) of respondents desired more children. Men were more to desire child than the women 120(40.5%) versus 91 (30.7%). Generally people who desire children are being male (AOR: 1.706, 95%CI: 1.045-2.784), younger age 18-29 years (AOR: 3.493, 95%CI: 1.644-7.424), age 30-39 years (AOR: 2.975, 95%CI: 1.477-5.991), having no living child (AOR: 13.140, 95%CI : 5.347- 32.289), having 1-2 living children (AOR: 4.157, 95%CI: 2.166-7.975), having partner who desire child (AOR: 15.402, 95%CI: 9.198-25.789), recent CD_4 count $\geq$ 200 (AOR: 2.014, 95%CI: 1.158-3.502) were positively and significantly associated with fertility desire.

Among HIV positive women who desired children were younger age 18-24 years (AOR: 3.508, 95%CI: 1.099-11.201), having no living child (AOR: 6.729, 95%CI : 1.958- 23.132), having 1-2 living children (AOR: 2.975, 95%CI: 1.139-7.767), having partner who desire child (AOR: 17.430, 95%CI: 8.051-37.734), family size < 2 (AOR: 3.526, 95%CI: 1.469-8.459) were positively and significantly associated with women's fertility desire.

Among HIV positive men who desired children were younger age 18-29 years (AOR: . 3.030, 95%CI: 1.218,7.537), age 30-39 years (AOR: 3.105, 95%CI: 1.408, 6.847), having no living child (AOR: 16.435, 95%CI : 4.281,63.093), having 1-2 living children (AOR: 4.652, 95%CI: 1.943-11.134), having partner who desire child (AOR: 16.734, 95%CI: 8.200-34.150) were positively and significantly associated with men fertility desire.

Conclusion and recommendation

Most PMTCT interventions have targeted women. However, men were more likely to desire more children than women, and men are often the decision makers in matters related to reproductive choices. Under circumstances in which many HIV-infected individuals, intentionally or unintentionally, continue to have children, dealing openly with their fertility desires make it to meet their reproductive health care needs. Patients who do not want to become pregnant require effective contraception. Those who desire children and are engaging in pregnancy risk behavior need education on the efficacy of PMTCT interventions which should target men and male partner of HIV-infected women too.

Table of contents

Contents.....**page**

List of Tables

List of figures

List of acronyms

AIDS	Acquired Immuno Deficiency Syndrome
AOR	Adjusted Odds Ratio
ART	Anti Retroviral Therapy
ARV	Anti Retroviral
BMI	Body Mass Index
CD_4	Cluster of Differentiation 4
CI	Confidence Interval
ETB	Ethiopian Birr
FMOH	Federal Ministry of Health
FP	Family Planning
GNP+	Global Network of Positive People
HAART	Highly Active Anti Retroviral Therapy
HAPCO	HIV/AIDS Prevention and Control Office
HIV	Human Immunodeficiency Virus
MTCT	Mother To Child Transmission
OR	Odds Ratio
PLWHA	People Living With HIV/AIDS
PLWHIV	People Living With HIV
PMTCT	Prevention of Mother To Child Transmission
SNNPR	South Nations, Nationalities and People Regional State
SPSS	Statistical Package for Social Science
SRH	Sexual and Reproductive Health
UNAIDS	Joint United Nations Program on HIV/AIDS
WHO	World Health Organization

1. Back ground

1.1. Introduction

Globally, the number of people living with HIV worldwide continued to grow in 2008, reaching an estimated 33.4 million. The total number of people living with the virus in 2008 was more than 20% higher than the number in 2000, and the prevalence was roughly threefold higher than in 1990, as new infections occur each year, HIV treatments extend life, and as new infections still outnumber AIDS deaths. Sub-Saharan Africa is home to 71% of all people living with HIV/AIDS, 2 million people were newly infected with HIV, 72% of all AIDS deaths in 2008(1). Ethiopia is among the countries that top list of nations hard hit by the HIV/AIDS pandemic (2). According to calibrated single point estimates (2007), the national adult HIV prevalence is reported to be 2.1% (7.7% in urban and 0.9% in rural areas) (3).

In most places, unprotected vaginal intercourse causes most HIV infections in women (4, 5). Most women living with HIV/AIDS are of childbearing age and face difficult choices concerning their sexuality and childbearing. Women's choices may be limited by direct or indirect social, economic and cultural factors as well as medical factors (6).

In Ethiopia by 2007 about 61% of people in need of ARV treatment live in urban areas (7). As access to antiretroviral therapy increases and HIV can be experienced as a chronic but treatable disease, people living with HIV are more likely to desire children (8). Reproductive choice in HIV affected individuals are changing. Most recently fertility issue in HIV positive men and women are becoming increasingly important. Many women with HIV who are sexually active want to prevent pregnancy. Some may decide not to have children to avoid the risks of transmission to a newborn and the potential health risks of pregnancy. Others may worry about caring for children and leaving orphans behind. Despite the desire to avoid having children, many women with HIV experience unintended pregnancies (4).

Family planning services have great potential for leading the way in promoting sexual health and in efforts to prevent and treat HIV/AIDS. Further, helping women living with HIV/AIDS avoid unintended pregnancies is an important component of programmes to prevent HIV among infants (6).

1.2. Rationale of the study

Study from South Africa indicate both women and men living with HIV/AIDS fear infecting a partner or their baby and are anxious about leaving either living or future children as orphans, their ability to financially support their children, given their illness. While many HIV-infected individuals do not wish to have children, others desire children despite their infected status (8).

It is estimated that one-fourth of all births in sub-Saharan Africa are unintended. Assuming that 25% of HIV-positive births are also unintended, meeting the family planning needs of all women with HIV in sub-Saharan Africa has the potential to avert 120,000 HIV-positive births each year. In countries like Ethiopia, where high prevalence of HIV infection, low levels of contraceptive use and high value of childbearing, addressing fertility issues among people living with HIV is critical for prevention of unwanted pregnancies and prevention of HIV transmission from mother-to-child (2).

People who start antiretroviral therapy may find that, with their return to health, they become more sexually active, increase fertility desire and they may reconsider previous decisions regarding their sexuality and reproduction (4, 6). However, individuals found it difficult to reconcile safer sex messages with their desire to reproduce (8).

HIV positive individual's intentions to have children and degrees of utilization of family planning could vary. The extent of the intention and how it varies by individual, social, health and demographic characteristics is not well understood. The desire of HIV infected persons to have children in the future has significant implication for the transmission of HIV to sexual partners or newborns. To our knowledge there are no studies done on reproductive intentions and reproductive health care needs of men and women living with HIV/AIDS in Western Part of Ethiopia and no analytic studies in Ethiopia. Thus this study will assess sexual behavior, fertility intention, and contraceptive method utilization of men and women living with HIV/AIDS.

2. Literature review

2.1. Sexual behavior of people living with HIV/AIDS

As health improves with the use of antiretroviral (ARV) medications there is an increase or resuming sexual activity. Study in Kenya found that nearly 70% of those who had been receiving ARVs for 18 to 24 months were sexually active compared with 50% of those who had been receiving ARVs for less than 6 months. Similarly, a study in Brazil found that the percentage reporting at least one sexual encounter per month had increased from 60% initially to 78% by 24 months after starting ARVs(4).

A cross sectional study in Uganda Kampala showed that while 52% of the respondents were not sexually active, ARV–experienced patients were more likely to be sexually active than ARV naïve patients, and more likely to have used a condom. Condom use at last sexual intercourse was reported with spouse 32% and with causal partners 100% (9).

Research conducted on changes in sexual behavior and risk of HIV transmission after antiretroviral therapy and prevention interventions in rural Uganda showed increases in consistent condom use increased from 59 to 82% with partners with negative or unknown HIV status. However, 88% of risky sexual acts at baseline and 86% at follow-up occurred within married and cohabiting couples (10).

Cross sectional studies conducted in Addis Ababa and SNNPR found that people who were sexually active were 50.2 and 49.1% respectively (11, 12). 74.9% of these individuals used condom (among those who used condom, 79.8% used it regularly) in Addis Ababa (11). In SNNPR, 42.1% were abstained from sex, 5.3% had sexual practice with no or inconsistent condom use and 3.5% had sex with multiple sexual partners (12).

2.2. Fertility desire of men and women living with HIV/AIDS

As ARV therapy becomes increasingly accessible, the associated improvements in health, quality of Life, and survival are anticipated to influence both the biological and behavioral fertility determinants (9). Surveys in developed and developing countries have found that 18% to 43% of women with HIV wanted children in the future (4). Studies in Brazil, South Africa, and Uganda

indicated that male gender, younger age, having no/fewer children, and being in a heterosexual Partnership, on HAART, partner desire for fertility were associated with desire to have children (13-16).

Sexually active women and women who were sero-discordant with their partners had significantly increased odds of fertility desire. While being a widow, and increased WHO stage associated with decreased fertility desire (17). Having CD4 cell count > 500, being sexually active in the past three months, and contraceptive use in the past three months, having a BMI >18.5 and not having used condoms consistently in the last 3 months were all significantly associated with an increased odds of pregnancy (17, 18).

Cross sectional study from South Africa indicated that 29% of women stated that they wanted to have children in the future. Pregnancy desires was more common among those who had been taking ART for longer period of time (19). Another cross sectional study from the same country found that 50% of men and 45% of women reported being open to the possibility of having a child (14).

A longitudinal study from rural Uganda on Reproductive Intentions and Outcomes among Women on ART in Rural Uganda for two years showed 16.9% women experienced pregnancies and it was paralleled by an increase in the proportion of women reporting sexual activity in the past 3 months, from 24.4% at baseline to 32.5% over 24 months of follow-up (18). Study in South Africa showed among women on HAART 9% reported having been pregnant since commencing HAART; of these 30% of pregnancies was reportedly unintentional (14).

In five public hospitals in Addis Ababa 40.2% respondents expressed the desire for children (11). In SNNPR cross sectional study from five hospitals indicated desire for children among people living with HIV/AIDS was 33.9%(12).

2.3. Reason for fertility desire among people living with HIV/AIDS

Studies in India, and South Africa indicated that common reasons to desire a baby and reasons for giving birth to a baby after HIV diagnosis: wish to sustain the family genes, need to experience parenthood, social influences, PMTCT services availability, the fear of impending death of the first baby, financial stability (14, 20-22).

In South Africa the commonest reported reason for women and men wanting to have a child was wanting at least one child/ more children (16% and 26%, respectively), marriage and replacing a child who had reportedly died of AIDS (13% and 6%, respectively). The majority of women (62%) and men (65%) had discussed their fertility intentions with a main intimate partner. Twenty four percent of women and 55% of men reported being very strongly influenced in their childbearing desires by a partner's desires (14).

The study from Uganda showed four main reasons for wanting more children were: "need to leave ancestry" (52%), not having any boys (14%), not having any children or all children died (12%), and not having girls (9%). Among those who did not want children and were currently married or cohabiting with a partner, 24% thought that their partners wanted more children (16).

2.4. Reason not to desire a child among people living with HIV/AIDS

Studies from India, Brazil, South Africa and Malawi indicated that reasons for not wanting a child among people living with HIV/AIDS included anxiety about their own and their child's health, apprehensions about leaving children orphaned, not having family support, stigma by the family, low income, fear of passing on HIV infection to baby, not wanting to take risk, fear of being judged by others, risk of reinfection, having more children, not married (13,14,19,21-24).

2.5. Family planning practice of people living with HIV/AIDS

A prospective cohort study in Uganda found that among sexually active women, 65% reported using condoms at 18 months after starting ART and 63% at 2 years of follow-up. However, Only 14% of women used permanent or semi-permanent family planning methods by their 2nd year on ART (18).

Qualitative study from India indicated all heterosexual women who were currently on ARVs reported consistent condom use in vaginal sex with their male regular partners. Most common response were directive counseling from family planning providers, others want to use family planning because they were HIV positive or marked deterioration in their health (20).

In Addis Ababa contraceptive use before and after HIV diagnosis was 48.9% and 43.3% respectively. Oral contraceptive pill and injectables were most commonly used before HIV

diagnosis 45.8% and 29.3% respectively. Condom and abstinence were most practiced after HIV diagnosis 65.8% and 21.1% respectively (11).

Report from SNNPR showed 47.6% of the study population ever used at least one method of contraception before HIV diagnosis and 37.2% were using during the study time; Condom in the past (46.7 %) and currently being used 68.6%, injectable in past (41.2%) and currently (30.8%).

2.6. Knowledge and attitude toward mother to child transmission (MTCT) and prevention of mother to child transmission

Study from Uganda showed knowledge was high regarding the possibility of HIV transmission from mother-to-baby (71%), its prevention (81%) and about the PMTCT program (78%). However, 78% did not know that an HIV-infected woman who took PMTCT drugs could still deliver an HIV-infected baby (16). In SNNPR and Addis Ababa proportion of study subjects who know about transmission of HIV from mother to child were 93.4% and 90.3 % respectively. In Addis Ababa, from people who had knowledge of MTCT, 93.6% of them knew the availability of mother to child HIV transmission prevention medication (11, 12).

2.7. Disclosure status of men and women living with HIV/AIDS

Cross sectional study in South Africa indicated that 19% of women and 6% of men had consulted health care providers in HIV care about fertility intentions. Women with childbearing intentions were more likely to want discussion with health care providers (49 vs. 27%) as were women attending PMTCT and HIV care (non-HAART) compared with women on HAART (41 vs. 28%) and younger women (49 vs. 26%) (14).

Another cross sectional study from South Africa showed 62% of study subjects were currently in a relationship; of these, 38% said that their partner was also HIV infected, 20% said their partner did not have HIV, and 42% did not know that HIV status of their partner (19).

Married women, reported strong family pressure to reproduce, especially if they had not disclosed their HIV status. Both women and men were strongly influenced by partners' attitudes towards childbearing. Women and men on ART were far more likely to have disclosed their status to their partner and to have discussed having children (8).

Most HIV-infected women and men had not discussed their fertility desires and intentions with a health care provider because of anticipated negative reactions (8). Research indicates that between 16% and 86% of women in resource-constrained settings choose to disclose their HIV status to their partners (6).

Study in Addis Ababa indicated 87.7% of PLWHA disclosed their HIV serostatus to their spouse or partner, 78.1% have partners had HIV tested, 19.3% of the respondents admitted to have been previously counseled or discussed on personal issues such as sexuality, family planning and child bearing with ART providers. Disclosure of serostatus to partner/spouse was significantly associated with lower desire for children (82.9%Vs 91.9%) (11).

Summary of literature review

As health improves with the use of antiretroviral (ARV) medications there is an increase or resuming sexual activity and 18% to 43% of women with HIV wanted children in the future. Sex, age, being in a heterosexual Partnership, having fewer children, sexually active, sero-discordant, duration on ART, duration since HIV diagnosis has an association with fertility desire.

Most PMTCT interventions have targeted women. However, men were more likely to desire more children than women, and men are often the decision makers in matters related to reproductive choices. In this environment, providing HIV-infected men and male partners of HIV-infected women with PMTCT and access to family planning information might improve utilization of these services.

Particularly, further assessment is used to understand men's and women's fertility desire and factors associated which helps to understand male's involvement in PMTCT programs.

3. Objectives

3.1. General objective

- To assess fertility intentions and reproductive health care needs of men and women living with HIV/AIDS in Nekemte town.

3.2. Specific objectives

- To assess fertility desire of HIV positive men and women who are on ART in Nekemte town.
- To assess contraceptive method utilization of HIV positive men and women who are on ART in Nekemte town.
- To identify factors associated with fertility desire of HIV positive men and women on ART Nekemte town.
- To assess sexual behavior of men and women living with HIV/AIDS in Nekemte town.

4. Methods

4.1. Study period and area

The study was undertaken from February to March 2010 in East Wollega zone which is one of the 17 zones in Oromia regional state located in the Western part of the region. The study was undertaken in Nekemte town which is a capital of the zone and located at 331 km from capital city of the country, Addis Ababa. According to 2007 Statistical Report of the Population and Housing Census of Ethiopia, Nekemte total population was 76,817(25). A report on February 2010 by Ethiopian AIDS resource center indicated that total number of people living with HIV/AIDS on highly active antiretroviral therapy in Oromia region, Nekemte hospital and Nekemte health center was 39666, 1528 and 284 respectively (26).

4.2. Study Design

An institutional based Comparative cross-sectional study design among men and women living with HIV/AIDS in Nekemte town was employed supplemented by qualitative in-depth interview.

4.3. Source Population

Men and women attending ART services for regularly scheduled follow- up visits in Nekemte town.

4.4. Study population

The study population was all men and women who have at least one visit to the selected hospital and health center during the study period for ART services.

4.5. Inclusion and exclusion criteria

4.5.1. Inclusion criteria

Men and women clients diagnosed with HIV and attending ART services at the Nekemte Public health institutions and aged 18 years and above were eligible for participation in the study. The upper age limit applied in the recruitment of women was 49 years and for men was 59 years. Further inclusion criteria were that they were willing to and give consent: discuss certain aspects of their HIV infection, as related to the study topic and objectives with an interviewer.

4.5.2. Exclusion criteria

PLWHAs who were feeling ill at the time of study, inability to provide informed consent and refusal of any of the enrollment inclusion requirements, unable to speak and hear.

4.6. Sample size determinations

4.6.1. Quantitative method:

Sample size was determined using the formula for the difference between population proportions. Study conducted in five SNNPR hospitals in 2007 indicated that fertility desire of people living with HIV/AIDS was 40.3% among men and 28.2% among women respondents (12). By taking fertility desire and 15% non-response rate, the total sample size calculated was 592.

Formula for sample size calculation: -

$$n1 = \left(\frac{\left[Z\frac{\propto}{2}\sqrt{\left(1+\frac{1}{r}\right)*P(1-P)} + Z\beta\sqrt{p1(1-p1)+\frac{p2(1-p2)}{r}} \right]^2}{(p1-p2)^2} \right)$$

n_1= **257, n_2=257**

Total sample size= 514+15 %(514)

= <u>592 total sample size</u>

Where $P = \frac{P1+rP2}{1+r}$

n- Sample size based on 1:1 proportion

r- is ratio of the size of male to female, which is 1:1

P1= the proportion of men who desired children (.403)

P2 = the proportion of women who desired children (.282)

Z1-α/2= value of standard normal distribution corresponding to a significance level of alpha (1.96 for a two-sided test at the 0.05 level)

Z1-β/2= value of standard normal distribution corresponding to the desired level of power (0.84 for a power of 80%).

4.6.2. Qualitative method

For qualitative method purposive sampling was used and the minimum number of people to be interviewed were 10 (five females and five males). But the selection was continued until the point of saturation of the idea.

4.7. Pre-testing the questionnaire

The structured questionnaire was pre-tested in the ARV treatment units of both health institutions. The questionnaire was then assessed for its clarity, length and completeness. Some skip patterns was then corrected, questions difficult to ask were rephrased and the consent form also modified. The subjects who were included in the pre-testing where excluded from actual study.

4.8. Sampling procedures

4.8.1. Quantitative study

The study subjects from the selected hospital and health center where chosen proportional to the institutions client size. Total client size of hospital and health center were 1528 and 284 respectively. Five hundred participants from the hospital and 92 study participants from health center were included. Study subjects in the selected institutions were stratified by sex and sample size for each stratum equally allocated. In each of the the selected health facilities participants were consecutively included in the study until the required sample size was achieved.

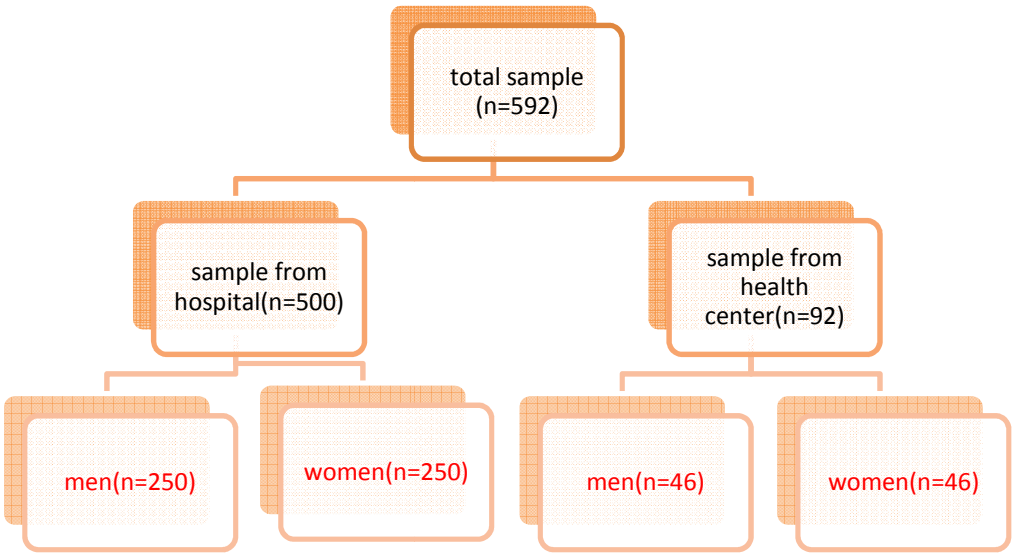


Figure 1:- Schematic presentation of the sampling procedures.

4.8.2. Qualitative study

For the in-depth interview purposive sampling was used to select the study subjects based on socio demographic characteristics of participants i.e. sex, marital status and number of children. Based on the objective of the study, the sample selected included PLWHA receiving ART from both sexes. A total of ten (five males and five females) participants was purposely selected for the in-depth interview on the basis of years of experience (at least a month) among those willing to take part in the study and able to forward necessary information in relation to the objective of the study. Additionally they were recruited according to whether or not they had living children and whether or not they had married.

4.9. Data collection procedures

4.9.1. Structured questionnaires and in depth interview guides

A structured questionnaire was used to collect quantitative data such as socio demographic characteristics, sexual behavior, fertility history, current fertility desires. The questionnaire for the survey was initially prepared in English, and translated to Afan Oromo, and checked for its consistency by back translation to English by three different individuals. Additional semi

structured questions was used to probe participants' reasons for specific reasons and attitudes regarding future childbearing, sexual activity, pregnancy post HIV diagnosis, disclosure status.

4.9.2. Data collectors

For quantitative data 4 Nurses (Counselors) working in the ART unit of the hospital and health center administered structured questionnaire after they take two days training on the objective, relevance of the study, and technique of interview with demonstration. Interviews were conducted by interviewer of the same sex. Two Supervisors with first degree were trained and supervised the data collection process closely and were followed up with principal investigator. Qualitative data was administered by principal investigator.

4.10. Operational definitions

Fertility desire- refers to a wish or expression of PLWHA to have child/children in the future and sub-divided into those wishing to do so immediately, within the next year, those with future intentions and those who were undecided.

Risky sexual behavior is defined as inconsistent or no condom use with partners of HIV-negative or unknown sero-status or situations such as being forced to have sex, having multiple sexual partners.

Reproductive health care needs: - refers to a want of PLWHA for ranges of reproductive health needs to have desired family size, number of children, intended pregnancy, etc.

Sexual desire: refers to a wish or expressions of PLWHA drawing one sex toward another.

Multiple sexual partners-defined as having more than one partner in the preceding 12 months

4.11. Variables of study

Independent variables

- Socio demographic characteristics:-age, sex, income, marital/relationship status, education, religion, occupation, ethnicity, family size, residence type
- Number of living children, partner's HIV status, partners desire for children, duration since HIV diagnosis, duration of time on ART, improvement of health status, partner's disclosure status, sexual activity, current contraceptive use, knowledge on (MTCT, PMTCT)

Dependant variable-Fertility desire

4.12. Data processing and analysis

Data were entered to EPI info and cleaned by using missing data, double codes and by using cross tabulation techniques. Data exported to SPSS to analyze the association between independent variables and dependent variable. Descriptive statistics were calculated to determine fertility desire. The principal investigator analyzed the data. Association of the independent variables with the dichotomized dependent variables was tested using binary logistic regression analysis. All variables that were found to be associated with the main outcome variable by having odds ratios that reached statistical significance in the bi-variate model were included in the multivariate model at 95% C.I (P-value<0.05). All analyses were done using SPSS version 16.

Responses to open-ended questions were collapsed into dominant thematic areas to facilitate analysis; representative quotes were presented here which were typical of selected themes.

4.13. Data quality management

To ensure data quality the data collectors and the supervisors were appropriately trained for two days. Supervisors and principal investigator closely followed the data collection process. Filed questionnaires were checked daily for completeness and errors. To ensure qualitative data quality; privacy, confidentiality of the respondents, good interaction between respondent and interviewer were maintained.

4.14. Ethical considerations

Ethical approval was obtained from the Institutional Review Board (IRB) of Medical faculty, Addis Ababa University. A formal letter for permission and support was written by the School of Public Health to the respective hospital and health center administrator office. The purpose of the study was clearly explained to concerned bodies. In order to keep confidentiality of Patient's information, only those personnel who were working in ART unit were involved in the data collection and supervision process. The purpose and process of the study was explained to all participants, as well as that participation was separate from routine clinical care, before informed consent was obtained, the respondents were told that they have the right to be involved or not to be involved in the study, and that no involvement otherwise would not affect the clinical care they receive. An interview was lasted approximately 30–60 minutes and was conducted in a private room at the hospital and health center by a trained interviewer.

4.15. Dissemination of results

The study outcome will be submitted to regional and zonal health bureau and HAPCO. It will also be presented at Addis Ababa University, College of Health Sciences, School of Public Health. Besides these the copy of the report will be given to the responsible body and publication will also be considered as one means of dissemination.

5. Results

5.1. Sociodemographic characteristics of the study participants

A total of 592 of HIV-positive men and women on ART were interviewed between February and March 2010 in Nekemte town. Equal number of women 296(50%) and men 296(50%) were interviewed. The overall study response rate was 100%. The overall mean age was 33.05 years. Women were younger than men (mean was 30.83 years and 35.26 years respectively). Of all respondents 282(47.6%) were Orthodox and 268(45.3%) were Protestant Christians. About 80% of participants (n=473) were Oromo.

About 66% of the men were married/living with partner while only 53% of the women were married/living with a partner. Nine percent of respondents reported that they had never married (12.2% among men versus 6.1% among women).

Of all the respondents who participated in the study, more women than men were not attended education (36.8% and 29.1% respectively), women were less attended secondary and above education than men(126 (42.6%) and 164 (55.4% respectively).

Men were nearly twice to be engaged in government/private employment than women (104 (35.1%) and 56 (18.9%) respectively), while women were nearly threefold of men to be unemployed (26 (8.8%) and 82 (27.7%) respectively). One hundred fifteen (38.9%) of men and 91(30.7%) of women were daily laborers.

About eighty eight percent of the respondents interviewed were from urban (85.8% among men versus 90.9% among women). Study participants were predominantly from lower economic background. Only about 28% of respondents earned family income of more than 300 ETB per month (35.5% among men versus 20.3% among women) (table 1).

Table 1: - Socio-demographic characteristics of men and women attending ART service in Nekemte town, Ethiopia, February, 2010

Characteristics	Men (%)	Women (%)	Total (%)
Age	**n=296**	**n=296**	**n=592**
18-29	70(23.6)	136(45.9)	206(34.8)
30-39	133(44.9)	127(42.9)	260(43.9)
≥ 40	93(31.)	33(11.1)	1126(21.3)
Mean age(in years)(±SD)	35.26 (8.182)	30.83(6.327)	33.05(7.636)
Religion			
Orthodox	142(48.0)	140(47.3)	282(47.6)
Protestant	133(44.9)	135(45.6)	268(45.3)
Muslim	18(6.1)	20(6.8)	38(6.4)
Catholic	3(1)	1(0.3)	4(0.7)
Educational status			
No education	86 (29.1)	109 (36.8)	195 (32.9)
Primary	46(15.5)	61(20.6)	107(18.1)
Secondary and above	164(55.4)	126(42.6)	290(49)
Ethnic group			
Oromo	238(80.4)	235(79.4)	473(79.9)
Amhara	53(17.9)	56(18.9)	109(18.4)
Others*	5(1.7)	5(1.7)	10(1.7)
Marital status			
Married/living together	195 (65.9)	157 (53.0)	352 (59.5)
widowed/divorced/separated	65 (22.0)	121 (40.9)	186 (31.4)
never married	36 (12.2)	18 (6.1)	54 (9.1)
Duration in marriage(for married only)	n=189	n=150	n=339
<5years	22(11.6)	31(20.7)	53(15.6)
5-9 years	71(37.6)	53(35.3)	124(36.6)
≥ 10years	96(50.8)	66(44.0)	162(47.8)
Occupation	**n=296**	**n=296**	**n=296**
Daily laborer	115 (38.9)	91(30.7)	206 (34.8)
government/private employee	104 (35.1)	56 (18.9)	160 (27.0)
Unemployed	26 (8.8)	82 (27.7)	108 (18.2)
Merchant	21 (7.1)	35 (11.8)	56 (9.5)
Farmer	26 (8.8)	12 (4.1)	38 (6.4)
Others**	4 (1.4)	20 (6.8)	24 (4.1)
Residence			
Urban	254 (85.8)	269 (90.9)	523 (88.3)
Rural	42(14.2)	27(9.1)	69(11.7)
Family size			
≤2	91(30.7)	86(29.1)	177(29.9)
3-5	154(52.0)	164(55.4)	318(53.7)
>5	51(17.2)	46(15.5)	97(16.4)
Monthly family income(ETB)			
No income/less 150	124(41.9)	175(59.1)	299(50.5)
151-300	67(22.6)	61 (20.6)	128(21.6)
>300	105 (35.5)	60(20.3)	165(27.9)

*Gurage, Tigre, ** House servant, private self employment, retirement

5.2. Sexual behavior of men and women on ART

With respect to history of sexual behavior prior to HIV diagnosis, more women than men had sex with regular/one partner (68.2% and 41.6% respectively), 216 (36.5%) of the respondents (137 (46.3%) among men versus 79 (26.7%)among women) had risky sexual practice with inconsistent/no condom use, 234 (39.5%) (51.0% among men versus 28.0% among women) had multiple sexual partners. About 47% of non-married participants had sexual partner.

Concerning current sexual practice, nearly three fourth (72.0%) of the total respondents were found to have current sexual practice with regular/one partner, while 34 (5.7%), 19 (3.2%), and 8(1.3%) had multiple sexual partner, inconsistent/no condom use respectively (table 2).Seventy percent of respondents who were sexually active (reported sexual intercourse in the prior 6 months).

More men than women had a sex with regular sexual partner (64.2 % versus 51.7 %). About 6% of women and 5.4% of men reported unprotected sex. Nearly half of men and women reported changes in sexual feelings and experiences since knowing their sero-status. Nearly equal proportion of women and men experienced reduced sexual desire (93 (31.4%) and 87 (28.4%) respectively) while others have either resumed or increased sexual desire (table 3).

Table 2: - Sexual behavior of men and women living with HIV/AIDS attending ART service in Nekemte town, East Wollega, Ethiopia, February 2010

Characteristics		Men (%)	Women (%)	Total (%)
Have Sexual partner (non married)(male=101, female=139, total=240)		61 (60.4)	44 (31.7)	105 (43.75)
Sexual history before HIV diagnosis*		**n=296**	**n=296**	**n=592**
	Only one sexual partner	123 (41.6)	202 (68.2)	325 (54.9)
	Multiple sexual partner	151 (51.0)	83 (28.0)	234 (39.5)
	No/Inconsistent condom use	137 (46.3)	79 (26.7)	216 (36.5)
	Buy/Sell sex	24(8.1)	9 (3.1)	33(5.6)
Current sexual behavior*				
	Only one sexual partner	225 (76.0)	201 (67.9)	426 (72.0)
	Multiple sexual partner	22 (7.4)	12 (4.1)	34 (5.7)
	No/Inconsistent condom use	11 (3.7)	8 (2.7)	19 (3.2)
	Sell/buy sex	1 (.3)	7 (2.3)	8 (1.3)
Sexual active in the last six months				
	Yes	232 (78.4)	183 (61.8)	415 (70.1)
	No	64 (21.6)	113 (38.2)	177 (29.9)
Sex with whom?		**n=232**	**n=183**	**n=415**
	Regular partner	189(81.5)	153 (83.6)	342 (82.4)
	None regular partner(casual)	39 (16.8)	26 (14.2)	65 (15.7)
	No response	4(1.7)	4(2.2)	8(1.9)
Sexual desire		**n=296**	**n=296**	**n=592**
	Normal	135 (45.6)	165(55.7)	300 (50.7)
	Decreased	99 (33.4)	93 (31.4)	192 (32.4)
	Increased	62 (20.9)	27 (9.1)	89 (15.0)
	No Response	0 (.0)	11 (3.7)	11 (1.9)

***multiple responses**

5.3. Condom use among men and women on ART

Seventy percent of respondents (78.4% among men versus 61.8% among women) were sexually active in the 6 months prior to interview (table 2). Nearly equal proportion of men and women had used condoms within the six months prior to data collection (91.8% and 90.2 % respectively). Among who used, one hundred eighty two (85.5%) of men who were currently on ARVs did use a condom all the time they had sex with their female partner. Among women, 152 (93.1%) reported consistent condom use when having sex with their male partners.

Of those men who did use a condom, the primary reason was dual protection (infection by STD/new strain/to prevent unwanted pregnancy) 142 (67%), followed by fear of new strain 130 (61%). Among women did use condom, the primary reason was Fear of re-infection with new strain 93 (56%) followed by dual protection 90 (55%).

Of those men who did not use a condom, the primary reason why they did not use condom was partner refusal 10 (56%) followed by they did not feel it was necessary 8(56%). Of those women who did not use a condom during six months prior to interview the reasons were partner refusal 10 (56%) followed by reporting they did not feel it was necessary or reduction of sexual desire 5(28%). More men than women had used condoms at last sexual intercourse (74.3% and 58.4% respectively) (table 3).

Table 3: - Condom use among men and women attending ART service in Nekemte town, East Wollega, Ethiopia, February 2010

Characteristics	**Men (%) n=296**	**Women (%) n=296**	**Total (%) n=592**
Condom use in the last six months	**n=232**	**n=183**	**n=415**
Yes	213(91.8)	165(90.2)	378(91.1)
No	19 (8.2)	18 (9.8)	37(8.9)
Frequency of condom use(**last six months**)	**n=213**	**n=165**	**n=378**
Always	182 (85.5)	152 (92.1)	334 (88.4)
Almost always	19 (8.9)	8 (4.8)	27 (7.1)
Sometimes	12 (6.8)	5(3)	13 (3.4)
Reason for condom use**	**n=213**	**n=165**	**n=378**
Dual protection (pregnancy/STI/HIV)	142 (67)	90 (55)	232 (61)
To protect a negative partner	11 (5)	12 (7)	23 (6)
Advice by health worker	15 (7)	3 (2)	18 (5)
Fear of re-infection with new strain	130 (61)	93 (18)	223 (59)
Fear of other STDs	9 (4)	0 (.0)	9 (1.5)
No response	0 (.0)	1 (.3)	1 (.2)
Reason not to use condom**	**n=18**	**n=18**	**n=36**
Feeling it not comfortable or reduction of sexual pleasure	8(56)	5(28)	14(39)
Partner objected	10 (11)	10(56)	20 (56)
Desire to conceive	2(11)	1(6)	3(8)
Others*	2(11)	3(17)	5(14)
Condom use at last sexual intercourse	**n=296**	**n=296**	**n=592**
Yes	220 (74.3)	173 (58.4)	393 (66.4)
No	76 (25.7)	123 (41.6)	199 (33.6)

*others-lack of applying condom, use other method, not available

** Multiple responses

5.4. Disclosure status of men and women living with HIV/AIDS

Men respondents were more than women respondents to have disclosed their HIV status to their partner (241(81.4%) and 229 (77.4%) respectively). Among those who didn't disclosed their status to their partner, main reasons not to disclose to their sexual partner among men were fear of divorce 16(36%), followed by fear of stigma and discrimination 11 (24%). The main reasons not to disclose among women were fear of stigma and discrimination (7 (14%)) followed by fear of divorce 4 (13%).

For both men and women disclosure of HIV serostatus to family and friends is higher. Among men disclosure to family and friend was 237 (80.1%) and 192 (64.9%) respectively. Also among women disclosure to family and friend were 263 (88.9%) and 189 (63.9%) respectively. About 71% of men's partner were tested of which 161(77%) were positive. Among women, 187 (63.2%) of their partner were tested of which 142(76%) of them were positive (table 4).

Table 4:-Disclosure status of men's partner and women living with HIV/AIDS in Nekemte town, East Wollega, Ethiopia, February 2010

Characteristics	Men (%) n=296	Women (%) n=296	Total (%) n=592
Disclosure to partner			
Yes	241 (81.4)	229 (77.4)	470 (79.4)
No	45 (15.2)	56 (18.9)	101 (17.1)
Others*	10 (3.4)	11 (3.7)	21 (3.5)
Reason not to disclose to partner	**n=45**	**n=56**	**n=101**
Fear of stigma and discrimination	11 (24)	8(14)	19 (19)
Fear of divorce	16 (36)	7 (13)	23 (23)
Others**	11 (24)	28 (50)	39 (39)
No response	7 (16)	13 (23)	20 (20)
Partners tested	**n=296**	**n=296**	**n=592**
Yes	209 (70.6)	187 (63.2)	396 (66.9)
No	57 (19.3)	44 (14.9)	101 (17.1)
Don't have a partner	30 (10.1)	65.0 (22.0)	95 (16.0)
Partners HIV status	**n=209**	**n=187**	**n=396**
Positive	161(77)	142(76)	303(77)
Negative	48 (23)	45 (24)	93 (23)
Disclosed to family	**n=296**	**n=296**	**n=592**
Yes	237 (80.1)	263 (88.9)	500 (84.5)
No	55 (18.6)	32 (10.8)	87 (14.7)
I have no family	4 (1.4)	1 (.3)	5 (.8)
Disclosed to friends			
Yes	192 (64.9)	189 (63.9)	381 (64.4)
No	104(35.1)	107(36.1)	211(35.6)

*no partner, no regular partner

** no partner, No regular partner

5.5. Pregnancies Post-HIV Diagnosis

Nearly three fourth of men and women living with HIV/AIDS had one or more living children (77.7%). Among twelve percent of men, their partner become pregnant since they know their sero-status of which 25 (69.4%) was intentional. Also twelve percent of women become pregnant of which 20 (55.6 %) was intentional (table 5).

Table 5:- Pregnancy history of men's partner and women living with HIV/AIDS in Nekemte town, East Wollega, Ethiopia, February 2010

Characteristics	Men (%) n=296	Women (%) n=296	Total (%) n=592
Number of alive children			
No living child	73 (24.7)	68(23.0)	141(23.8)
1-2	139(47.0)	128(43.2)	267(45.1)
> 2	84(28.4)	100(33.8)	184 (31.1)
Pregnancy history since HIV diagnosis			
Yes	36 (12.2)	36 (12.2)	72 (12.2)
No	260(87.8)	260 (87.8)	520 (87.8)
Was it intentional pregnancy?	**n=36**	**n=36**	**n=72**
Yes	25 (69.4)	20(55.6)	45 (62.5)
No	11 (30.6)	16 (44.4)	27 (37.5)

5.6. Fertility desire of men and women

About forty one percent of men and 30.7% of women were open to the possibility of having a child. Among men who want to have a child within one year, within the one to three years, those with after three years and those who were undecided were 12(10%), 21(18%), 2(2%), 85(71%) respectively. While among women who desire child, who want to have a child within one year, within the one to three years, those with after three years and those who were undecided were 9(10%), 15(16%), 5(5%), 62(62%) respectively.

For both women and men, the desire to have at least one child was the most commonly cited reason for wanting a child 48(40%) and 41 (45%) respectively) followed by wanting more children (56 (47%) and 45 (49%) respectively), partner /family influence to have children (10 (51%) and 3 (3%) respectively).

The commonest reason deterring men from having children was having sufficient children 89(51%), insufficient financial means 31(18%) followed by fear of mother to child transmission 24(14%).Women's primary deterrent to future childbearing among those not wanting to have a child was having already achieved desired number of children 107(52%) followed by not having adequate income 29(14 %) and fear of mother to child transmission 25 (7%). More men prefers having boy than women (20 (17%) and 10 (11%) respectively) while 81% of men and 82% of women did not prefer sex (table 6).

Table 6:- Current fertility intention of men and women living with HIV/AIDS in Nekemte town, East Wollega, Ethiopia, February 2010

Characteristics	Men (%) n=296	Women (%) n=296	Total (%) n=592
Open to the possibility of having a child			
Yes	120(40.5)	91 (30.7)	211 (35.6)
No	176(59.5)	205 (70.3)	381 (64.4)
When desired to have a child	**n=120**	**n=91**	**n=211**
Within next 12 months	12(10)	9(10)	21(10)
within one to three years	21(18)	15(16)	36(17)
after three years	2(2)	5(5)	7(3)
Not decided when to have a child	85(71)	62(68)	147(70)
Reason for their current fertility intention	**n=120**	**n=91**	**n=211**
Want at least one child	48(40)	41 (45)	89 (42)
I did not have desired number	56 (47)	45 (49)	101 (48)
My partner desired to have children, pressure from family	10(8)	3 (3)	12 (6)
Others*	12(10)	5(5)	17(8)
Reason not to desire a child	**n=176**	**n=206**	**n=381**
Already achieved desired number of child	89 (51)	107 (52)	196 (51)
Fear of mother to child transmission	24 (14)	25 (12)	49 (13)
Don't have adequate income	31 (18)	29 (14)	60 (16)
Child bearing may further compromise my/my partner health	16 (9)	27 (13)	43 (11)
May not be healthy in future to care for child	8 (5)	14 (7)	22 (6)
Fear of orphaning/problems in caring	11 (6)	15 (7)	26 (7)
Fear of infecting partner while try to conceive	12 (7)	2 (1)	14 (4)
Number of children desired	**n=120**	**n=91**	**n=211**
1	52 (43.3)	50 (54.9)	102 (48.3)
2	56 (46.7)	38 (41.8)	94 (44.5)
3-4	12(10.0)	3 (3.3)	15 (7.1)
Preferred sex	**n=120**	**n=91**	**n=211**
Male	20 (17)	10 (11)	30 (14)
Female	3 (3)	7 (8)	10 (5)
No preference(God knows)	97 (81)	74 (82)	171 (81)
Desire of a partner of to have a child	**n=296**	**n=296**	**n=296**
Yes	105 (35.5)	80 (27.0)	185 (31.3)
No	146 (49.3)	143 (48.3)	289 (48.8)
Don't have a partner	45 (15.2)	73 (24.7)	118 (19.9)

* For substitution, children are an important part of marriage; current child needs sibling, original desires for childbearing unchanged

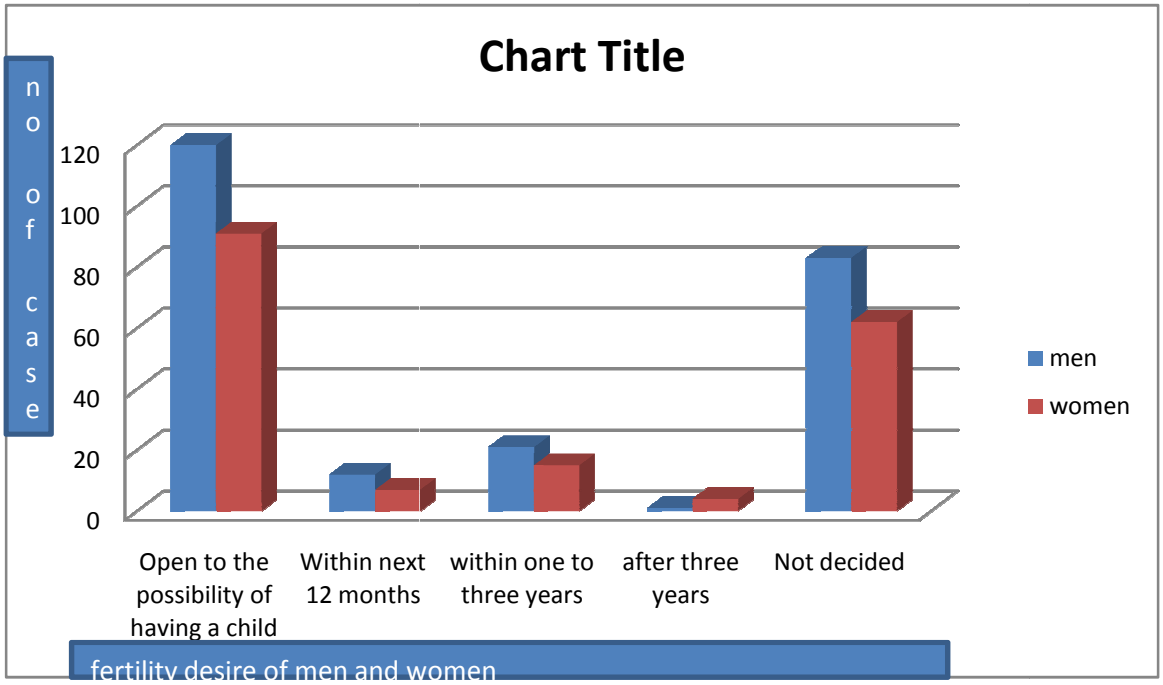


Figure 2:- fertility desire of men and women on ART in Nekemte town, East Wollega, Ethiopia, February 2010.

5.7. Family planning use

Two hundred eighteen of the PLWHA (36.8%) had ever used at least one method of contraception before their HIV diagnosis; injectables and oral contraceptive pills were the most commonly used contraceptives before HIV diagnosis (57% and 26% respectively). Among men/men's partner commonly used method before their HIV diagnosis were injectables followed by condom(46 % and 42 % respectively), similarly among women commonly used methods were also injectables and Pills but with higher proportion(65% versus 57% respectively).

At the time of the study, 512 respondents (86.5%) were using at least one method of family planning; of these 387 (76%) were using condoms, while 116(23%) practiced abstinence. Eighty four percent of men and 67 % of women were using condom while 14 % of men and 31% of men were abstained from sex. About 83% wanted to use family planning in the future; these individuals most preferred to use condoms 439 (89%) followed by injectables 38 (8%) (table 7).

Table 7:-Contraceptive method used ever, during time of interview, to be used by men and women living with HIV/AIDS in Nekemte town, East Wollega, Ethiopia, February 2010

	Ever use before diagnosis			Current use of Family planning			Desired family planning in future		
	Men (%) n=296	Women (%) n=296	Total(%) n=592	Men (%) n=296	Women(%) n=296	Total(%) n=592	Men (%) n=296	Women (%) n=296	Total(%) n=592
Contraceptive use									
Yes	97(32.8)	121(40.9)	218(36.8)	250 (84.5)	262 (88.5)	512(86.5)	243 (82.1)	250(84.5)	493 (83.3)
No	199(67.2	175(59.1)	373(63.2)	46(15.45)	34(11.5)	79(13.3)	53(17.9)	46(15.5)	99(16.7)
FP method	**n=97**	**n=121**	**n=218**	**n=250**	**n=262**	**n=512**	**n=243**	**n=250**	**n=493**
Abstained	2 (2)	3 (2)	5 (2)	34(14)	82(31)	116(23)	8 (3)	29 (12)	37 (8)
Condom	40 (41)	20 (17)	60 (28)	211 (84)	176 (67)	387(76)	229(94)	210(84)	439 (89)
Pills	19 (20)	37 (31)	56 (26)	2 (1)	3 (1)	5 (1)	0 (.0)	3 (1.0)	3 (1)
Injectable	45 (46)	79 (65)	124(57)	18 (7)	14 (5)	32 (6)	17(7)	21(8)	38 (8)
IUD	2 (2)	2 (2)	4 (2)	0 (.0)	1 (.3)	1 (0.3)	1 (.3)	3(1)	4 (1)
Implants	5 (5)	2 (2)	7 (3)	4 (2)	1 (.3)	5 (1)	0 (.0)	1 (.3)	1 (.2)

At the time of interview, among men the main reasons for not wanting use contraceptive method were not having sexual partner 25 (47%) followed by desire to have a child 9 (17%). Also among women main reason not to use was not having sexual partner 23 (50%) followed by fear of reaction with ART drugs 15 (33%) (table 8).

Table 8: Preferred site and reason not to want to use contraceptive among men and women living with HIV/AIDS in Nekemte town, East Wollega, Ethiopia, February 2010

Characteristics	Men (%) n=296	Women (%) n=296	Total (%) n=592
Where to get FP method	**n=243**	**n=250**	**n=493**
ARV treatment units	207 (85)	203(81)	410 (83)
Family Planning unit	28 (12)	40 (16)	68 (14)
Others*	8(3)	7 (3)	15 (3)
Reason not to want to use FP	**n=53**	**n=46**	**n=99**
Not having sexual partner	25(47)	23(50)	48(48)
Want to have a child	9 (17)	4(9)	13 (13)
Fear of reaction with ART drugs	7 (13)	15 (33)	22 (22)
Others**	12 (26)	4 (9)	16 (16)
Disclosed of HIV status to FP unit	210 (70.9)	165 (55.7)	375 (63.3)

*private clinic, NGO clinic
**partner objected, breast feeding

5.8. Knowledge and Attitude toward MTCT and PMTCT

Knowledge was high regarding the possibility of HIV transmission from mother-to-baby (574(97.0%)) (99.0% among men and 94.9%among women). Equal proportion of women and men knew on presence of drug that reduces transmission of virus from mother to child (97%) and 97% respectively). Also, nearly equal proportion women and men think that HIV-infected women who take medication actually reduce HIV transmission to child (273 (96%) and 258 (95%) respectively).

Men reported that time of transmission of HIV from mother to child was during breast feeding 230(82%), during labour 209(72%), during pregnancy 188(67%), while among women during breast feeding 260(89%), during labour 214(73%), during pregnancy 192(66%). Among men; main sources of information for PMTCT were Health care providers 226(80%) followed by mass media 100(36%), friends/peers 10 (4%), while for women; main sources were health care providers, mass media, and friends/peers (257(88%), 66 (23%), 10(3%) respectively. Ninety seven percent of men and 98.3% of women reported one can acquire new strain if commit unsafe sex.

Table 9:- knowledge and attitude toward MTCT and PMTCT among men and women living with HIV/AIDS in Nekemte town, East Wollega, Ethiopia, February, 2010

Characteristics	Total (%)	Men (%)	Women (%)	P value
HIV transmission from mother to child	**n=592**	**n=296**	**n=296**	
Yes	574(97.0)	281(94.9)	293(99.0)	**.010**
No	18(3.0)	15 (5.1)	3 (1.0)	
Time of HIV transmission	**n=574**	**n=281**	**n=293**	
During breastfeeding	490(85)	230(82)	260(89)	
During labour	423(74)	209(74)	214(73)	
During pregnancy	380(66)	188(67)	192(66)	
Heard of drug prevent MTCT	**n=574**	**n=281**	**n=293**	
Yes	558 (97)	273(97)	285(97)	**.038**
No	8 (1)	5 (2)	3 (1)	
Don't know	9 (1)	4 (1)	5 (2)	
Perception on drug given to reduce MTCT actually reduces transmission	**n=558**	**n=273**	**n=285**	
Yes	534 (96)	260 (95)	274 (96)	
No	22 (3.7)	12 (4)	10 (4)	
Don't know	3 (.5)	1 (.7)	1 (.3)	
Sources of information on MTCT	**n=574**	**n=281**	**n=293**	
Health care providers	483 (84)	226 (80)	257 (88)	
Mass media	166 (29)	100 (36)	66 (23)	
From friends/peers	20 (3)	10 (4)	10 (3)	
Risk of acquiring new strain if commit unsafe sex	**n=296**	**n=296**	**n=296**	
Yes	578 (97.6)	287 (97.0)	291 (98.3)	
No	8 (1.4)	4 (1.4)	4 (1.4)	
Don't know	6 (1.0)	5 (1.7)	1 (.3)	

5.9. HIV/AIDS diagnosis, treatment, care and support

One hundred seventy two (58.1%) of the men had known their HIV status in past two years, while 153(51.7%) of the women had duration of less than or equal to 2 years since diagnosed for HIV. One hundred ninety two (64.9%) of the men had duration of less than or equal to 2 years since ART started, while 177 (59.8%) of the women had duration of less than or equal to 2 years since ART started.

About 95 % of men and women reported improvement in health status after ARV treatment. Nearly three fourth of both men and women had CD4 count of greater than or equal to 200 (75.3% and 73.3%) respectively.

One hundred forty five (49.0%) of men and 185(62.5%) women had support including money (6% and 8% respectively), home based care (9% and 3% respectively), psychosocial support (33% and 28% respectively) and food (62% versus 64% respectively). The sources of support among men and women were mainly from nongovernmental organizations (68% versus 42.9%) & governmental organizations (32% versus 32%) (table 10).

Table 10: Information on HIV/AIDS treatment, support conditions among men and women living with HIV/AIDS in Nekemte town, East Wollega, Ethiopia, February 2010

Characteristics	Men (%)	Women (%)	Total (%)
Duration of time since diagnosis(years)	**n=296**	**n=296**	**n=592**
≤ 2 yrs	172(58.1)	153(51.7)	325(54.9)
>2yrs	124 (41.9)	143(48.3)	267(45.1)
Duration of time on ART(in years)			
≤ 2 yrs	192(64.9)	177 (59.8)	369(62.3)
>2yrs	104(35.1)	119(40.2)	223(37.7)
Self reported changes in health			
Improved	279 (94.3)	281 (94.9)	560 (94.6)
Not improved	17 (5.7)	15 (5.1)	32 (5.4)
Recent CD4 count			
<200	73 (24.7%)	79(26.7%)	152 (25.7%)
≥ 200	223 (75.3%)	217 (73.3%)	440 (74.3%)
Did you get any Support			
Yes	145(49.0)	185(62.5)	330(55.7)
No	151 (51.0)	111 (37.5)	262 (44.3)
Type of support received	**n=145**	**n=185**	**n=330**
Food	90 (62)	119 (64)	209 (63)
psychosocial support	48 (33)	52 (28)	100 (30)
Money	8 (6)	16 (9)	24 (7)
Home Based Care	13 (9)	6 (3)	19 (6)
Source of support	**n=145**	**n=185**	**n=330**
NGO's	99 (68)	127 (69)	226 (68)
Government	47 (32)	59 (32)	106 (32)
Others*	1 (1)	1 (1)	3(1)

Others*friends, family, peer

5.10. Factors associated with fertility desire of men and women on ART

In a multivariate model (shown in table11), among HIV positive women and men who desired children male respondents were two fold more likely to desire children compared to women respondents (Adjusted Odds Ratio(AOR): 1.706, 95%CI: 1.045-2.784). Younger age 18-29 years was nearly threefold (AOR: 3.493, 95%CI: 1.644-7.424), age group 30-39 years was nearly threefold (AOR: 2.975, 95%CI: 1.477-5.991), more likely to desire child than respondents ≥ 40 years. Having no living child had nearly thirteen fold (AOR: 13.140, 95%CI: 5.347- 32.289), having 1-2 living children nearly fourfold (AOR: 4.157, 95%CI: 2.166-7.975) more likely to desire child than those who have > 2 living children. Having partner who desire child was nearly fifteen fold more likely to desire child than having partner who did not desire a child(AOR: 15.402, 95%CI: 9.198-25.789). Having recent CD4 count ≥ 200 was nearly two fold more likely to desire child than who had recent CD4 < 200(AOR: 2.014, 95%CI: 1.158-3.502).

Table 11:-Factors associated with fertility desire of men and women living with HIV/AIDS under follow up care in Nekemte town, East Wollega, Ethiopia, February 2010

Characteristics	Desired child (N)	Not desired child (N)	Crude OR(95 % CI)	Adjusted OR(95% CI)
Sex				
Female	91	205	1	1
Male	120	176	1.536 (1.095, 2.155)*	1.706(1.045, 2.784)*
Age				
18-29	101	105	5.523(3.158, 9.662)*	3.493(1.644, 7.424)*
30-39	91	169	2.981(1.719, 5.172)*	2.975(1.477, 5.991)*
≥ 40	19	107	1	1
Family size				
≤ 2	104	73	3.685(2.548, 5.329)*	1.540(.798 , 2.971)
> 2	107	308	1	1
Disclosure to family				
Yes	165	335	1	1
No	46	46	2.030(1.296, 3.182)*	1.603(.876 , 2.935)
Number of alive children				
no living child	93	48	10.979(6.414, 18.793)*	13.140(5.347,32.289)*
1-2 child	96	171	4.170(2.590, 6.713)*	4.157(2.166, 7.975)*
> 2	22	162	1	1
Partner's desire				
Yes	136	49	12.286 (8.141,18.543)*	15.402(9.198, 25.789)*
No	75	332	1	1
Recent CD4 count				
<200	39	113	1	1
≥200	172	268	1.860(1.232, 2.806)*	2.014(1.158, 3.502)*
Duration since diagnosis				
≤ 2years	128	197	1	1
> 2 years	83	184	.569(.397 , .814)*	1.283(.550 , 2.994)
Duration on ART				
≤ 2years	149	220	1	1
> 2 years	62	161	.694(.493 , .977)*	.569(.235, 1.374)

*has significant association at p value < .05

In a multivariate model (shown in table 12), among HIV positive women who desired children; younger age (18-24) was nearly fourfold more likely to desire child than age ≥ 35 years (AOR: 3.508, 95%CI: (1.099-11.201). Having no living child was nearly sevenfold (AOR: 6.729, 95%CI: 1.958- 23.132), having 1-2 living children was nearly threefold (AOR: 2.975, 95%CI: 1.139-7.767) more likely to desire child than those who had > 2 living children. Having partner who desire child (AOR: 17.430, 95%CI: 8.051-37.734) was nearly seventeen fold more likely to desire child than having a partner who did not desire a child. Family size < 2 (AOR: 3.526, 95%CI: 1.469-8.459) was positively and significantly associated with women's fertility desire.

Table 12:- Factors associated with fertility desire of women living with HIV/AIDS under follow up care in Nekemte town, East Wollega, Ethiopia, February 2010

Characteristics	Desired child (n)	Not desired child (n)	Crude OR (95% CI)	Adjusted OR(95% CI)
Age				
18-24	19	15	8.656(3.490, 21.469)*	3.508(1.099, 11.201)*
25-34	60	108	3.796(1.917, 7.516)*	1.837(.770 ,4.386)
≥ 35	12	82	1	1
Family size				
< 2	52	34	5.725(3.311, 9.900)*	3.526(1.469, 8.459)*
> 2	39	171	1	1
Number of alive children				
No alive child	44	24	15.480(6.829, 35.092)*	6.729(1.958,23.132)*
1-2	37	91	3.800(1.785, 8.088)*	2.975(1.139, 7.767)*
>2	10	90	1	1
Partner's desire				
Yes	56	24	12.067(6.624,21.980)*	17.430(8.051,37.734)*
No	35	181	1	1
Duration on ART				
≤ 2years	65	112	1	1
> 2 years	26	93	.482(.283 , .820)*	.578(.286, 1.168)

*has significant association at p value < .05

In a multivariate model (shown in table 13), among HIV positive men who desired children were younger age 18-29 years (AOR: 3.030, 95%CI: 1.218-7.537) was nearly threefold, those within age 30-39 years (AOR: 3.105, 95%CI: 1.408-6.847) was also nearly threefold more likely to desire child than those ≥ 40 years. Having no living child (AOR: 16.435, 95%CI: 4.281-63.093) was nearly sixteen fold, having 1-2 living children (AOR: 4.652, 95%CI: 1.943-11.134) nearly fivefold more likely to desire child than who had > 2 children. Having a partner who desire child (AOR: 16.734, 95%CI: 8.200-34.150) was nearly seventeen fold more likely to desire child than having a partner who did not desire a child.

Table 13:- Factors associated with fertility desire of men living with HIV/AIDS under follow up care in Nekemte town, East Wollega, Ethiopia, February 2010

Characteristics	Desired child (n)	Not desired (n)	Crude OR(95 % OR)	Adjusted OR(95 CI)
Age				
18-29	40	30	5.961(2.938,12.094)*	3.030(1.218,7.537)*
30-39	63	70	4.024(2.151, 7.527)*	3.105(1.408, 6.847)*
≥ 40	17	76	1	1
Family size				
≤2	52	39	2.513(1.516, 4.165)*	.754(.276, 2.059)
>2	68	137	1	1
Disclosure to family				
Yes	89	148	1	1
No	31	28	1.841(1.036, 3.271)*	1.913(.866 , 4.227)
No of alive children				
No alive child	49	24	9.429(4.442,20.014)*	16.435(4.281,63.093)*
1-2	59	80	4.370(2.255, 8.472)*	4.652(1.943, 11.134)*
> 2	12	72	1	1
Partner's desire				
Yes	80	25	12.080(6.842,21.328)*	16.734(8.200, 34.150)*
No	40	151	1	1
CD4 count				
< 200	20	53	1	1
≥ 200	100	123	2.154 (1.209, .841)*	2.128(.992 , 4.569)

*has significant association at p value < .05

5.11. Qualitative study results

Total of 10 respondents were interviewed, 5 males and 5 females. Their age ranges from 22 to 56 years. Seven of the respondents attend at least primary education and the three had no education. Occupations of the respondents were two daily laborers, two farmers, four with no work, and two government employees. Two of respondents had not any income; others have income ranging from 50 to 2742 ETB with a median of 250 ETB.

5.11.1. Sexual behavior and condom use

Six of the respondents were married, 3 were single and one was widowed. Before HIV diagnoses three of the respondents were having multiple sexual partners, two were having irregular partner, two of them living with their second wife, and three were having only one sexual partner. Only one of the respondents was using condoms irregularly before diagnosed for HIV.

One respondent explained, *"With my first sexual partner we were using condom. Then after him, I had a partner who was a soldier. He told me that he wants to marry me, and we were having a sex without a condom."*

22 years old woman, never married

Other respondent explained, *"I had sexual partner before I know my serostatus and we were not using condom. She became pregnant and we decided to abort the pregnancy."*

24 years old man, never married

One respondent who had sex with commercial sex workers, *"I used to use condom irregularly with irregular partner even with commercial sex workers, because I was drinking alcohol and had sex with commercial sex workers and multiple partners."*

35 years old man, never married, government employee

At the time of interview six of respondents had regular partner, while the remaining had no sexual partner. Six of the respondents who had sexual partner reported that they regularly used condom during sexual intercourse. Reasons why they were using condom were to prevent themselves from acquiring new strain, to prevent from STI, to prevent from unwanted pregnancy, to protect negative partner. Four of the ten respondents reported that their sexual desire was increased/ resumed since ART.

Respondent explained about sexual desire and condom use as,*" ---my sexual desire is good. The one [sexual partner] I previously with him was HIV negative and we are separated. Then after him, I started relationship with other person who was on ART. He did not want to use condom …but I want to use a condom and we disagreed on this issue. Due to this we are separated. Now I am alone but I want a sexual partner."*

22 years old woman, never married

One respondent explained effect of HIV on his sexual desire as," since *sexual desire is reduced, frequency of sexual contact is reduced… but we use condom if we have a sex."*

56 years old man, married, farmer

Most of the study subjects reported risk of unprotected sex as acquiring new strain, risk of transmission to negative partner. One of the respondents explained," *Possible risks of risky sexual practice is STD transmission, acquiring new strain, acquiring drug resistant virus."*

35 years old man, never married

5.11.2. Information on child desire and reproductive issues

Out of 10 respondents, 7 individuals had children. Discussion of their fertility desire and intention elicited multiple fears: that the child would be born HIV-positive, and that there was a risk of re-infection with a new strain of HIV or transmission of HIV to partner while trying to conceive. However, two out of those with children and all of those without children expressed their desire to have child despite their fears, justified by reasons like not having any child, availability of prevention of mother to child transmission, improvements of health status, at the end to get care & support from their children.

One respondent explained the reason why not desiring a child and impact of HIV as, "I *have two children, the first- 10 years old female, not tested, the second- 3 years old male, positive. I don't want to have a child--- I took medication to prevent mother to child pregnancy for last labour. When I was in labour during night and I go by knee and take drug. Then I give a breast feed for 6 months then I quit promptly. But my child is positive. If I knew my status before the pregnancy I would not have a child, because he is HIV Positive. I don't want to add another child."*

30 years old woman, married, with two living children, no education

Another respondent who desire to have a child explained," *I don't have any child. If I have a child I become very happy and having a child is very important---Before I knew my status, my girl friend became pregnant, we have discussed with my friend, and aborted. If I get a child, I consider myself as I am in heaven. When she became pregnant I was happy but we were unable to bring to birth. I have not decided how many children I can have but I have a great desire to have a child. "*

24 years old man, never married, no living child, grade 9

One respondent who had desire to have child but had fear of having a child explained," I *have desire to have child, even though I have fear to raise my child because of economic constraint. ---my partner understand, I am positive and she is negative, I think it is difficult to have a child. If there is any possibility of having a child, I want female. --- My present child also needs a sibling, and says I am alone and crying to me all the time. My partner also has a desire to have a child."*

40 years old man, married, with one living child, grade 7 complete

5.11.3. Family planning use and choice

All of six respondents who were in union used condom and one respondent used injection in addition to condom. Condoms were said to be a preferred method because of protection against STIs, New strain, and drug resistant virus.

One respondent explained why he preferred condom as, "*My partner and I are positive, to prevent pregnancy which may end up positive is through using contraceptive method, in addition condom is used to prevent acquiring of new strain."*

42 years old man, married, have no education

One respondent who were using injection for three years since HIV diagnosis and switched to condom after three years since diagnosis explained her reason as, *" Now we are using condom only. I feared my husband to tell my status for three years and were not using condom. I was using injection only. I told my partner after three years of knowing my status. Then, we started to use condom because of its dual protection."*

30 years old woman, married, have no education

One respondent who were using injection and condom at the time of interview explained her reason as, *"Menstruation comes twice a month. If I use pills I may forget to take it----due to this reason I use injection. Also I use condom to protect my partner."*

25 years old woman, married, diploma holder

Nine of the respondents explained their intention to use condom for the future, among those who want to use condom four of them want to use injection while one wants tubal ligation. Participants were convinced that HIV-infected couples on HAART should use condoms to prevent re-infection with possibly drug- resistant strains, to prevent unwanted pregnancy.

Sterilization was considered best method if he added another child first, *"I want to add another child first, then after I want to be sterilized. But until I have another child I continue to use condom. "*

40 years old man, married, grade 7 complete

5.11.4. Knowledge on MTCT and PMTCT

All respondents discussed that HIV is transmitted from mother to child. Time of HIV transmission is during pregnancy, labour and during breast feeding. Six of respondents explained there is drug that prevents transmission from mother to child.

Some of the respondents explained how much it is effective. The range of effectiveness as they explained was from 60-100%. One respondent explained," *There is a medication which prevent mother to child transmission. If one got medication which prevent mother to child transmission risk of transmission is reduced, 70% is born negative. Even though medication is taken there is 30% risk of transmission."*

40 years old man, married, grade 7

A respondent who developed negative attitude toward medication given to prevent mother to child explained, *"My thinking was previously it prevents, but my child becomes HIV positive even though I received drug to prevent mother to child transmission. Breast feed for six months and switched to replacement feeding. But when my child tested after six months he was HIV positive."*

30 years old woman, married, no education

6. Discussion

These findings showed about one third of women and men living with HIV in Nekemte town were open to the possibility of having children (30.7% and 40.5% respectively). Overall this proportion is similar to previous Addis Ababa reports (40.2%). However there is difference in proportion from that conducted in Addis Ababa (44.7% among women and 35.2% of men). This may to sample inclusion differences in which in Addis Ababa Study PLWHA on non-HAART were included (11). This indicates the need for reproductive planning counseling for clients in HIV care settings in order to meet PLWHIV's diverse reproductive intentions—for those wishing to have children and those wishing to avoid having children.

In Uganda, 16% of HIV-infected men and women desired more children and of these, men were almost four times more likely to want more children than the women (27% vs. 7%) (16). Fertility desire among women was nearly equal to the result from cross sectional study from South Africa which indicated that 29% of women stated that they wanted to have children in the future (19). A similar pattern of fertility desire is observed in (2005) Ethiopian Demographic and health survey except that a relatively higher proportion both among male and female (65.1% and 58.1 % respectively) and it was for general population and limited to those who were married only (27).

Men's greater intentions to have children than women may be due to a desire to leave something of themselves, their 'name' and lineage behind when they die, reported in other studies of HIV-infected men in South Africa (8).

In this study Seventy percent of respondents (78.4% among men versus 61.8% among women) were sexually active in the 6 months prior data collection. Nearly equal proportion of men and women had used condoms within the six months prior to data collection (91.8% and 90.2% respectively).

Unprotected sexual activity carries risks for sexual transmission and vertical transmission of HIV. Women living with HIV may also face increased risks during childbirths. In Uganda, Overall, (455) 42% of participants were sexually active within the past three months and 135 (33%) engaged in pregnancy risk behavior (16).At the same time, many PLWHIV continue to be sexually active and some have strong desires for biological children (14, 19) which entails unprotected sexual intercourse.

In present study 23% (23 % among male and 24% among female) respondent's partner were negative. If the woman is uninfected and her partner is infected, she may have to risk acquiring HIV while attempting to become pregnant. To lower the risk, advise having sex without condoms only on days that the woman is fertile. If the woman is infected and the man is not, artificial insemination would avoid the risk of transmitting HIV to him. When a man has HIV and his partner does not. Achieving pregnancy safely is more difficult in this situation. The only way to avoid the risk of transmitting HIV is artificial insemination using semen from a donor who has been tested and does not have HIV (4).

This finding indicated that among twelve percent of men, their partner become pregnant since they knew their sero status of which 25 (69.4%) was intentional. Also twelve percent of women become pregnant of which 20 (55.6 %) was intentional. This is consistent to report from South Africa (9%) while slightly lower than study found from Uganda among women on ART (16.9%) (14, 18). In South Africa, among women in HIV care (non- HAART; n = 36), 11% reported becoming pregnant after being aware of their HIV status. All these pregnancies were reportedly unintentional. Study in South Africa showed among women on HAART 9% reported having been pregnant since commencing HAART; of these 30% of pregnancies was reportedly unintentional (14).

This indicates unintended pregnancy since diagnosed for HIV is worrying. Clearly interventions to address these gaps are needed both in the broader reproductive health services and within HIV care settings. Hence it is critically important to enhance reproductive service provision to assist PLW-HIV in both preventing unwanted pregnancies or conceiving and giving birth as safely as possible.

Prevention of unwanted pregnancies avoids many births of HIV-infected infants. A study using mathematical modeling estimated that, if there had been no contraceptive use in the world in 2006, an additional 2,940 infants infected with HIV would have been born each day, thus tripling the number of infants with HIV (28). In sub-Saharan Africa, with relatively low levels of contraceptive use, in 2006 there would have been about one-third more HIV-positive births if there had been no contraception at all (4).

Policy-makers and health care providers need to anticipate these potentially increased fertility intentions in developing specific reproductive counseling messaging for those at different stages of HIV care. Preventing unintended pregnancies among women with HIV will substantially reduce the number of infants with HIV infection. Thus it is a major element in the world strategy to prevent mother-to-child transmission of HIV (14). It also provides insights on the fertility intentions and associate health care needs of men living with HIV that SRH services must target men too.

For both women and men, the desire to have at least one child was the most commonly cited reason for wanting a child 48(40%) and 41 (45%) respectively) followed by wanting more children (56 (47%) and 45 (49%) respectively), partner /family influence to have children (10 (51%) and 3 (3%) respectively). In South Africa the commonest reported reason for women and men wanting to have a child was wishing to do so while their health still permitted (21% and 39% respectively), wanting at least one child/ more children (16% and 26% respectively), marriage and replacing a child who had reportedly died of AIDS (13% and 6% respectively)(14). This study quantifies/identifies some of the common reasons for PLWHIV's fertility intentions which need to inform individual HIV care client counseling should focused on them.

Prior work in the area of HIV and fertility has focused on pregnancy and not on the pre-conception pregnancy planning stage. It is important for clinicians to recognize that many HIV-positive men and women desire to have a child and to discuss pregnancy plans with their patients and partners prior to conception. Clinicians should be prepared to provide information on general pre-conception guidelines, methods to increase pregnancy success and decrease horizontal HIV transmission as well as general information on prenatal care and the appropriate use of ART during pregnancy(4).

An absence of reproductive discussions and easy access to contraceptive measures may lead to pregnancies occurring in the most unsafe conditions and clients' desires to prevent or discontinue pregnancies will not be met.

At the time of the study, 512 respondents (86.5%) were using at least one method of family planning; of these 387 (76%) were using condoms, while 116(23%) practiced abstinence. Eighty four percent of men and 67 % of women were using condom while 14 % of men and 31% of men were abstained from sex. In sub-Saharan Africa, where rates of HIV prevalence among women are the world's highest, meeting the family planning needs of women with HIV has great potential to reduce further the number of HIV-positive births. It is estimated that one-fourth of all births in sub-Saharan Africa are unintended. Assuming that 25% of HIV-positive births are also unintended, meeting the family planning needs of all women with HIV in sub-Saharan Africa has the potential to avert 120,000 HIV-positive births each year (28**).**

Furthermore, preventing unintended pregnancies is a cost-effective strategy to prevent new HIV infections. Models show that for the same expenditure, increasing contraceptive use averts more HIV positive births than a traditional preventing mother-to-child transmission (PMTCT) strategy of ARV prophylaxis (for disease prevention) (29**).** Combined, interventions such as ARV medications, cesarean section delivery, and avoidance of breastfeeding have been able to reduce the risk of mother-to-child transmission of HIV in developed countries to below 2%(34). Compared with 25% to 50% for women who Breastfeed as it is typically practiced without these measures. So far, however, few women in developing countries have access to the necessary services and to safe infant formula (4).

Among HIV positive women and men who desired children being male, younger age group (18-29) and age group(30-39), having no living child, having 1-2 living children, Partners' desire, recent CD_4 count $\geq$ 200 was positively and significantly associated with both men's and women's fertility desire.

Among HIV positive women who desired children younger age (18-24), having no living child, having 1-2 living children, partners' desire, and family size < 2 was positively and significantly associated with women's fertility desire.

Among HIV positive men who desired children are younger age (18-29), age 30-39, having no living child, having 1-2 living children, partners' desire was positively and significantly associated with men fertility desire

An important factor associated with fertility desire identified in this study is the age of the respondents. This study showed that fertility desires decrease with increasing age of the patients. This may be attributed to the expected Age specific fertility of Ethiopia (27). Age specific fertility rate is increasing from age 15-19 years and reach highest at age 20-24 years and then shows decreasing trend. Among women HIV's peak prevalence is ages 20-29 where fertility desire is high, which requires greater attention for reproductive needs of this age group.

Younger age has consistently associated with fertility intentions in studies of HIV-positive women in Nigeria and South Africa (8, 30). Many people with HIV are diagnosed during their reproductive years; they inevitably face decisions about their reproductive future. Addressing the sexual and reproductive health needs of all young people, including those with HIV, is important to ensure their health and longevity (4).Younger age has consistently been a predictor of fertility intentions in all studies of HIV-positive people (10, 11). This has public health importance as many new HIV infections in Ethiopia are occurring in younger women and men.

In current study among both men and women fertility desire is associated with partners desire to have a child/children. A report from South Africa and Addis Ababa also indicated that both women and men were strongly influenced by partners' attitudes towards childbearing (8, 11). This indicates family planning information should focus their partner as well.

Despite the fact that, about 76% of respondents already had one or more children 36% (30.7% among female and 40.5% among male) of study subjects desired children. This is a cause for concern considering its implication for controlling vertical as well as heterosexual transmission.

Patients with higher CD4 count (≥ 200 cells/mm3) desired to have more children. Having CD4 cell count>500, being sexually active in the past three months, and contraceptive use in the past three months, having a BMI>18.5 and not having used condoms consistently in the last 3 months were all significantly associated with an increased odds of pregnancy (18). It may be that the reality of improvement of health status increases the commitment of these patients to achieve their reproductive desires. This suggests that health care professionals and counselors providing services for HIV-infected men and women could further support them by ensuring availability of family planning and to reduce HIV transmission risk to uninfected partners, dual methods (using condoms in addition to any other family planning method)(16).

The result of the qualitative study also elaborate fertility desire elicited multiple fears: that the child would be born HIV-positive, that pregnancy could have negative consequences on their own health and that there was a risk of re-infection with a new strain of HIV or transmission of HIV to partner while trying to conceive. However, some who had children and all of those without children expressed their desire to have child despite their fears, justified by reasons like not having any child, availability of prevention of mother to child transmission, improvements of health status, at the end to get care & support from their children.

7. Strengths and limitations of the study

- The strengths of this study include the further insights gained into the range and magnitude of factors influencing fertility desire of women and men in this very high HIV prevalence area. It provides new insights on the fertility desire and associate health care needs of men living with HIV that SRH services must target men too.
- Other strength of the study was; qualitative method was used to supplement the result and also to explore factors that were not addressed by quantitative survey.
- This study was cross-sectional rather than longitudinal and therefore unable to capture the potentially changing fertility intentions of men and women in this setting.
- Self-reported data are difficult to validate, and may be influenced by perception of socially desirable responses; however, we minimized this by training interviewers to build strong rapport and care was taken to ask questions without bias.

8. Conclusions

In conclusion, under circumstances in which many HIV-infected individuals, intentionally or unintentionally, continue to have children, not dealing openly with their fertility desires and intentions makes it difficult to optimally meet their reproductive health care needs.

First, with improved quality and length of life, men and women may anticipate living long enough to raise children, and thus desire more children. Second, improved health status may renew interest in sex, as well as strengthen a woman's biological ability to conceive and carry a pregnancy to term.

It is important to recognize that many HIV-positive women and men desire and intend to have a child. Patients who do not want to have a child require effective contraception. Those who desire children and are engaging in pregnancy risk behavior need education on the efficacy of PMTCT interventions and those who desire children and are not engaging in pregnancy risk behavior need on-going counseling on strategies for minimizing transmission risk while attempting conception and on the efficacy of PMTCT interventions so that they make informed choices about their pregnancy risk behavior. Temporary abstainers who do not desire children need ongoing support and access to family planning in case they resume sexual activity in future.

9. Recommendations

- Providers need to help manage reproductive health of HIV-infected individuals in a more upfront and structured manner, to probe their reproductive desires and intentions to support reproductive choice.
- HIV care and treatment could provide an important opportunity to provide information and counseling to men that would encourage their involvement in reproductive health services more generally.
- Non-judgmental counseling that examines future reproductive desires with HIV-infected clients and planning is needed to assist clients in acquiring knowledge and accessing reproductive health services appropriate to their needs. Clients need information and counseling on contraceptive options.
- Advice is needed from health care workers on how to balance safer sex practices and the desire to reproduce, including information on the safest ways for HIV-infected individuals to conceive and have a healthy pregnancy for those who desire to have a child and effective contraceptive method for those not desiring a child which should not only focused on condom(condom plus other contraceptive)
- Additional longitudinal that examines the factors associated with fertility desire and pregnancy risk behavior and evaluates strategies to reduce unwanted pregnancy among HIV-infected men's partner and women is needed.

10. References

1. UNAIDS. Report on the global AIDS epidemic, UNAIDS, 2009.
2. NNPWE. National Network of Positive Women Ethiopians (NNPWE), (2007), Strategic Plan (2007-2009), Working for Positive Change.
3. MOH. Guidelines for Prevention of Mother-to-Child Transmission of HIV in Ethiopia, Federal HIV/AIDS Prevention and Control Office.MOH, July 2007.
4. Family Planning Choices for Women with HIV. Population report, John Hopkins Bloomberg school of Public Health.2007.
5. Askew I, Berer M. The Contribution of Sexual and Reproductive Health Services to the Fight against HIV/AIDS: A Review. Reproductive Health Matters, 2003; 11(22):51–73.
6. WHO. Sexual and reproductive health of women living with HIV/AIDS; Guidelines on care, treatment and support for women living with HIV/AIDS and their children in resource-constrained settings. WHO, 2006.
7. MOH. Accelerated access to HIV/AIDS prevention, FMOH, care and treatment in Ethiopia road map 2007-2008/10), 2007.
8. Cooper, D., Bracken, H., Myer, L., Zweigenthal, V., Harries, J., Orner. P., Manjezi, N., and Ngubane, P. Policy Brief; Reproductive intentions and choices among HIV-infected individuals in Cape Town, South Africa: Lessons for reproductive policy and service provision from a qualitative study. 2005.
9. Kaida, A., Andia, I., Maie, M., Strathdee, S.A., Bangsberg, D.R., Spiege, J., et.al. The Potential Impact of Antiretroviral Therapy on Fertility in sub-Saharan Africa. Current HIV/AIDS Reports, 2006; 3:177–184.
10. Bunnell R, Ekwaru J.P, Solberg P, Wamai N, Bikaako-Kajura W, Were W, et.al. Changes in sexual behavior and risk of HIV transmission after antiretroviral therapy and prevention interventions in rural Uganda. AIDS, 2006; 20:85–92.
11. Tamene, Wossenyelesh, Fantahun, Meganaw. Fertility desire and family planning demand among HIV positive women and men undergoing treatment in Addis Abba, Ethiopia. African Journal of AIDS research, 2007; 6(3):223-227.

12. Debeko, Kekebo, Seme, Asefa. Sexual and reproductive health needs and preferences of people living with HIV/AIDS in Southern Nations Nationalities and Peoples Region, Addis Ababa University MPH Thesis. 2007.

13. Paiva V, Santos N, França I, Filipe E, Ayres J.R, Segurado A. Desire to Have Children; Gender and Reproductive Rights of Men and Women Living with HIV: A Challenge to Health Care in Brazil. AIDS PATIENT CARE and STDs, 2007; 21(4):268-277.

14. Cooper D, Moodley J, Zweigenthal V, Bekker L, Shah I, Myer L. Fertility Intentions and Reproductive Health Care Needs of People Living with HIV in Cape Town, South Africa: Implications for Integrating Reproductive Health and HIV Care Services. AIDS Behavior, 2009; 13(supplement):38–46.

15. Taulo, F., Berry, M., Tsui, A., and et.al. Fertility Intentions of HIV-1 Infected and Uninfected Women in Malawi: A Longitudinal Study. AIDS Behavior , 2009;13(supplement):20–27.

16. Nakayiwa, S., Abang, B., Packel, L., and et.al. Desire for Children and Pregnancy Risk Behavior among HIV-Infected Men and Women in Uganda. AIDS Behavior, 2006; 10(supplement):95–104.

17. Maier, Marissa. Andia, Irene, Emenyonu , Nneka and et.al. Antiretroviral Therapy is Associated with Increased Fertility Desire, but not Pregnancy or Live Birth, among HIV+ Women in an Early HIV Treatment Program in Rural Uganda. AIDS behavior, 2009;13(supplement):28-37.

18. Homsy, J., Bunnell, R., Moore, D., King, R., Malamba, S., Nakityo, R., Glidden, D., Tappero, J., and Mermin, J., (2009). Reproductive Intentions and Outcomes among Women on Antiretroviral Therapy in Rural Uganda: A Prospective Cohort Study: PLoS ONE 4(1): e4149. doi:10.1371/journal.pone.0004149.

19. Myer, Landon, Chelsea, M., and Rebe, K., Prevalence and Determinants of Fertility Intentions of HIV-Infected Women and Men Receiving Antiretroviral Therapy in South Africa, AIDS PATIENT CARE and STDs, 2007;21(4):278-285.

20. Chakrapani, V., Shanmugam, M. , Newman P.A., Dubrow, R., Satpathy, A., and Kurian, A.K. Sexual and Reproductive Health of People Living with HIV in India: A Mixed Methods Study, Indian Network for People living with HIV (INP+) . 2007.

21. Kanniappan, S., Jeyapaul , M.J. and Kalyanwala, S.,. Desire for motherhood: exploring HIV positive women's desires, intentions and decision-making in attaining motherhood.AIDS Care, 2008;20(6):625-630.

22. Laher, F., Todd, C.S., Stibich, M.A., Phofa, R. Behane ,X., Mohapi, L., Gray, G. A Qualitative Assessment of Decisions Affecting Contraceptive Utilization and Fertility Intentions among HIV-Positive Women in Soweto, South Africa. AIDS Behavior, 2009;13(supplement):47–54.

23. Yeatman, S,. The Impact of HIV Status and Perceived Status on Fertility Desires in Rural Malawi, AIDS Behavior, 2009;13(supplement):12–19.

24. Nduna, M. and Farlane, L., Women Living with HIV in South Africa and Their Concerns About Fertility, AIDS Behavior, 2009;13(Supplement):62–65.

25. CSA. Summary and statistical of 2007 report of housing and population census, Federal democratic Republic of Ethiopia Population Census Commission. Addis Ababa; December 2008.www.csa.org. Accessed September, 2009.

26. Monthly HIV Care and ART Update, Update as of end of Yekatiti, 2002 . www.etharc.org (accessed February, 2010).

27. Ethiopian Demographic and Health survey, Central Statistical Agency Addis Ababa, Ethiopia, September 2006.

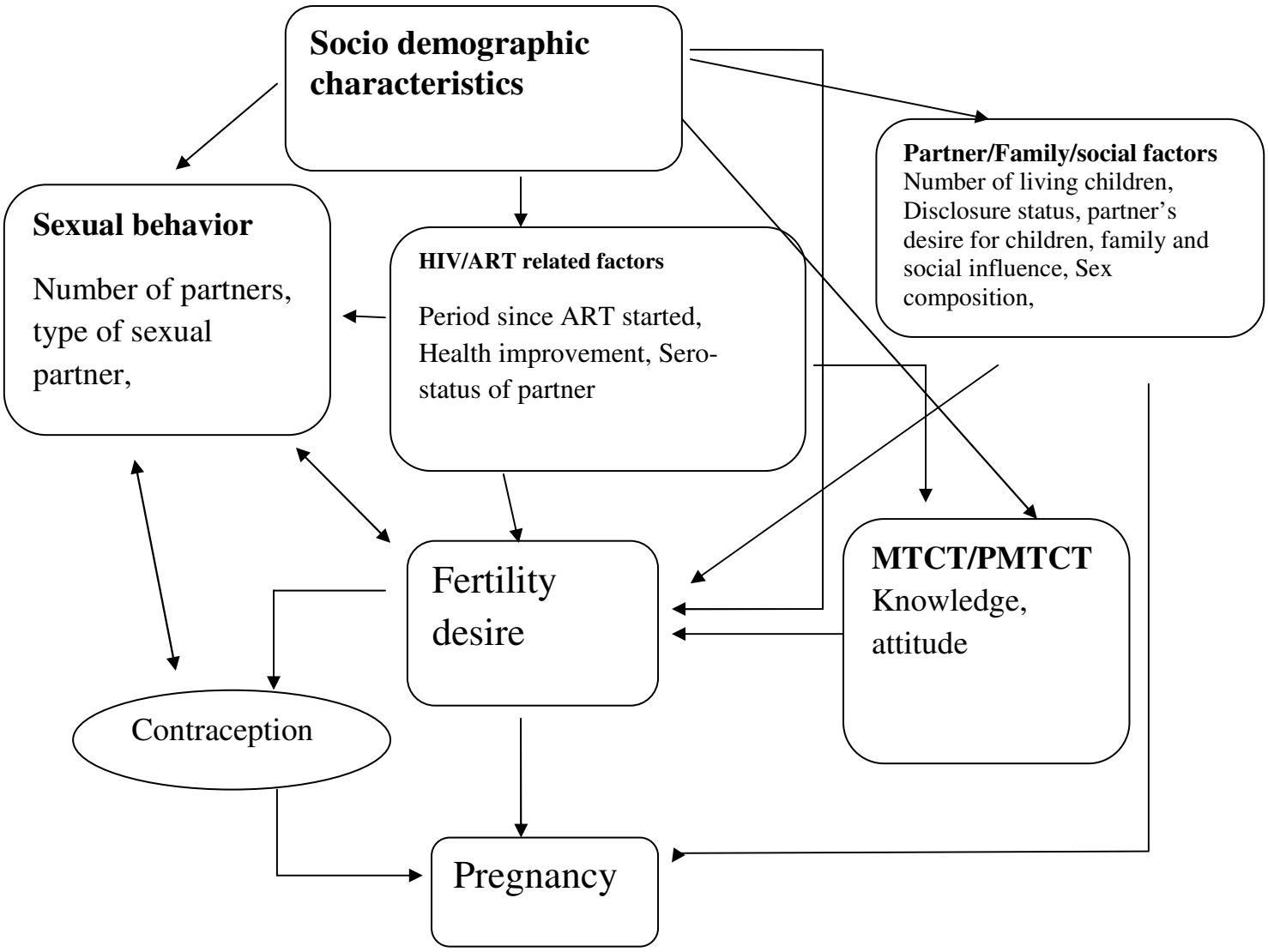
28. Reynolds, H.W. Contraception's proven potential to fight HIV, Personal communication, Mar. 23, 2007

29. Stover, J. Adding family planning to PMTCT sites increases the benefits of PMTCT. U.S. Agency for International Development Bureau for Global Health, Oct. 2003. (Issue Brief HIV/AIDS) (Last accessed June 2010 http://www.usaid.gov/our_work/global_health/pop/techareas/repositioning/briefs/adding_fp_pmtct.pdf.

30. Oladapo OT, Daniel OJ, Odusoga OL, Ayoola-Sotubo. Fertility desire and intentions of HIV-positive patients at a suburban specialist center. J National Medical Association ,2005;97(12): 1672–1681.

Annexes

I. Conceptual frame work of fertility desire of people living with HIV/AIDS



II. Questionnaires in English Version

ADDIS ABABA UNIVERSITY, FACULTY OF MEDICINE, SCHOOL OF PUBLIC HEALTH QUESTIONNAIRES FOR ASSESSING REPRODUCTIVE INTENTION AND REPRODUCTIVE HEALTH CARE NEEDS OF PEOPLE LIVING WITH HIV/AIDS IN NEKEMTE TOWN, EAST WOLLEGA ZONE OF OROMIA REGIONAL STATE

A. Information sheet

Good morning/good afternoon! My name is _____. I am graduate student of Public Health at Addis Ababa University, faculty of Medicine, School of Public Health and we are now conducting a survey in this institution (----------) to explore reproductive intention and reproductive health care needs of people living with HIV/AIDS on ART. We believe that this study will help to bring change in reproductive intention and reproductive health care needs of HIV positive people on ARV treatment. You are selected to be one of the participants in this study and you will help us by answering the questions we ask you. We assure you that whatever answers you give us are kept strictly secret. We do not need your name and address. We also inform you that you have the full right to withdraw from study or stop the interview at any time and/or skip any questions that you do not want to answer. You may find some of the questions too personal and difficult to talk about, but your experience will be very helpful for other people. The interview takes approximately 30-45 minutes. Do you have any question to ask?

Thank you very much!

Are you willing to participate in this study?

Yes ☐ No ☐

If yes go to next page

B. Consent form

I, the undersigned have been informed that the purpose of this particular research project is to study reproductive intention and reproductive health care needs of people living with HIV/AIDS on ART. I have been informed that I am going to respond to this question by answering what I know concerning the issue. I have been informed that the information I give will be used only for the purpose of this study; my identity, the information I give will be treated confidentially. I have also been informed that I can refuse to participate in the study or not to respond to questions I am not interested. Furthermore I have been informed that I can stop responding to the questions at any time in the process.

Based on the above information I agree to participate in the research voluntarily with the hope of contributing (on behalf of one) to the effort of knowing reproductive intention and reproductive health care needs of people living with HIV/AIDS on ART

Signature: _____

Date: _____

Address of investigator
Name: - Tesfaye Regassa
Addis Ababa University
Faculty of Medicine
School of Public Health, MPH student
Email: - regassatesfaye@gmail.com
IRB contact address
Tele: - 011 553 87 34
Email: - aaumfirb@yahoo.com
Addis Ababa University

በአድስ አበባ ዩኒቨርሲቲ የህክምና ፋኩልቲ የህብረተሰብ ጤና ትምህርት ዘርፍ በነቀምቴ ከተማ፣ምሰራቅ ወለጋ ፣ ኦሮሚያ ክልል ከኤች አይ ቪ ኤድስ ጋር የሚኖሩ ሰዎች የመዉለድ እቅድና የስነ ተዋልዶ ጤና አገልግሎት ፍላጎታቸዉን ለማጥናት በጥናቱ ላይ የተሳታፊዎች መረጃ መስጫ ቅፅ::

ጤና ይስጥልኝ! ስሜ _____ይባላል:: እኔ በአድስ አባባ ዩኒቨርሲቲ፣ የህክምና ፋኩልቲ፣ የህብረተሰብ ጤና ትምህርት ክፍል የድህረ ምረቃ ተማሪ ስሆን፣ አሁን በዚህ የጤና ተቋም (.....) **ዉስጥ ከ**ኤች አይ ቪ ኤድስ ጋር የሚኖሩ ሰዎች የመዉለድ እቅድና የስነ ተዋልዶ ጤና ፊላጎታቸዉን ለማጥናት መረጃ ማሰባሰብ ላይ እንገኛለን:: ይህ ጥናት ከኤች አይ ቪ ኤድስ ጋር የሚኖሩ ሰዎች የፀረ የኤች አይ ቪ ህክምና በመከታተል ላይ ለሚገኙት የመዉለድ እቅድና የስነ ተዋልዶ ጤና ፊላጎታቸዉን ለማሻሻል ይረዳል ብለን ተስፋ እናደርጋለን:: እርሶ ለዚህ ጥናት በአጋጣሚ የተመረጡ ስሆን ለምንጠይቆት ጥያቀዎች መልስ ይሰጡናል ብለን ተስፋ እናደርጋለን:: ስምዎና አድራሻዎ በዚህ መጠይቅ ዉስጥ የማይጠቀስ መሆኑንና የሚሰጡን መረጃ ሁሉ በምስጥር ተይዞ ለጥናት አገልግሎት ብቻ የምዉል መሆኑን ላረጋግጥልዎ እወዳለሁ:: እርሰዎ በዚህ ጥናት ላይ የመሳተፍ ፣ያለመሳተፍና ወይንም በማንኛዉም ወቅት ቃለ መጠይቁን የማቋረጥ ሙሉ መብት አለዎት:: ነገር ግን እርሰዎ በጥናቱ ላይ ተሳትፈዉ የሚሰጡን መረጃ ጥናቱን ዉጤታማ ለማድረግና የኤችይቪ ሕክምና አገልግሎት አሰጣት ላይ ለዉጥ ለማምጣት ከፍተኛ ጠቀሜታ አለዉ::

ቃለ መጠየቁ በግምት 30-45 ደቂቃ ይወስዳል:: የሚጠይቁን ጥያቄ አለዎት?

በጣም አመሰግናለሁ!

በዚህ ጥናት ዉስጥ ለመሳተፍ ፍቃደኛ ነዎት?

አዎ ☐ አይደለም ☐

መልስዎ አዎ ከሆኔ ወደሚቀጥለዉ ገጽ ይለፉ!

የፍቃደኝነት ማረጋገጫ ቅፅ

እኔ ፊርማዬን ከዚህ በታች የማኖረዉ የጥናቱ ዋና ዓላማ ከ የኤች አይ ቪ ኤድስ ጋር የሚኖሩ ሰዎች የመዉለድ እቅድና የስነ ተዋልዶ ጤና ፊላጎታቸዉን ለማጥናት መሆኑን ተረድቸና የማዉቀዉን ጥያቄ ብቻ እንድመልስ የተነገረኝ መሆኑን አረጋግጫለዉ:: እኔ የሚሰጠዉ መረጃ ለጥናት ዓላማ ብቻ የምዉል፣ ማንነቴ ና መረጃዉ በሚስጥር እንደሚያዝ ተነግሮኛል በዚህ ጥናት ላይ የመሳተፍ ፣ያለመሳተፍ፣ ያልፈለኩትን መረጃ ያለመስጠት፣ ወይንም በማንኛዉም ወቅት ቃለ መጠይቁን የማቋረጥ ሙሉ መብት እንዳለኝ ጭምር ተነግሮኛል::

ከዚህ በላይ የተቀመጡትን መረጃ መሰረት በማድረግ፣ ከኤች አይ ቪ ኤድስ ጋር የሚኖሩ ሰዎች የመዉለድ እቅድና የስነ ተዋልዶ ጤና ፊላጎታቸዉን ጥናት ተግባራዊ ለማድረግ ስል እኔ እንደ አንድ ሰዉ በዚህ ጥናት ለመሳተፍ በፍቃዴ ተስማሚቻለሁ::

የተሳታፊ ፊርማ_____

ቀን_____

ጥናቱን የሚያካሄድ ባለሙያ አድራሻ

ስም:- ተስፋዬ ረጋሳ

በአድስ አባባ ዩኒቨርሲቲ የህክምና ፋኩልቲ የህብረተሰብ ትምህርት ክፍል ተማሪ

E.mail:- regassatesfaye@gmail.com

<u>የ'IRB' አድራሻ</u>

ስልክ ቁጥር :-011 553 87 34

E.mail:- aaumfirb@yahoo.com

<u>አድስ አባባ ዩኒቨርሲቲ</u>

Time at the beginning of the interview ---------- Time of completing the interview_____
Questionnaire identification number____/____/___

Part I:- socio demographic characteristics

Code	Questions	Categories	skip
101.	How old are you?	.....Years (age in completed years)	
102.	Sex	Male..... Female.....	
103.	Your religion?	Orthodox..... 1 Catholic .....2 Muslim..... 3 Protestant..... 4 Others (specify).....89	
104.	What is the highest Educational level you attained?	Grade completed_____ Able to read and Write .....1 Unable to read & Write.....2 Other specify 89	
105.	What Ethnic groups do you belongs to?	Oromo……1 Amhara …..2 Gurage……3 Other(specify).....89	
106.	What is your current Marital/relationship status?	Married .....1 Single ..... 2 Widowed .....3 Divorced ..... 5 Non married partner .....6 No response 99	108
107.	If you are currently in marital/relationship, for how long years are in relationship?	…… years	
108.	What is your house hold average Monthly income?	..... …….Eth. Birr No income ..... 1 Don't know ..... 2 No response .....99 Other (specify) 89	
109.	What is your current Occupation?	Unemployed .....1 Student .....2 House wife .....3 House servant .....4 Daily laborer .....5 Merchant .....6 Commercial Sex worker .....7 Government employee....8 Private employee….9 farmer……10 Private self employed……11 Other(Specify)…...89	
110.	What your current residence?	Urban.. Rural.	
111.	How many is your family size?		

PART II-INFORMATION ON SEXUAL BEHAVIOR AND CONDOM USE

Code	Questions	Categories	skip
201.	If you are currently not in a marital status do you have sexual partner?	Yes……1 No……2 No response …99	
202.	Compare (thinking back) to prior your diagnose 0f HIV, what is your sexual desire now?	It is as normal as when I was healthy …..1 My desire is decreased ……2 My desire is increased …….3 No response …..99	
203.	Retrograde (think back) to your practice, which one of the following sexual risk did you practice before you knew sero-status?	Multiple sexual practice……1 Only one sexual partner…….2 Inconsistent/no condom use…3 I used to sale sex (kind, cash, gift)...4 I used to buy sex(kind, cash, gift)…5 I had sign/symptom of STD……6 Other (specify)……89	
204.	Which of the following risk do you practice now?	Multiple sexual practice……1 Only one sexual partner…….2 Inconsistent/no condom use…3 I am selling sex(kind, cash, gift)…….4 sometimes I buy sex(kind, cash, gift)…5 Other (specify)……89	
205.	Have you had sexual intercourse in the past six month?	Yes.....1 No.....2 I do not remember…..3 No response.....99 Other (specify) 89	211
206.	With whom did you have sexual intercourse?	Regular partner (husband/wife/friend)….1 None regular partner(casual)….2 Other(specify)……89 No response …….99	
207.	The time you had sex, did you use the condom?	Yes.....1 No.....2 I don't remember.....88 No response.....99 Other (specify).....89	-----210 ------211 ------211
208.	How often did you use condom?	Always.....1 Almost always ……...2 Sometimes .....3 I never used ……..4 No response .....99 Other (specify).....89	

209.	Why did you use condom? Because…	To protect unwanted pregnancy...1 For dual protection against HIV/AIDS/STIs and unwanted pregnancy…2 My partner HIV status is negative / to protect my partner……..3 Advised by health worker .....4 Fear of re-infection with new stain……5 Fear of other STDs ……..6 No response.....99 Other (specify) 89	
210.	If you didn't use, why didn't you use a condom?	Not available----------1 Too expensive---------2 Not comfortable-----3 Partner objected----4 In a hurry----5 Embarrassed to buy or ask---6 Used other contraceptives----7 Didn't think it is necessary----8 Allergy /itching if you used----9 I do not like it-----10 I trust my Partner----11 Due to lack of applying condom---12 Due to frequent breaks of condom----13 It reduces sexual pleasure/desire---14 Desire to conceive---15 my religion prohibits----16 Others (specify)----------89 Don't Know----------88 No response----------99	
211.	At last sexual intercourse, did you use condom?	yes-------1 no----------2 no response-------3	
212.	Did you disclose your HIV-status to your partner?	Yes ……1 No ……2 No response ……..99 Other (specify) …….89	------214 ------214 ------214
213.	Why you did not you disclose your sera-status to your partner?	Fear of discrimination …1 Fear of divorce ……2 Fear of stigma ……4 No response ……..99 Other(specify) ……89	
214.	Did your partner have HIV test?	Yes ……1 No ……2 No partner …….3 No response ……99 Do not know …….88 Other (Specify) …….89	216

215.	What was his/her test result?	Positive.....1 Negative.....2 I don't know.....88 No response.....99 Other(specify).....89	
216.	Did you disclose your HIV-status to your family?	Yes ……1 No ……2 Don't have family---------3 No response ……..99	
217.	Did you disclose your HIV-status to your family?	Yes ……1 No ……2 No response ……..99	

PART III - Information on fertility intention

301.	How many alive children do you have now?	No alive children..... I do not have children at all .....97 I do not have alive children .....98 No response .....99 Other (specify).....89	
302.	Have you/your partner had being pregnant after knowing your/her status?	Yes ..... 1 No 2	⟶304
303.	Is it intentional/wanted pregnancy?	Yes ..... 1 No 2	
304.	Would you like to have children in the future?	Yes ..... 1 No ..... 2 Don't know .....88 No response .....99 Other (specify).....89	⟶ 309
305.	When do you prefer to have a child?	.....Months/.....Years Undecided……1 Don't know ..... 88 No response ..... 99 Other (specify) 89	
306.	How many (more) children would you like to have in the future	Number desired…….. Don't know ---------- 98 No response ---------- 99 Other (specify) -------89	
307.	which sex would you prefer	Son ……..1 Daughter…….2 No preference(God knows) ……3	

308.	Why do you want to have children?	Want at least one child ……1 I did not have desired number…...…2 My partner desired to have children…..3 Pressure from families ……..4 Social/ peer stigma …….5 For substitution ……..6 For inheritance …….7 My partners is in good health …….8 I am on ART/ hence I can have a child …..9 Children are an important part of marriage, either for present or future marriage……10 Current child needs sibling…….11 Original desires for childbearing unchanged by HIV……12 Improved health with ART……13 Sex preference for children……14 Desire for HIV-negative child……15 No response ……99 Other (specify) ……89	
309.	Why do you not want to have children in the future?	Have a child already/achieved desired family size---1 fear of mother to child HIV transmission risk ------ 2 don't have adequate income to add another child ---- 3 Health care providers advise not to have a child ----- 4 Child bearing may further compromise my/my partner health ---------- 5 May not be healthy in future to care for child……..6 Fear of orphaning/problems in caring for child……7 Fear of infecting partner while try to conceive……8 No response -------- 99 Other (specify) ----------89	
310.	Does your husband /wife/ partner want to have a child in the future?	Yes ---------- 1 No ---------- 2 Don't have partner ------- 4 Don't know ----------88 No response ---------- 99 Other specify ----------89	

PART IV - Information on contraceptive use & demand

401.	Have you (your partner) ever used contraceptive method before HIV diagnosis?	Yes .....1 No .....2 Don't know .....88 No response .....99 Other specify 89	→403
402.	Specify the method you /Your partner used? (More than one answer can be possible)	Abstinence from sex.....1 Condom .....2 Pill (OCP) .....3 Injectables .....4 IUD .....5 Implants .....6 Tuba legation/Vasectomy .....7 No response ..... 99 Other (specify) 89	
403.	Are you/your partner/using Family planning method currently (during the study period)?	Yes .....1 No.....2 I don't know .....88 No response 99	→406
404.	Which the method are you using? (More than one answer can be possible)	Abstained from sex .....1 Condom .....2 Pill (OCP) .....3 Injectable ..... 4 IUD ..... …5 Implants ..... …6 Tuba legation /Vasectomy..... ..7 No response .....99 Other (specify) 89	
405.	Why do you choose the current family planning method?	Health professionals advise .....1 Because it suites with my health ....2 From my friends experience/advise...3 My partners choice …….4 Has dual protection (HIV/Conception)...5 Other (specify) 89	

406.	Would you like to use family planning method in the future?	Yes .....1 No .....2 Don't know .....88 No response .....99 Other (specify).....89	409
407.	Which method you Intended to use? (More than one answer can be possible)	Abstainence from sex ..... 1 Condom .....2 Pill (OCP) .....3 Injectable .....4 IUD .....5 Implants .....6 Tuba legation/ vasectomy .....7 Other (specify) 89	
408.	Where do you want to get family planning service?	At ARV treatment units .....1 Family Planning unit….2 In private clinics .....3 In counseling units .....4 Other (specify) 89	410
409.	Why don't you want to use family planning?	Want to have a child .....1 Fear of reaction ART drugs ……..2 I abstained from sex .....3 My partner objected ……4 No response ..... 99 Other (specify) 89	501
410.	Did you disclose your sera-status to your family planning provider?	Yes.....1 No .....2 No response.....99 Other (specify).....89	→501
411.	Why don't you disclose your sera-status to your family planning providers	I don't trust the providers.....1 I feared stigma and discrimination-…..2 Disclosure does not help/no use ….....3 No response.....99 Other (specify).....89	

PART V - Information of knowledge on MTCT and HIV Re-infection

501.	Does HIV transmit from mother to child?	Yes .....1 No .....2 Don't know .....88 No response.....99 Other (specify).....89	503
502.	When does an HIV transmission occur from mother to child? (multiple answers are possible)	During pregnancy.....1 During labor.....2 during breastfeeding ...3 I don't know .....88 No response.....99 Other (specify).....89	
503.	Is there any medication, which may help to prevent mother to child HIV transmission?	Yes .....1 No.....2 Don't know.....88 No response.....99 Other (specify).....89	505
504.	Do you think medication provided to reduce mother to child HIV transmission actually reduce the transmission?	Yes.....1 No.....2 Don't know.....88 No response.....99 Other (specify)….....89	
505.	From where did you get the information about mother to child HIV transmission & prevention?	Mass media.....1 Health care provider.... 2 From friends/peer .....3 Home based care givers....4 No response.....99 Other (specify).....89	
506.	Is there any risk to HIV-positive patient himself acquire new strain if he commits un safe sex?	Yes ……1 No ……2 I do not know ……88 No response ……99 Other (specify) ……89	

PART VI - Information on HIV/AIDS and treatment conditions

601.	How many years/months since HIV diagnosis?	....Months or ….....Years Don't remember.....88 No response.....99 Other (specify).....89	
602.	When did you start receiving ARV treatment?	…… months …….years response.....99 Other (specify).....89	
603.	Who cover the cost of the Drugs?	Myself.....1 Free from the Government…2 Covered (support) NGO's...3 My parents/Relatives.....4 No Response.....99 Other (specify).....89	

604.	How is your overall health condition after you started receiving ART?	Improved.....1 No change.....2 Deteriorated.....3 No Response.....99 Other (specify).....89	
605.	Recent CD4 count	☐	
606.	Did you get support from different community groups?	Yes.....1 No .....2 No Response.....99 Other (specify).....89	609
607.	From where did you get the support	Relatives/neighbors and friends.....1 NGO's .....2 Government .....3 Other (specify).....99	
608.	What kind of support did you get?	Money.....1 HBC (Home Based Care) ....2 Counseling .....3 Food ….....4 No Response.....99 Other (specify).....89	
609.	Did your counselor /ART Provider discuss about child bearing and family planning?	Yes.....1 No.....2 No response.....99	
610.	Did your counselor/ART provider adequately cover issues like child bearing, and family planning?	Yes.....1 No.....2 Don't know.....88 No response.....99 Other specify.....89	

In-depth interview guide

Part I- Socio demographic information

- How old are you (age in completed years)? ----------
- What is your sex? ---------- ----------
- What is you marital status? - ----------
- What is your current occupation? ----------
- What is your Ethnicity? ----------
- What is your Religion? ----------
- What is your total Monthly income? ---------- ETB.
- What is the highest educational level you completed? ----------

Part II - Information on sexual behavior

1. What was your sexual practice before you became ill by HIV/AIDS?
2. What was the impact of HIV/AIDS presence in your body on your/ your partner's sexual desire?
3. What is your sexual practice now?
4. During sexual practice why do you or do you not use a condom?
5. What do you think about possible risks for PLWHA is they commit risky sexual practice?

Part III - Information on child desire and in reproductive characteristics

1. How many current alive children did you have?
   - Their age ----------
   - Their sex ----------
   - Their HIV/status ------
2. How important is it for you to have /not to have (more) children?
3. What are some of the reasons for the way you feel about this?
4. How important is it for your partner to have or not to have (more) children?
5. What effect, if any, does HIV have on your desire to have or not to have (more) children
6. How many more children would you like to have? Why?
7. How important are children in your community?

8. Do you think HIV changed the way people in your community think about the number of children you want to have? EXPLAIN

Part IV- Information on family planning choice

1. How important is it for you to use or not to use family planning?
2. How important is it for your partner to use or not to use family planning?
3. What are some of the reasons for the way you feel about this?
4. What effect, if any, does HIV have on your demand to use or not to use family planning?
5. What method of family planning do you want to use/are using? Why?
6. How and why do you choose the method you want to use/you are using?
7. Have you ever discussed about your serostatus to your family planning provider? Why?
8. Have you ever discuses about your serostatus to your partner /your family? Why?
9. Do you want to discuss about fertility, sexuality and family planning with your counselor and ART Provider? Why?
10. What do you know about MTCT? Explain.
11. What do you know about PMTCT services? Explain.
12. Do you think /believe medications used to prevent MTCT of HIV reduce the chance of transmission? WHY?

NOTE: - For all questions probe as needed for more information

III. Afan Oromo version

YUNIIVERSIITII FINFINNEETTI, FAKALTII MEDIKAALAA, MANA BARUMSAA FAYYAA HAWASAATTI GAAFFILEE FAYYAA WALHORMAATAA FI BARBAACHISUMMAA FAYYAA WAL HORMAATAA NAMOOTA HIV/EEDSII WALIIN JIRAATAN IRRATTI TA'UUF GAAFFIWWAN QOPHAA'AN

A. Unka odeeffannoo

Nagaa bultaaanii/oltaanii! Maqaan kiyya _____jedhama. Ani barataa kdhimaamaa barataa digirii 2 ffaa yoon ta'u amma immoo qo'annoo fayyaa wal hormaataa fi barbaachisummaa fayyaa walhormaataa namoota HIV/Eedsii waliin jiraatan irratti waajjira (----------) kana keessatti fayyaa wal hormaataa fi barbaachisummaa fayyaa walhormaataa namoota HIV/Eedsii waliin jiraatan qoricha umurii dheeressu fudhachaa jiran irratti qo'annoo gaggeessa jira. Isin immoo qo'annoo kana keessatti akka hirmaattaniif filatamtaniittu ; gaffii tokko tokko nuti isin gaafannuuf deebii nuuf kennitu jennee abdii qabna. Wanta nuti isin hubachiisuu barbaadnu wanta isin nuuf deebii isin nuuf kennitan icciitiin kan eegamu ta'a. Maqaa keessanii fi bakka jireenya keessan nutti himuun isin irraa hin eegamu . Kana malees mirga guutuu qo'anna kana keessatti hirmaachuu fi hirmaachuu dhiisuu, gaaffii isin hin ilaallanne irra darbuu, akkasumas gaaffii fi deebii itti fufuu yoo hin barbaadne ta'e gidduuti dhaabuu mirga guutuu qabdu. Gaaffiin tokko tokko wa'ee jireenya dhuunfaa keessan wan ilallatuuf deebisuuf ulfaataa ta'u ni danda'a, Haata'u malee galmaan ga'umsa kaayyoo qorannoo kanaa fi fooyya'insa tajaajila fayyaa wal hormaamta namooota HIV/Eedsii waliin jiraataniif muuxannoon keessan baay'ee barbaachisaa fi bu'aa olaanaa qaba. Gaaffii fi deebiin kun tilmaamaan daqiiqaa 30-45 fudhata. Gaaffii gaafattan qabduu?

Baay'ee galatoomaa!

Qo'annaa kana keessatti hirmaachuuf fedha ni qabduu?

Eeyyee ☐ lakki ☐

Deebiin keessan 'Eeyyee' yoo ta'e gara fuula itti aanuti darbaa?

B. Unkaa walii galtee

Ani, mallattoo kiyya armaan gadiitti kanan kaaye fayiidaa qo'annoo kana ifa yoo ta'u, mata dureen qo'annoo kanaas fayyaa walhormaataa fi barbaacha/fedha fayyaa wal hormaataa namoota HIV/Eedsii waliin jiratan qoricha umurii dheeressu fudhachaa jiran ta'u isaa natti himameera. Anis gaaffiin beekuufi na ilallatu akka deebiisuuf ifa naa godhaniiru. Kana malees odeeffannoo ani keennu qo'annaa kana qofaaf akka itti fayyadaman, icciitiin akka ta'u natti himameera. Gaaffii fi deebii hirmaachuu dhiisuu akka danda'u, gaaffii deebisuu hin barbaadne immoo akka irra darbuu danda'us natti himaameera. Yeroon barbaadettis gaaffii gidduutti dhiisuu mirga akkan qabu naaf ibsameera.

Odeeffannoo armaan olii irratti hunda'uudhaan, qo'annoo kana keessatti feedhii kiyyaan qo'annoo mata dureen isaa fayyaa walhormaataa fi barbaacha fayyaa wal hormaata namoota HIV/Eedsii waliin jiratan qoricha umurii dheeressu fudhachaa jiran irratti hirmaachuuf walii gaaluu nan mirkaneessa.

Malattoo_____

Guyyaa_____

Teessoo qoratichaa

Maqaa:-Tasfaayee Raggaasaa

Kadhimaamaa digirii 2 ffaa Yuuniversiitii Finfinnee

Fakaltii Medikaalaa

Mana barumsaa Fayyaa Hawaasaa

E.mail:-regassatesfaye@gmail.com

Teessoo to'ataa boordii dhabbatichaa

Bilbila:- 011 553 87 34

E.mail:-aaumfirb@yahoo.com

Addaan baafata
Yerroo itti jalqabe _____- yeroo raawwatame
Lakk. Gaaffii

Kutaa I –jireenya dinadgee fi hawasummaa

koodii	Gaaffiilee	Gartuu	darbi
101.	Umuriin keessan meeqa?	waggaa guutuudhaan	
102.	Saala?	Dhiira Dhalaa ‘	
103.	Amantaa?	ortoodoksii..... 1 kaatolikii .....2 musliima..... 3 Protestaantii..... 4 kanbiraa (haa ibsamu).....89	
104.	Sadarkaa barumsaa olaanaa?	Kutaa..... Barreessuu fi dubbisuu kan danda’u.....1 Barressuu fi dubbisuu kan hin dandeenye.....2 Kanbiraa(haa ibsamu) 89	
105.	Qoomoo/saba keessan maalii?	Oromoo……1 Amaaraa …..2 Guraagee……3 kanbiraa(haa ibsamu).....89	
106.	Haala fuudhaa fi heerumaa?	Kan fuudhe/heerumte .....1 Qeerroo/durbee ..... 2 Kan jalaa du’e/duute .....3 Hiikkaa/adda ba’uu..... 5 Hiriyyaa dhaabataa kan hinqabne .....6 Deebii kan hin kennine 99	108
107.	Yoo amma ga’eela keessa jiraatte, erga wal futanii waggaa meeqa?	Waggaa-------	
108.	Gaalii ji’aa maatii keessanii tilmaamaan meeqa ta’a?	qarshii Itiyoophiyaa-------- Galii kan hin qabne ..... 1 Hin beeku ..... 2 Deebii kan hin kennine.....99	
109.	Hojjaan/hojiin keessan maali?	Kan hin qabne .....1 barataa .....2 haadha manaa .....3 hojjettuu manaa .....4 hojii guyyaa.....5 daldaalaa .....6 hojjettuu mana bunaa .....7 hojeetaa mootummaa....8 hojii dhuunfaa…….9 qotee bulaa……10 hojii dhaabata dhuunfaa …11 kanbiraa(haa ibsamu)…….89	

110.	Bakka jireenyaa keessan eessa?	Magala [ ] .baadiyaa.. [ ] …	
111.	Baayina maatii keessan lakkofsaan meeqa?	[ ]	

Kutaa II: - gaaffiilee amaloota qunamtii saalaa fi fayyadama kondoomii ilaallatan

Koodii	Gaaffiilee	Gaartuu	
201.	Yeroo ammaa ga'eela keessa yoo hin jirtan ta'e ta'e, hiriyyaa walqunnamtii saalaa ni qabduu?	eeyyee……1 lakki……2 deebii kan hinkennine …99	
202.	Amma feedhii foonii/qunnamtii saalaa keessan osoo hin qoratamiin dura waliin yoo madaalsistan maal fakkaata?	Hin jijjiramne …..1 Feedhiin ko hir'iseera ……2 Feedhiin ko dabaleera …….3 Deebii kan hin kennine …..99	
203.	Haalli wal qunamti saalake maal fakkataa osoo qorannoo dhiiga hin bariin duraan?	Hiriyyaa tokko ol kan qabu……1 Hiriyyaa tokko qofaa kan qabu…….2 Kondoomii yeroo tokko tokko fayyadamuu …3 Kondomii kan hin fayyadamne---------4 Qaama gurguruu (meeshaa,kaashii, kennaa)...5 Qaama bituu(meeshaa, kaashii, kennaa)…6 Kan biraa (haa ibsamu)……89	
204.	Haalli wal qunamti saalake maal fakkataa osoo qorannoo dhiiga hin bariin duraan?	Hiriyyaa tokko ol kan qabu……1 Hiriyyaa tokko qofaa kan qabu…….2 Kondoomii yeroo tokko tokko fayyadamuu …3 Kondomii kan hin fayyadamne---------4 Qaama gurguruu (meeshaa,kaashii, kennaa)...5 Qaama bituu(meeshaa, kaashii, kennaa)…6 Kan biraa (haa ibsamu)……89	
205.	Ji'a ja'a darban keessatti wal qunnamtii saalaa rawwataniittuu?	eeyyee……1 lakki……2 deebii kan hin kennine.....99 kan biraa(haa ibsamu) 89	211
206.	eenyu waliin walqunnamtii saalaa rawwattan?	Hiriyyaa dhaabataa (abbaa/haadha manaa/hiriyyaa wal qunnamtii)….1 Hiriyyaa dhaabataa kan hin taane….2 Kan biraa(haa ibsamu)……89 Deebii kan hin kennine …….99	
207.	Yeroo wal qunamtii saalaa rawwatani, kondomii fayyadamtaniittuu?	eeyyee……1 lakki……2 hin yaadadhu…..3 deebii kan hin kennine.....99 kan biraa(haa ibsamu) 89	------210 ------211 ------211

208.	Yeroo meeqa kondoomii fayyadamtanii?	Yeroo hunda.....1 Yeroo baay'ee ……...2 Yeroo tokko tokko .....3 fayyadamee hin beeku ……..4 Deebii kan hin kennine .....99 Kan biraa (haa ibsamu).....89	
209.	Maaliif kondomii fayyadamtuu? Sababni isaa…(deebii tokko ol ni danda'ama)	Ulfa hin barbaachisne ittisuuf...1 Dhukkuboota wal qunnamtii saalaan daddarban fi ulfa hin barbaachisne ittisuuf …2 Haadha/abbaa manaa kotti akka hin dabarreef……..3 ogeessotni fayyaa wan na gorsaniif .....4 Gosa vayireesii biraan akka hin qabamneef…..5 Deebii kan hin kennine.....99 kanbiraa (haa ibsamu) 89	
210.	Kondomii yoo hin fayyadamtan ta'e, maaliif?	Wan hinjirref/arganneef----------1 Gatiin haalaan Mi'aa wan ta'eef---------2 Wal qunnamtii saalaaf wan hin tolleef/mijoofneef----3 Moormii hirriyyaa kootiin----4 Sababa ariitiin----5 Biituu/gaafachuu wanan qana'eef---6 Dawwaa da'umsa dhorku biraa wanan fayyadamaa jiruuf----7 Barbachisummaan isa itti hin yaadne----8 Yeroon fayyadamu wan na hooqsisuuf/alarjii wan natti ta'uuf----9 Wanan hin jallanneef-----10 Abbaa/haadha/hiriyyaa ko manaako wanan amanuuf-----11 Itti fayyadama kondoomii wanan hin beekneef---12 Wan kondomiin yeroo baay'ee ciituuf/dhohuuf ----13 Feedhii walqunnamtii saalaa wan hir'isuuf---14 Mucaa godhachuu wanan barbaaduuf ---15 Amantaan ani hordofu wan hin eeyyamneef----16 Kan biraa (haa ibsamu)----------89 Hin beeku----------88 Deebii kan hinkennine----------99	
211.	Wal qunnaamtii saalaa yeroo dhumaaf yommuu rawwattan kondomii fayyadamtanii?	Eeyyee-------1 Lakkii----------2 Deebii kan hinkennine-------3	
212.	Wa'ee vayireesii dhiiga keessan keessa jiru haadha/abbaa manaa keessaniti himtaniittuu?	eeyyee……1 lakki……2 deebii kanhinkennine ……..99 kanbiraa(haa ibsamu) ……..89	------214 ------214 ------214

213.	Maaliif bu'aa qorannoo dhiigaa keessan hin himne?	Sodaa qooduu danda'u jeedhuun…….1 Sodaa wal hiiku ……2 Sodaa addaan baasu jedhu irraa kan ka'e……4 Deebii kan hin kennine ……..99 Kan biraa(haa ibsamu) ……89	
214.	Haati/abbaan manaa/hiriyyaan keessan qoratamteettii/ra?	eeyyee……1 lakki ……2 hiriyyaa hin qabu …….3 deebii kan hin kennine ……99 hinbeeku …….88 kanbiraa(haa ibsamu) …….89	216
215.	Bu'aan qorannoon dhiiga isaanii maalii?	posatiivii.....1 negatiivii.....2 hinbeeku.....88 deebii kan hinkennine.....99 kanbiraa(haa ibsamu).....89	
216.	Maatiin keessanitti HIV dhiiga keessan keessa jiraachuusaa himtaniittu	Eeyyee-------1 Lakkii----------2 Maatii hin qabu----------3 Deebii kan hinkennine-------3	

Kutaa III – odeeffannoo feedhii mucaa godhachuu isan qaban Kan ilaallate

301.	Yeoo ammaa ijoolle lubbuutiin jiraan meeqa qabdu?	Ijoollee lubbuutiin jiran ☐ Ijoollee hin qabu .....97 Ijoollee lubbutiin jiran hin qabu .....98 Deebiii hin kennine .....99 kanbiraa (haa ibsamu).....89	
302.	Ergaa qorannoo dhiigaa keessan bartanii isin/ haati manaa keessan garaatti baattettaa/baattettii?	eyyee ..... 1 lakki..... 2 → 304	
303.	Yoo gaffii 303 deebii keessan eeyyee yoo ta'e, mucaa godhaachuu barbaadaniitii?	eeyyee ..... 1 lakki ..... 2 deebii kan hin kennine----------99	
304.	Garaa fulduraatti daa'ima godhachuu ni barbaadduu?	eeyyee ..... 1 lakki..... 2 → 309 hinbeeku .....88 deebii hin kennine .....99 kanbiraa (haa ibsamu).....89	
305.	Yoom mucaa godhachuu barbaadduu?	☐ ji'a ☐ waggaa Hin murtessine……1 Hin beeku ..... 88 Deebii kan hin kennine ..... 99 kanbiraa (haa ibsamu) 89	
306.	Gara fuulduraatti daa'ima meeqa godhachuu barbaadduu?	Lakkoofsaan ☐ hinbeeku ---------- 98 deebii kan hin kennine ---------- 99 kanbiraa (haa ibsamu) -------89	

307.	Saala kam filattuu?	Dhiira ……..1 dhalaa…….2 hinfiladhu(waaqayyoti beeka) ……3	
308.	Maliif daa'ima godhachuu barbaaddan?	Mucaa tokko qabaachuu waanan barbaduuf ……1 Mucaa dabalataa waanan barbaaduuf…...…2 Abbaa/haadha manaa/hiriyyaa koti mucaa barbaada …..3 Dhiibbaa maatiitiin ……..4 Dhiibbaa hawasummaa (stigma) …….5 Daa'ima du'e/duute bakka buussuuf ……..6 dhaalaaf …….7 abbaa/haatii manaako hala fayyaa gaarii irra wan jiruuf/jirtuuf …….8 qoricha umurii dheeressuu waanan fudhachaa jiruuf…..9 Daa'ima godhachuun gaa'ela keessatti barbaachisaa wan ta'aniif……10 Daa'ima amma jirtu oboleessa/ttii waan barbaadduuf…….11 jaalala ijoolleef qabu sababa HIV tiin wan hin jijiramneef……12 erga qoricha umuriii dheeressu jalqabee fayyaan ko wan na deebi'eef……13 saala kan biraa wanan barbaduuf……14 Daa'ima HIV hin qabne wanan barbaaduuf……15 deebii hin qabu ……99 kanbiraa (haa ibsamu) ……89	
309.	Maaliif mucaa godhachuu hin barbaadne?	Ijjolle/maatii ga'aa waanan qabuuf……1 Sodaa haadha irraa mucaatti darbuu ------ 2 Daa'ima dabalataa godhaachuuf galii ga'aa waan hin qabneef--3 oogeessotni fayyaa mucaa akka hingodhanne wan na gorsaniif --------- 4 Mucaa godhaachuun fayyaako miidhuu wan danda'uuf ------5 Garaa fulduraatti sababa fayyaa kootiin mucaa guddisuun natti ulfaachuu wan danda'uf……..6 Sodaa ijoollee warra malee hanbiisuu ……7 Sodaa abbaa/haadha manaatti dabaarsuu……8 Deebii kan hin kennine -------- 99 kanbiraa (haa ibsamu) ----------89	

310.	Abbaa/haati manaa/hiriyyaan keessan mucaa godhachuu ni barbaaduu?	eeyyee ---------- 1 lakki ---------- 2 hiriyyaa hinqabu ------- 4 hin beeku ----------88 Deebii kanhin kennine---------- 99 Kanbiraa(haa ibsamu) ----------89	

Kutaa IV – gaaffii odeeffannoo mala fayyadama karoora maatii ilaallatan

401.	Isin (hiriyyaan keessan) osoo qorannoo dhiiga keessan hin bariin dura qusannoo maatii fayyadamtansii beektuu?	eeyye .....1 lakki .....2 hinbeeku .....88 deebii kan hin kennine .....99 kan biraa(haa ibsamu).....89	403
402.	Maal fayyadamtanii beektu? (deebii tokko ol ni danda'ama)	Qunnamtii saalaa rawwachuu dhiisuu.....1 kondomii .....2 tableetii liqimsamu .....3 marfee..... 4 Gadameessa keessa kan galu..... …5 Kan harka irratti awwalamu..... …6 Ujummoo sanyii wal hormaata dabarsan hiisiisuu..... ..7 Deebii kan hinkennine .....99 kanbiraa (haa ibsamu) 89	
403.	Isin/hiriyyaan keessan maloota karoora maatii fayyadamaa jiirtuu?	eeyye .....1 lakki.....2 hinbeeku .....88 deebii kan hin kennine 99	406
404.	Mala qusannoo maatii kam fayyadamaa jirtuu? (deebii tokko ol ni danda'ama)	Qunnamtii saalaa rawwachuu irraa of qusachuu.....1 kondomii .....2 tableetii liqimsamu .....3 marfee..... 4 Gadameessa keessa kan galu..... …5 Kan harka irratti kan awwalamu..... …6 Ujummoo sanyii wal hormaata dabarsan hiisiisuu..... ..7 Deebii kan hinkennine .....99 kanbiraa (haa ibsamu) 89	
405.	Mala qusannoo maatii fayyadamaa jirtan maaliif filattan?	Gorsa ogeessota fayyaatiin .....1 Fayyaa ko waliin wan deemuuf ....2 Gorsa ykn muxannoo hiriyyaa ko irratti wanan argeef...3 Filaanna haadha/abbaa manaakoo wan ta'eef…….4 Ittisa lama wan qabuuf(HIV/ulfa hin barbaadamne)...5 Kan biraa(haa ibsamu) 89	
406.	Gara fulduraatti mala qusannoo maatii fayyadamuu barbaadduu?	eeyyee .....1 lakki.....2 hinbeeku 88	

		deebii kan hin kennine .....99 kan biraa (haa ibsamu).....89	409
407.	Mala qusannoo maatii kam fayyadamuu barbaadduu? (deebiin tokkoo ol kennuun ni danda'ama)	Qunnamtii saalaa rawwachuu irraa of qusachuu.....1 kondomii .....2 tableetii liqimsamu .....3 marfee..... 4 Gadameessa keessa kan galu..... …5 Kan harka irratti kan awwalamu..... …6 Ujummoo sanyii wal hormaata dabarsan hiisiisuu..... ..7 Deebii kan hinkennine .....99 kanbiraa (haa ibsamu) 89	
408.	Dawaa qusannoo maatii eessaa fudhachuu barbaadduu?	Kutaa qoricha umurii dheeressuu fudhuutii .....1 Kutaa karoora maatiitii….2 Kilinika dhuunfaatii .....3 Kutaa gorsaa fi qorannoo tii .....4 Kan biraa (haa ibsamu) 89	410
409.	Maaliif mala qusannoo maatii fayyadamuu hin barbaanne?	Mucaa godhaachuu waanan babaaduuf .....1 Dawaa umurii dheeressu waliin na miidhuu waan danda'uuf ……..2 Qunnamtii saalaa rawwachuu irraa of wan qusadheeruuf.....3 Haati/abban manaa wan na mormiteef/mormeef…4 Deebii kan hin kennine ..... 99 Kan biraa (adda baasi) 89	501
410.	Mala qusannoo maatii fayyadamaa yoo jiraatte, bu'aa qorannoo dhiiga keessanii ogeessa kutaa karoora maatii hojjetu/ttu itti himtaniittuu?	eeyyee.....1 lakki.....2 deebii kan hin kennine.....99 kanbiraa (haa ibsamu).....89	501
411.	Maaliif hin himne?	Waanan isaan hin amanneef.....1 Adda na qoodu jedhee waanan sodhaadheef…..2 Himuun ko fayiidaa qaba jedhee hin yadneef….....3 Deebii kan hin kennine.....99 kanbiraa (haa ibsamu).....89	

Kutaa V – gaaffilee odeeffannoo dadarba HIV haadha irraa gara mucaatti fi soda vayireesii gosa biraan qabamuu ilaallatan

501.	HIV'n haadha irraa gara mucaatti ni darbaa?	Eeyyee .....1 lakki .....2 hinbeeku .....88 deebii kan hin kennine.....99 kan biraa (haa ibsamu).....89	501
502.	Yeroo kam haadha irraa gara mucaatti darbuu danda'aa? (deebii tokkoo ol ni danda'ama)	Yeroo ulfaa.....1 Yeroo ciniinsuu.....2 Yeroo harma hoosisan ...3	

		Hin beeku .....88 Deebii kan hin kennine.....99 Kan biraa (haa ibsamu).....89	
503.	Dawaan haadha irraa gara mucaatti akka hin dabarree hir'isuuf gargaaruu ni jira?	eeyyee .....1 lakki.....2 hin beeeku.....88 deebii kan hin kennine.....99 kan biraa (haa ibsamu).....89	505
504.	Dawaan haadha irraa gara mucaatti akka hin darbineef kennamu dhugumatti ni hir'isa jettanii yaadduu?	eeyyee .....1 lakki.....2 hin beeeku.....88 deebii kan hin kennine.....99 kan biraa (haa ibsamu).....89	
505.	Odeeffannoo akkaataa HIV'n haadha irraa gara mucaatti darbuu eessaa argattanii?	midiyaa.....1 ogeessota fayyaa.... 2 hiriiyyaa .....3 manatti gargaarsa kan kennan irraa....4 deebii kan hin kennine.....99 kan biraa(haa ibsamu).....89	
506.	Namni HIV gosa tokkon qabame gosa biraan qabamuu ni danda'aa?	eeyyee .....1 lakki.....2 hin beeeku.....88 deebii kan hin kennine.....99 kan biraa (haa ibsamu).....89	

Kutaa VI –odeeffannoo wa'ee HIV/Eedsii fi qoricha umurii dheeressu ilaallatan

601.	Erga HIV qoratamtee hagam ta'eera?	Ji'a ☐ waggaa ☐ Hin yaadadhu.....88 Deebii kan hin kennine.....99 Kan biraa (ha ibsamu).....89	
602.	Yoom qoricha umurii dheeressu jalqabdanii?	Ji'a ☐ ykn waggaa ☐ Hin yaadadhu.....88 Deebii kan hin kennine.....99 Kan biraa (ha ibsamu).....89	
603.	Gatii qorichaa eenyutu isiinii haguugaa?	Ofii kiyya.....1 mootummaa…2 dhaabbata mit mootummaa...3 maatii/fira kiyya.....4 deebii kan hin kennine.....99 kanbiraa (haa ibsamu).....89	
604.	Erga qoricha umurii dheeressu jalqabdanii, haalli fayyaa keessan maal fakkaata?	Foyya'eera.....1 Hin jijjiramne.....2 Natti cimee jira.....3 Deebii kan hin kennine.....99 Kan biraa(haa ibsamu).....89	
605.	Lakkoofsa CD4	☐	
606.	Gargaarsa argattan qabduu? (deebiin keessan lakki yoo gara gaaffii	eeyyee.....1 lakki.....2	

	608 darbaa)	deebii kan hin kennine.....99 kan biraa(haa ibsamu).....89	609
607.	Eenyuu irraa gargaarsa argattu?	Fira/ollaa/hiriyyaa.....1 Dhaabbata mit-mootummaa .....2 mootummaa .....3 Kan biraa(haa ibsamu).....89	
608.	Gargaarsa akkamii argattu?	qarshii.....1 tajaajila kununsa mana keessattii ....2 gorsa .....3 nyaata….....4 deebii kan hin kennine.....99 Kan biraa(haa ibsamu).....89	
609.	Gorsaanke /namni qoricha umurii dheeressu siif kennu, wa'ee daa'ima godhaachuu fi wa'ee karoora maatii isinii ibsanii beekuu?	eeyyee.....1 lakki.....2 deebii kan hin kennine.....99	
610.	Gorsaanke/namni qorichaa umurii dheeressu siif kennu, wa'ee mucaa godhaachuu fi wa'ee karoora maatii guutummaatti isinii ibsaniiruu jeettu?	eeyyee.....1 lakki.....2 hin beeku.....88 deebii kan hin kennine.....99 Kan biraa(haa ibsamu).....89	

Kutaa I- odeeffannoo dinagdee fi hawasummaa

- Umuriin keessan meeqa (waggaa guutuudhaan)? ----------
- Saala? ----------
- Haala fudhaafi heerumaa? - ----------
- Hojjaan keessan maalii? ----------
- Qomoon/sabni keessan maali? ----------
- Amantaan keessan maali? ----------
- Galii ji'a tilmaamaan meeqa argattuu? ---------- Qarshii Itiyoophiiyaa.
- Sadarkaa barumsaa keessan olaanaa maalii? ----------

Kutaa II – odeeffannoo amala walqunnamtii saalaa

1. Dhukkuba HIV/Eedsiitiin osoo hin dhukkubsatiin dura haalli walqunamtii salaa keessan akkam ture?
2. Vayireesiin/dhukkubni Kun fedhii walqunamtii saalaa qabdan irratti dhiibbaa fide qabaa?
3. Haalli walqunamtii saalaa keessan amma akkamii?
4. Yeroo walqunamtii saalaa maaliif kondoomii fayyadamtu ykn hin fayyadamtan?
5. Of eeggannoo malee namootni HIV/Eedsii waliin jiratan wal qunnamtii saalaa yoo rawwatan dhibee maalii qaba jettanii yaadduu?

Part III – odeeffannoo fedha mucaa godhachuu fi fayyaa wal hormaataa

1. Ijoollee lubbuutiin jiran meeqa qabdu?
- Umurii isaanii ----------
- Saala isaanii ----------
- Qorannoo dhiiga isaanii
2. Mucaa godhachuun (dabalataa) maaliif hagam isin barbaachisa/hin barbaaachisu?
3. Akka mucaa godhaattaniif/godhaachuu dhiistan kan kakase sababni keessan maalii?
4. Mucaan godhachuun/godhachuu dhiisuun ammam jireenya haadha manaa/abbaa manaa/hiriyyaa keessan keessatti barbaachiisaadha?
5. Vayiireesiin dhiiga keessan keessatti argamuunsaa mucaa qabaaachuufi qabaachuu dhiisuu irratti dhiibbaa maal qaba?

6. Gara fuladuraatti ijoollee meeqa qabaachuu barbaaddu? Maaliif?
7. Hawaasa isin jirattan keessatti muca qabaachuun hagam barbaachisaa dha?
8. HIV'n baay'na ijoollee isin qabaachuu barbaaddan irratti dhiibbaa fideeru qaba jettanii yaaddu? ibsaa

Kutaa IV- odeefannoo karoora maatii ilaallate

1. Karoora maatii fayyadamuun maaliif hagam barbaachise/maaliif hin barbaachisne?
2. Maatii keessan maaliif Karoora maatii fayyadamuun barbaachise/maaliif hin barbachisne?
3. Akka kanatti akka gootaniif sababni keessan maalii?
4. Qorannoon dhiiga keessanii karoora maatii fayyadamuu irratti dhiibbaa maalii fideera?
5. Mala qusannoo maatii kam fayyadamtu/fayyadamuu barbaaddu? Maaliif?
6. Akkamitti mala qusannoo maatii fayyadamaa jirtan filachuu dandeessan? maaliif
7. Bu'aa qorannoo dhiiga keessaanii ogeessita karoora maatii keessaa hojjetan faana oddeesitaniittu? Maaliif?
8. Bu'aa qorannoo dhiiga keessanii haadha/abba manaa/ maatii keessan waliin odeessitaniittuu? Maaliif?
9. Haala mucaa godhachuu, walqunnamtii saalaa, karoora maatii gorsaa/ogeessa kutaa qoricha umurii dheeressu keessa hojjetu faana odeessu ni barbaadduu? Maaliif?
10. Wa'e HIV'n haadha irraa gara mucaatti darduu wan beektan ibsaa.
11. Wa'ee qoriichaa Vayireesiin HIV haadha irraa gara mucaatti akka hin darbineef kennamu maal beektuu? ibsaa
12. Wa'e ittisa HIV haadha irraa gara mucaatti darbuu ibsaa?

Hubachiisa: - odeeffannoo dabalataaf gaaffiiwwan akka barbaachisummaa isaniitti foyya'uu ni danda'u

DECLARATION

I, THE UNDERSIGNED DECLARE THAT THIS THESIS IS MY ORIGINAL WORK AND HAS NOT BEEN PRESENTED FOR A DEGREE IN THIS OR ANY OTHER UNIVERSITY AND THAT ALL SOURCE OF MATERIALS USED FOR THIS THESIS HAVE BEEN DULY ACKNOWLEDGED.

NAME: TESFAYE REGASSA (BSC)

SIGNATURE: _____

PLACE: ADDIS ABABA UNIVERSITY

DATE OF SUBMISSION_____

THIS THESIS HAS BEEN SUBMITTED FOR EXAMINATION WITH MY APPROVAL AS THE UNIVERSITY ADVISOR.

NAME OF THE ADVISOR SIGNATURE

MESGANAW FANTAHUN (MD, MPH, PhD, PROFESSOR) _____