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**FERTILITY DESIRE AND FAMILY PLANNING NEED AMONG PEOPLE LIVING
WITH HIV/AIDS IN SELECTED ART UNITS OF HORRO GUDURU WOLLEGA
ZONE, ETHIOPIA**

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ACRONYMS

AIDS: - Acquired Immune Deficiency Syndrome

AOR: - Adjusted odds ratio

ART: -Anti retroviral Treatment

ARV: -Anti retroviral

FP: - Family Planning

HAART: -Highly Active Anti Retro Viral Treatment

HGW: -Horro Guduru Wollega

HIV: -Human Immune deficiency Virus

IUI: -Intra uterine insemination

IVF: - in- vitro fertilization

MOH: - Ministry of health

MTCT: - Mother To Child Transmission

OI: -Opportunistic Infections

OR: - Odds Ratio

PLWHA: - People Living With HIV/AIDS

Abstract

Introduction; Because of ART access and its good life effect, it is expected that PLWHA need and intention would change with the regard to reproductive health like to get married, desire to have children, and to have sexual partners among others. In Ethiopia, HIV positive individuals may or may not have desire to have children and want to use family planning. But the extent of these desires and how it varies by individual, social, health and demographic characteristics is not well understood

Objectives; To assess fertility desire and family planning need among PLWHA following ARV care unit in selected ART clinics of Horro Guduru Wollega Zone, Oromia National Regional State

Methods; A cross sectional institution based study that employs quantitative supplemented by qualitative in-depth interview was conducted from March 12 to April 28, 2012. Three hundred twenty one PLWHA (men and women) who were in reproductive age and had taken at least one visit at ART care from the selected ART care unit during the study period were interviewed for the purpose of the study. Three ART clinics were selected conveniently based on daily patient flow. The collected data was analyzed using SPSS version 16.0. Logistic regression was used to control confounding variables.

Results; Seventy three (57.9%) of the males and 76 (39%) of the females desired to have children, giving a total of 149(46.4%) of all study participants. PLWHA who desired children were younger ages [AOR: 3.3, (95%CI: 1.3-8.9)], married [AOR: 5.8, (95%CI: 2.7-12.8)], have no children [AOR: 75, (95%CI: 20.1-273.3)] and males [AOR; 1.9, (95%CI: 1.02-3.62)] than their counter parts. One hundred forty nine (46.4%) were using different types of family planning methods during the survey period. Injectables 72(50.3%) and condom 130(70.2%) were the most commonly used type of family planning method before and after HIV diagnosis respectively.

Condom was the preferred method of family planning method among people living with HIV/AIDS

Conclusions and recommendations; Considerable numbers (46.4%) of PLWHA want to have a child currently or in the near future. Who desired children tend to use family planning methods in the future. Thus, regardless of educational status, the childless as well as the youngest should be regarded as groups to be particularly targeted by counseling, and to be provided with information about reproductive rights and options

CHAPTER I- INTRODUCTION

1.1 Background

Most recently fertility issues in HIV positive men and women are becoming increasingly important. Advance in treatment such as zidovudine and other drugs together with cesarean section and breast milk substitution has decreased vertical transmission to about 2%, making positive parenting a viable option at least in countries where anti retroviral (ARV) treatment is widely available. In these countries HIV positive or affected individuals are exercising their reproductive choice in ways that pose new medical, ethical and legal challenges (1, 2)

As highlighted by the United Nations, to prevent unintended pregnancies among HIV positive women, provision of quality FP services is important. FP services together with preventing primary HIV infection in women have been reported to significantly reduce the proportion of infants infected with HIV by 35%-45%. Prevention of Mother to Child Transmission (PMTCT) starts with preventing the mother from having an unintended pregnancy. This emphasizes the public health significance of providing effective FP services to PLWHA (3)

Regarding demand for contraception, some studies have pointed out that in the absence of HIV related symptoms, the impact of having HIV on people's decisions regarding childbearing and contraceptive use is generally weak. A study evaluating prevention of mother-to-child transmission (PMTCT) sites in Kenya and Zambia has shown that HIV positive women had similar contraceptive use rates to HIV negative women, while in Rwanda the demand for contraception was higher among HIV positive women.(4,5)

Women who are infected with HIV need family planning for the same reason as other women to prevent unintended pregnancy, to space and limit births (6). Moreover, preventing unintended pregnancy in HIV positive women is one method of reducing mother to child HIV transmission (7).

1.2 Statement of the problem

Reproductive choice in HIV affected individuals is changing. Most recently, fertility issues in HIV positive men and women are becoming increasingly important. Because of ART access and its good life effect, it is expected that PLWHA need and intention would change with regard to reproductive health like getting married, desiring to have children, and to have sexual partners among others. (2, 8)

In a study done in southwestern Nigeria on 164 males and 209 females HIV positive people to assess fertility desire and sexual behavior of people living with HIV/AIDS, about 65.8% of them desired for more children, and 63.6% of the total respondents have been sexually active. Similarly, a study done on 498 HIV positive men and women following ART clinic in North Shewa Zone, 222(94.4%) of the females and 168(70.9%) of the male respondents expressed the desire for biological children giving a total of 390(79.9%) respondents. (2, 9). A study done in Addis Ababa on 460 HIV positive people showed that 50.2% have been sexually active within the past six months and 40% of all the respondents expressed desire for children while 53% were using family planning during the survey period and 37.9% of them want to use family planning in the future.(8)

The desire of HIV infected person to have children in the future has significant implication for the transmission of HIV to sexual partner and new born. In addition, many children of infected parents

are likely to need social services including income supplementation, housing, and child care and for those who lose one or both parents bereavement support, foster care or adoption. (10)

As more than 80% of all women living with HIV and their partners are in their reproductive years, many will continue to want children after learning their positive status, whether to start a family or to have more children. Others may wish to regulate their fertility, so that they can decide whether to try for a pregnancy and when. Fertility-related needs of women and men living with HIV and of discordant couples may differ substantially from those who are HIV negative. HIV infection may affect sexuality because of fear of infecting the sexual partner(s), feelings of guilt and shame aggravated by stigma related to HIV, or emotional or psychological distress, reducing desire for or interest in sexual relations. With the increasing availability of antiretroviral treatment and improvement in health status, there may be a renewed interest in sexual relations and the desire to have children for women and men living with HIV. (11)

In Ethiopia HIV positive individuals may or may not have desire to have children and want to use family planning. But the extent of these desires and how it varies by individual, social, health and demographic characteristics is not well understood. (8) .Thus it is the purpose of this study to assess fertility desire and family planning needs among PLWHA so that it is essential to design intervention aimed at promoting safer sexual and reproductive health among these populations

1.3 Significance of the study

In our country, there is only limited information available about fertility desire of women and men living with HIV/AIDS. Some women may have children even after HIV diagnosis and very little is known about whether the pregnancies were intentional or not. Findings from the study done in 2006 and 2008 on fertility desire and family planning demand among PLWHA in Addis Ababa and North Shewa zone respectively indicated that, their decision to have children is affected by different factors such as fear of transmission of the virus from mother to child, perception of pregnancy worsen the already compromised health and lack of income or support (2, 8, 9)

In addition, the majority of HIV positive men and women are of reproductive age and major mode of transmission in Ethiopia is heterosexual and vertical transmission. (12) Therefore a better understanding of fertility desire and family planning need of HIV positive people is important since ARV medication is becoming available and the study is also intended to identify some of the factors influencing their fertility desire and family planning need which might help policy makers, health care practitioners and researchers in the prevention, control and policy formulation in the preventive strategy of HIV/AIDS

CHAPTER TWO- LITERATURE REVIEW

2.1 Worldwide and national contexts of HIV/AIDS and ART

An estimated 34 million people worldwide were living with HIV at the end of 2010. Out of these an estimated 22.9 million HIV infected people live in Sub-Saharan Africa (13). The infection rate among pregnant women in Sub-Saharan Africa is also alarmingly high, where 90% of global new child infections through mother-to-child transmission (MTCT) occur (14). With 1,320,000 million people living with HIV/AIDS (PLWHA), Ethiopia is one of the country's most heavily affected by the epidemic, heterosexual HIV transmission being the main route followed by mother to child transmission (15)

With an estimated 1.1 million people living with HIV, Ethiopia has one of the largest populations of HIV infected people in the world. However, HIV prevalence among the adult population is lower than many sub- Saharan African countries. Adult HIV prevalence in 2009 is currently estimated to be between 1.4% and 2.8%. A new single point estimate of HIV prevalence will be generated following the completion of a population-based sero-survey in late 2010. (13, 15)

In Ethiopia over 80% of the cases of HIV/AIDS are found between the age of 20 and 49 which is the most productive age group of the population. Studies shows that the highest prevalence of HIV/AIDS in Ethiopian occurs between the age of 20-29 for females and 20-39 for males and these infections were likely acquired several years earlier suggesting that young people are becoming infected in the teens. An earlier study of the distribution of sexually transmitted infections (STI) conducted in different years found that the 15-24 age group had the highest prevalence of STI followed by the 25-35 age group. In Ethiopia the major mode of transmission is heterosexual which

accounts for 87% of infections. Another ten percent occurs due to mother to child transmission (16, 17)

Mother to child transmission is the largest source of HIV infection in children under the age of 15. In countries where blood products are regularly screened and sterile syringes and needles are widely available, it is virtually the only source of infection in young children. In sub Saharan Africa, MTCT is contributing substantially to raise child mortality rates. Most studies estimate the probability that an HIV positive women's baby will have the virus as ranging from 15% to 25% in an industrialized country and 25% to 35% in developing country .There were an estimated 72,945 children less than 15 years old living with HIV, out of which 20,522 needed ART. Due to the combined effect of poverty and AIDS, more than 5.4 million children under the age of 18 years were orphaned out of which 855,720 (16%) lost at least one parent due to AIDS in Sub-Saharan Africa (18)

2.2 What is Anti-Retroviral Therapy (ART)?

Anti-Retroviral Therapy (ART) is the administration of at least three different medications known as Anti-Retroviral drugs (ARV) in order to suppress the replication of the human immunodeficiency virus (HIV). Treatment with these combinations of drugs is also known as Highly Active Antiretroviral Therapy (HAART). ART is not a cure. It must be taken for life and is costly. ART is delivered as part of a comprehensive care, which includes Voluntary Counseling and Testing (VCT), the diagnosis and treatment of Sexually Transmitted Diseases (STDs), Tuberculosis (TB), Opportunistic Infections (OI), and the prevention of mother to child transmission (PMTCT) as well as the treatment of pregnant women. ART changes a uniformly fatal disease to a manageable chronic illness. Successful use of ART suppresses HIV viral replication, consequently

slowing down disease progression, improving immunity and delaying mortality. Even if ART is not a cure, it prolongs and enhances the quality of life of People Living with HIV/AIDS (PLWHA). Once ART is started, it has to be taken for life with better than 95% adherence.

In the natural course of HIV infection, it takes up to eight years before an individual infected with HIV develops AIDS symptoms. It then takes another 1 – 3 years before death. HIV infected patients are started on ART when they manifest signs and symptoms of WHO Stage III or their CD4 count falls below 200 (the laboratory definition of AIDS). With or without ART, HIV infected individual can live a long and productive life by following healthy living, which includes balanced nutrition, exercise, safe sexual practices, and avoidance of harmful practices such as smoking, alcohol and drug abuse. In addition, close monitoring of the disease status and ensuring timely access to health care, can minimize damage to the immune system. As the disease progresses, prevention and treatment of OI become an essential component of HIV treatment. (19)

ART has been shown to improve survival of PLWHA and one of the consequences of the treatment is an increase in the prevalence of HIV-infected people in the population. ART treatment not only reduces the rate of progression to overt AIDS but also increases the number of CD4 and induces the disappearance of viral antigens from peripheral blood. Sexuality is at core of human identity and personhood. Sex matters & understanding sexuality is a key to understanding of many beliefs & much of behavior which affect health and reproduction (20). Talking about sex is seen to be threatening. Sexuality starts from early life human being. Our opportunities to seek or even think about sexual pleasure, as well as how we experience pleasure, are influenced by a wide range of factors including gender power relations, class, race, economic status, the global media and the market (17, 19)

The physiological improvement due to ART drugs follows with the improvement of sexual activities of PLWHA and majority of these people continue their normal sexual activities. The study, conducted on sexual activity of patients on ART clients in Mexico showed, from 115 patients included, 100 patients continued to have sexual activity after the diagnosis, while only 15 patients stopped their sexual activity. Only 13 of 100 patients who continue to have sex activity claimed that they do not tell about the HIV status to their sexual partners, 65% of the partner was aware that they could transmit the HIV if they had intercourse; the remaining 34.8% consider that there was no risk, especially with the use of condom (21). Another study from South Africa shows 65% of the baseline and 88% of the follow-up ART patients were sexually active (27)

2.3 Current ART status in Ethiopia

Recognizing the devastating effect of HIV/AIDS on its population and the positive impact of ART, the Ethiopian government has responded to the epidemic as a national emergency and imperative to scale up the ART program. The MOH has been working towards the provision of safe, effective, equitable and sustainable ART services to those infected by HIV. In this effort, it has developed an ART Policy and ARV Guidelines with support from national and international partners. Since the beginning of the ART Program in 2003, trained health providers in 37 hospitals throughout the country are providing fee based ART services to over 13,000 persons. In addition, as funds have become accessible from various sources, the Ethiopian government has prepared the groundwork to establish an integrated National ART Program to deliver free ARV through one standard of care across the nation. The MOH is at the forefront of this effort, coordinating and facilitating the work of various donors, implementing partners and NGOs. ART training programs, drug supply

management, services quality assurance and Health Management Information Systems have been developed. (19)

2.4 Fertility related needs of PLWHA

Giving birth and having children play a significant role for the social and the personal identity of women and men in most if not all cultures. As access to ARV treatment increases, and MTCT decreases, having children can become a realistic option for many more HIV positive men and women. Because people on ARV treatment recover their health, their sexual activity may also increase (22, 23)

The primary concern of PLWHA is their responsibility for their children and others in their families who may be ill, or they do not consider themselves at risk. The fact that many HIV-infected adults desire and expect to have children has important implications for the prevention of vertical and heterosexual transmission of HIV (24)

The optimization of anti retroviral therapy has lead to great improvement in both the quality of life and life expectancy of people living with HIV/AIDS, at least in countries where HAART is widely available (8). Different studies indicated that a high proportion of HIV positive men and women desire for children. However their fertility desire was dependent on different factors besides their HIV status. Studies done in Mozambique, Nigeria and Ethiopia (Addis Ababa and northern shewa zone) on HIV positive men and women showed that the desire for children is associated with being very young (18-29), male gender, married or in relationship, had no or few children (2, 8,25)

Today, HIV infection can be seen as a chronic but treatable disease. This normalization has encouraged many positive men and women to include perspectives in planning their life that had

previously seen as being impossible to fulfill. Planning a family and a desire for children is often among these perspectives (8, 26). In a study done in Nigeria on 211 PLWHA (110 women and 101 men) to explore their fertility intention and contraception practice, 75% were sexually active after HIV diagnosis, 72% of them were aware of protective effects of condom, 62.4% has been using condom since HIV diagnosis but only 45% consistently use it and 68% females and 67.5% males of the respondents expressed the desire to have biological children (9)

Similarly, a study conducted in South Africa on 459 men and women revealed that an almost equal proportion of women (55%) and men (43%) living with HIV, reported not intending to have children as were open to the possibility of having children (45% and 57%, respectively). Overall, greater intentions to have children were associated with being male, having fewer children, living in an informal settlement and use of antiretroviral therapy. There were important gender differences in the determinants of future childbearing intentions, with being on HAART strongly associated with women's fertility intentions. Gender differences were also apparent in participants' key reasons for wanting children (27). In similar study done in south Africa on 331 HIV positive men and women under ART to explore the prevalence and determinants of fertility intention, 89(29%) of them stated that they wanted to have children in the future (28)

Child bearing is not only motherhood but also it is a primary source of self esteem and a means of financial securing from partners or family. But HIV infected women have additional reason for child bearing. In a study done in Nigeria, south Africa, Zimbabwe and Ethiopia (Addis Ababa and north shewa zone) on HIV positive women, they desired to have children for the following reasons; to conceal their HIV status from their partners and relatives, to take social position by being mother, availability of ART to prevent mother to child transmission of HIV/AIDS, strong desire for

parenthood, and personal satisfaction, to replace the child lost because of AIDS, pregnancy may give hope for future prospective care of child, family and societal obligation for procreation, prosperity inheritance, prevention of stigma from community (8, 9, 25,27)

In the Swiss HIV Cohort Study 22% of men (aged 20–50) and 20% of women (aged 20–40) reported current desire for having children. In a survey of a representative sample of people living with HIV in the United States, 28% of men (aged 20 or older) and 29% of women (aged 20–44) expressed desire to have children in the future. In both these studies, gender was not a predictor of desire for parenthood (29) Studies examining reproductive behaviors of women living with HIV and the impact of HIV diagnosis on pregnancy and birth rates have yielded conflicting results, attributed to cultural and structural regional differences In developing countries, of both Western and Eastern societies, the World Health Organization (30) has found an important childlessness stigma and has defined, accordingly, assisted reproduction as a social issue to be considered by public health policies. In the developed world, access to antiretroviral treatment has increased pregnancy incidence among women living with HIV (31) Both the Swiss and the United States studies reported that individuals who experienced improved health while on ARV were significantly more likely to desire parenthood, all participants in their cohort were under follow- up at AIDS care centers, and 89% of them were on antiretroviral therapy. (30, 31)

According to a cross-sectional study of the determinants of the desire for children among mutually disclosed sero-discordant couples receiving care in Uganda most participants (59%) desired to have children sometime in the future, with 43.4% replying that they "Definitely want" children, and 15.8% replying that they "Might want" children. "Not at all" was the response of 40.8%. Among

couples in which the woman was HIV-positive, young age and relatives' expectations for children were significantly associated with increased fertility desire, while among couples in which the man was positive; knowledge of ART effectiveness was associated with increased fertility desire. Availability of information on contraception was associated with decreased fertility desire. (32)

Similarly a study done on Fertility Desires and Intentions of HIV-Positive Patients at a Suburban Specialist Center, Nigeria identified that Sixty-five (68.4%) of the female and 28 (53.8%) of the male respondents expressed the desire for children, giving a total of 93 (63.3%) of all respondents. Among those desiring children, only 4.3% did not intend to bear any children in the future. Women were significantly more likely to expect 3 children compared to men. Of those participants who had partners, 70.8% of women and 47.1% of men have partners who also desired children. Respectively, 71.5% and 93.8% of men and women who desired children intended to have >2 in the near future. There was no statistically significant difference between the proportions of those who desired fertility among patients who were currently married and those who were not married (56.3% vs. 68.7%; $p=0.1213$), and among those who had at least a secondary education compared to those who had less than- secondary education (69.8% vs. 54.1%; $p=0.0622$). (33)

A study on Reproductive Health Needs of PLWHA on ART in public hospitals of Addis Ababa also revealed that most of the respondents desire to have sex and hence children as a result of improvement in their health conditions. For example; a 28 year old man who is a long distance truck driver said “I have no partner at the moment and did not have any intention about that. However, because my sexual desire is increasing from time to time, I would like to get married. I want to have two healthy children.” Similarly a 36 old woman who had no child and who lost her

husband due to AIDS said “You see, I was the one known for loving kids when I was with my parents. Now, my health condition is improving and if God allows me, I have a desire to get married. I would like to have my own children.”(2)

2.5 Demand for family planning

Worldwide, contraceptive use and compliance is related to the range of methods available, patient choice, prevalent health and religious beliefs, perceptions of method effectiveness, and side effects therapy (HAART) (MOH, 2006). Women with HIV infection may wish to plan pregnancy limit their family or avoid pregnancy. The choice of contraception in people living with HIV is constrained by the need to prevent both sexual transmission of HIV and unwanted pregnancies. Correct use of most user dependent methods requires a basic knowledge of reproduction and literacy skills to follow written instructions. Dual function contraceptives that simultaneously prevent HIV transmission as well as unwanted pregnancies might be the most appropriate contraceptive method for women living with HIV and AIDS. The correct and consistent use of male condoms prevents HIV transmission to the partner (34)

Compared with inconsistent use, consistent condom use reduces the risk of sero conversion to half among HIV-discordant couples and reduces the risk of acquiring other Sexually Transmitted Infections (STIs). Although they are associated with a high degree of protection against HIV transmission, condoms provide less protection against pregnancy. Oral contraceptives, intrauterine devices (IUDs), and sterilization are highly effective methods of contraception, which however do not prevent HIV transmission. However, correct and consistent use of condoms is seldom achieved and couples using two contraceptive methods were less likely than single method users to be HIV re

infected and get pregnant. The knowledge of contraception and access to family planning remain limited among women living with HIV and AIDS in different contexts (34, 35)

Family planning for both HIV positive and negative women safe guards their health by enabling them to space births and also reduce HIV positive women's vulnerability to morbidity and mortality related to pregnancy and lactation. In addition, reducing unintended pregnancy among HIV positive women through family planning reduces the number of children potentially orphaned when parents die of AIDS (8). All available methods of family planning such as oral contraceptives, injectable, implants, intra uterine devices (IUD), barrier methods and spermicides can be appropriate choice for all HIV positive including those who do not have advanced disease and on effective ARV treatment (12)

A study evaluating PMTCT sites in Kenya and Zambia has shown that HIV positive women had similar contraceptive use rates to HIV negative women, while in Rwanda the demand for contraception was higher among HIV positive women (9, 12). According to study done in Addis Ababa, Ethiopia on 450 HIV positive men and women under ART to examine their fertility desire and family planning need 48.9% of respondents had used at least one method of family planning before HIV diagnosis, while 199 (43.3%) used after HIV diagnosis. The most common used family planning method was oral contraceptive pills (45.8%) and condom (65.8%) before and after HIV diagnosis respectively. 246 (53%) were using family planning method during the survey period and among those who were not using family planning during the survey period 85 (39.7%) of them want to use in the future. Those who desire future family planning was male married or in a relationship and desire children than those who do not desire future family planning. (8)

2.6 Factors influencing desire for child bearing and contraceptive need

Though many HIV positive men and women desire to have child and want to use family planning, there are several factors that influence their desire to do so. A study on Contraception among persons living HIV with infection attending an HIV care and support centre in Kabale, Uganda revealed that the rate of dual contraceptive use was low. On bivariate analysis, sex and age of respondents, education level, and marital status, drinking habits, whether participant had a stable relationship, number of sexual partners in previous 6 months and frequency of sexual intercourse were significantly associated with contraceptive use. Likewise, disclosure of sero-status to sexual partners, partner's HIV positive status, and history of new sexual partners in previous 3 months and whether respondent had been treated for STD since HIV diagnosis were significantly associated with contraceptive use ($p\text{-value} < 0.05$). Factors independently associated with contraceptive use were level of educational attainment and whether respondent had changed partners since HIV diagnosis (36)

Multiple factors contribute to how HIV infected women decide to begin family planning or which method to use. In depth- interview done in Kenya among 24 HIV positive women 20 out of 24 expressed why they would decide to begin family planning use or which method to use. 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)

Similarly in a study done in northern shewa zone among PLWHA following ART Women who did not intend to use family planning identified side effects as a major reason not to use family planning (8, 36) According to this study among PLWHA under ART clinic indicated that 5 out of 12

respondents interviewed for qualitative part of the study, reported not to have children. Many of the respondents who did not want to have a child considered risk of vertical transmission when making decisions about child bearing, no income/support, and pregnancy worsen the already compromised health which lead to poor outcome on both the mother and the fetus and leaving behind orphan children will become burden to families and society at large. And few respondents mentioned lack of information on PMTCT. A 22 years old single woman expressed “I diagnosed five years ago, I hear that ARV drug will improve quality of life and even I heard PMTCT and C/S reduce the risk of transmission to child properly. I start ARV drugs four months ago because I develop pneumonia and other opportunity infections frequently and I became out of my beauty and my CD4 now is 80- I suffer with HAART to prolong my life, so why should I suffer again with pregnancy to leave the child for orphan if I am not sharing the love of kids.” (8)

According to study done in Brazil, Male gender, younger age, having no children, living with 1–2 children, and being in a heterosexual partnership were independently associated with desire to have children (45). A study conducted in Addis Ababa among 451 HIV positive women and men on fertility desire and family planning need similarly indicated that fear of vertical transmission of HIV is one of the factors for not to have child in the future. 32 years old female married and have two children said “I knew I’m positive, I’m quite sure the baby’s going to be positive. The medication, that is said to be available to reduce the chance of transmission, is capable to eliminate the virus totally from my blood. So, how can it be possible to protect the child from getting infected since I carry and feed the fetus for nine months in my womb?” (2)

2.7 Reproductive Options for People with HIV

As improvements in antiretroviral therapy continue to extend life spans and enhance quality of life, more people living with HIV are hoping and planning to become parents. Roughly three-quarters of HIV positive people in the United States are of reproductive age, and multiple recent studies have found that an HIV diagnosis does little to dampen the desire to have a child. (37)

Depending on the study, between 25% and 45% of HIV positive individuals of reproductive age report wanting to have a baby in the future compared with about 35% in the general population. The latest data on HIV and childbearing offers would-be parents plenty of reason to be optimistic. With optimal treatment during pregnancy and childbirth, the risk of having a baby infected with HIV drops to less than 1%. Recent studies of pregnant women on HAART suggest that pregnancy does not speed up the progression of HIV disease, and may actually slow progression in some cases. And for sero discordant couples, advances in assisted reproductive technology can help achieve conception with minimal risk of transmission to the HIV negative partner. (38)

2.7.1 HIV and Female Fertility

Whether or not HIV has a direct effect on female fertility is somewhat disputed among researchers, but some think the virus may impact several of the steps described above. For instance, one study of 130 HIV positive women trying to conceive found that more than 25% had a blockage in their fallopian tubes, which could prevent a fertilized egg from getting to the uterus. These so-called tubal occlusions could be a direct effect of HIV, perhaps caused by inflammation, or they could be related to another genital tract infection such as Chlamydia or gonorrhea. (HIV positive women are at higher risk of having genital tract infections, making it difficult to separate the effects of HIV from the effects of other infections.) (33, 39)

Women living with HIV also report a higher-than-average incidence of menstrual irregularities, including prolonged amenorrhea, or absence of a period for more than six months. Not getting a regular period often indicates that a woman is not ovulating and may have trouble getting pregnant. Again, however, researchers are not sure whether the higher incidence of amenorrhea is due to direct effects of the virus, or to co-occurring issues such as substance abuse, high stress levels, and low body weight, which can all cause amenorrhea and are all more common in HIV positive women than in the general population. A study of 55 HIV positive women with regular menstrual cycles found normal levels of the hormones progesterone and estrogen, which are important for getting pregnant. This suggests that HIV may not have a direct effect on hormones, at least among women who get regular periods. (37)

Recent data show that, once pregnant, healthy HIV positive women have about the same risk of miscarriage as women without HIV. In the U.S., approximately 15% to 20% of all recognized pregnancies end in miscarriage, although the true rate of pregnancy loss may be higher because many women miscarry before they know they are pregnant. One study of 352 pregnancies among HIV positive women found a 24% miscarriage rate, similar to the miscarriage rate for HIV negative women in the study. This is in contrast to earlier research (done before most pregnant women were on HAART) that showed an increased likelihood of both spontaneous miscarriages and planned abortions among women with HIV. (33, 38)

2.7.2 HIV and Male Fertility

A few recent studies have looked at the fertility of healthy, HIV positive men undergoing treatment. For example, one group of French researchers compared semen from 191 asymptomatic

HIV positive men, most of who were on antiretroviral therapy, with 218 fertile men without HIV. After adjusting for factors such as age, frequency of sexual contact, and medical history, the researchers found that men with HIV had a smaller volume of ejaculate, fewer forward-moving sperm, and less acidic semen than the non-infected men. The researchers hypothesized that these changes were caused either by the virus itself or by antiretroviral therapy. (39)

Some HIV medications—specifically nucleoside reverse transcriptase inhibitors (NRTIs) such as lamivudine (3TC; Epivir) and abacavir (Ziagen), which make up the combination pill Epzicom—can be toxic to mitochondria, the tiny rod-shaped structures that provide a cell with energy. Because sperm cells need a lot of energy for swimming, some researchers think that nucleoside analog drugs may impair fertility by damaging mitochondria. To test this theory, a group of Dutch researchers looked at the semen of 34 HIV positive men who were starting combination antiretroviral therapy (ART) for the first time. They performed semen analysis before starting therapy and at 4, 12, 24, 36, and 48 weeks thereafter. Even before starting treatment, the men had a significantly lower percentage of forward-moving sperm than normal. Over the course of the study, that percentage decreased from 28% to 17%, demonstrating that HAART indeed affected the sperms' ability to swim. All other semen parameters, including volume and total sperm count, were within normal limits. "The results of the trial are indeed remarkable," wrote HIV and fertility researcher Pietro Vernazza in an independent commentary about the study, published in the March 2008 issue of AIDS. "If confirmed, semen motility would be one of the most sensitive indicators of the toxicity of antiretroviral drugs." However, Vernazza noted that although the study demonstrated a clear reduction in sperm movement, it did not show to what extent that affected overall male fertility. "If HAART results in reduced male fertility," Vernazza wrote, "progressive-

ly more sterile couples will seek professional advice. It therefore remains crucial that infertility clinics specialize in the treatment of HIV-infected patients and offer artificial reproductive assistance to these couples.”(40)

The risk of transmitting HIV during unprotected vaginal intercourse depends on multiple factors, including the number of sexual encounters, the viral load of the HIV positive partner, and whether either partner has other sexually transmitted infections. Observational studies suggest that transmission risk can be significantly decreased by limiting unprotected intercourse to fertile times in the female partner’s cycle, treating the HIV-infected partner with antiretroviral drugs until viral load is undetectable, and treating both partners for any co-occurring genital tract infections. (37)

A 2010 prospective cohort study of 3,381 heterosexual sero discordant couples from seven African countries found that starting antiretroviral therapy reduced the risk of horizontal transmission by 92%. Only one of 103 cases of horizontal HIV transmission during the three-year study occurred after starting HAART. Of note, this study was part of a larger randomized controlled trial, called Partners in Prevention, which was designed to test whether the drug acyclovir (Zovirax) could prevent HIV transmission among couples in which one partner was co infected with HIV and genital herpes. That means all HIV positive individuals in this study were also infected with herpes simplex virus 2, making them more likely to transmit HIV to their negative partners. (41)

In another study, published in 2006, researchers reviewed all the unassisted pregnancies that occurred among serodiscordant couples with undetectable viral load from three HIV clinics in Spain and found no cases of horizontal transmission. Sixty-two couples were included in the study

(with 22 HIV positive women and 40 HIV positive men), and in all cases the HIV positive partner was on HAART with a viral load below 500 copies/ mL at the time of conception. Seventy-six pregnancies were recorded and 68 children were born, with one vertical (mother-to-child) transmission. Despite these reassuring data, the researchers cautioned that the absence of detectable virus in the blood does not guarantee safe conception. Recent data suggest that plasma viral load does not always correlate with viral load in the reproductive tract. In a 2008 study of 145 HIV positive men enrolled in a program for assisted reproductive technology, 5% had detectable HIV genetic material in their seminal fluid, despite having had undetectable plasma viral load for at least six months prior. Depending on which partner has HIV and whether a couple has access to a fertility center, there are several strategies that can further reduce the risk of horizontal transmission. In all cases, health care providers recommend waiting to try to get pregnant until both partners have been treated for genital tract infections and the positive partner is under optimal treatment for HIV. (42)

If a woman is HIV positive while her partner is negative, it is relatively straightforward and low-tech to attempt conception without risk of infection. “Basically, it involves home insemination,” Cohan said, “the good old-fashioned turkey baster technique. But obviously we don’t recommend a real turkey baster, we recommend using sterile equipment instead.” First the woman figures out when she is ovulating, either by looking for changes in body temperature and cervical mucus, or by using an ovulation predictor kit purchased at a drugstore. Then her partner ejaculates into a cup or has sex while wearing a spermicide-free condom. Using a sterile syringe without a needle on it, the couple then draws up the semen and deposits it into the woman’s vagina. Success rates for sero discordant couples using home insemination have not been published, but the technique has

been used in resource-limited settings both in the U.S. and abroad. The method is also an option for lesbian couples using semen from a friend or other donor. Couples with access to a fertility center may opt to have the procedure done in a clinic instead of at home. In this case, a sterile, flexible catheter is used to deposit the sperm into the woman's cervix, called intracervical insemination, or into her uterus, called intrauterine insemination (IUI). Whether insemination is performed at home or in a clinic, the HIV negative male partner or sperm donor is never in contact with the positive woman's genital secretions, so there is no risk of HIV transmission, regardless of how many times the procedure is repeated to achieve pregnancy. (33, 43)

If a man is HIV positive while his partner is HIV negative, the situation becomes more complicated. There are multiple options for lowering the likelihood of transmission while attempting to conceive, but none of these options is 100% risk-free. Before couples attempt to conceive, they may want to consider alternatives such as adoption or using donor sperm from an HIV negative man. For couples who want to conceive a child with sperm from an HIV positive partner and are willing to accept a non-zero risk of horizontal transmission, there are both high-tech and low-tech ways to reduce the likelihood of transmitting HIV to the negative partner. The lowest-risk option is to use sperm that has been processed, or "washed," to remove the virus. HIV does not appear to infect sperm cells themselves, but instead floats as free viral particles or infects other cells present in semen. Labs that specialize in fertility treatment can isolate sperm cells from the rest of the semen, reducing the likelihood that the female partner will be exposed to HIV during fertilization. (33)

Most labs use a process called density-gradient centrifugation to wash the sperm. Basically, a technician places a sample of semen at the top of a test tube filled with liquids of varying densities,

and then spins the tube at high speed in a machine called a centrifuge. Healthy sperm end up in the bottom layer of liquid, while other cells, debris, and dead sperm get stuck in the upper layers. In some cases, density-gradient centrifugation is combined with a second type of sperm washing called the “swim-up technique.” In this case, washed sperm is placed in a dish and covered with a layer of fresh culture medium, a liquid or gel used to keep cells alive in the lab. Only healthy, forward-moving sperm will be able to swim into the new layer, leaving non-moving sperm or other cells behind. (37)

Once sperm has been isolated from the rest of the semen, it is tested again for the presence of HIV. If no HIV is found, the sperm can be used for IUI, or for in-vitro fertilization (IVF), in which mature eggs are taken out of a woman’s ovaries and combined with washed sperm in the lab. Fertilization takes place outside the woman’s body, and then the fertilized embryo is put back into her uterus. IVF may be combined with a process called intra cytoplasm sperm injection (ICSI), in which a single sperm is placed directly inside an egg; because only a single sperm in a tiny fraction of fluid is used, some researchers think that sperm washing combined with ICSI carries the absolute lowest risk of HIV transmission. However, IVF and ICSI carry other risks. ICSI is normally used to treat men with infertility whose sperm cannot independently swim to the egg; for couples with normal fertility, IVF and ICSI are more likely to result in twin pregnancy and preterm birth (33, 37, 44). Generally advanced fertility options for PLWHAs is increasing though currently these options may not be realistic for women or couples in Ethiopia.

Conceptual frame work

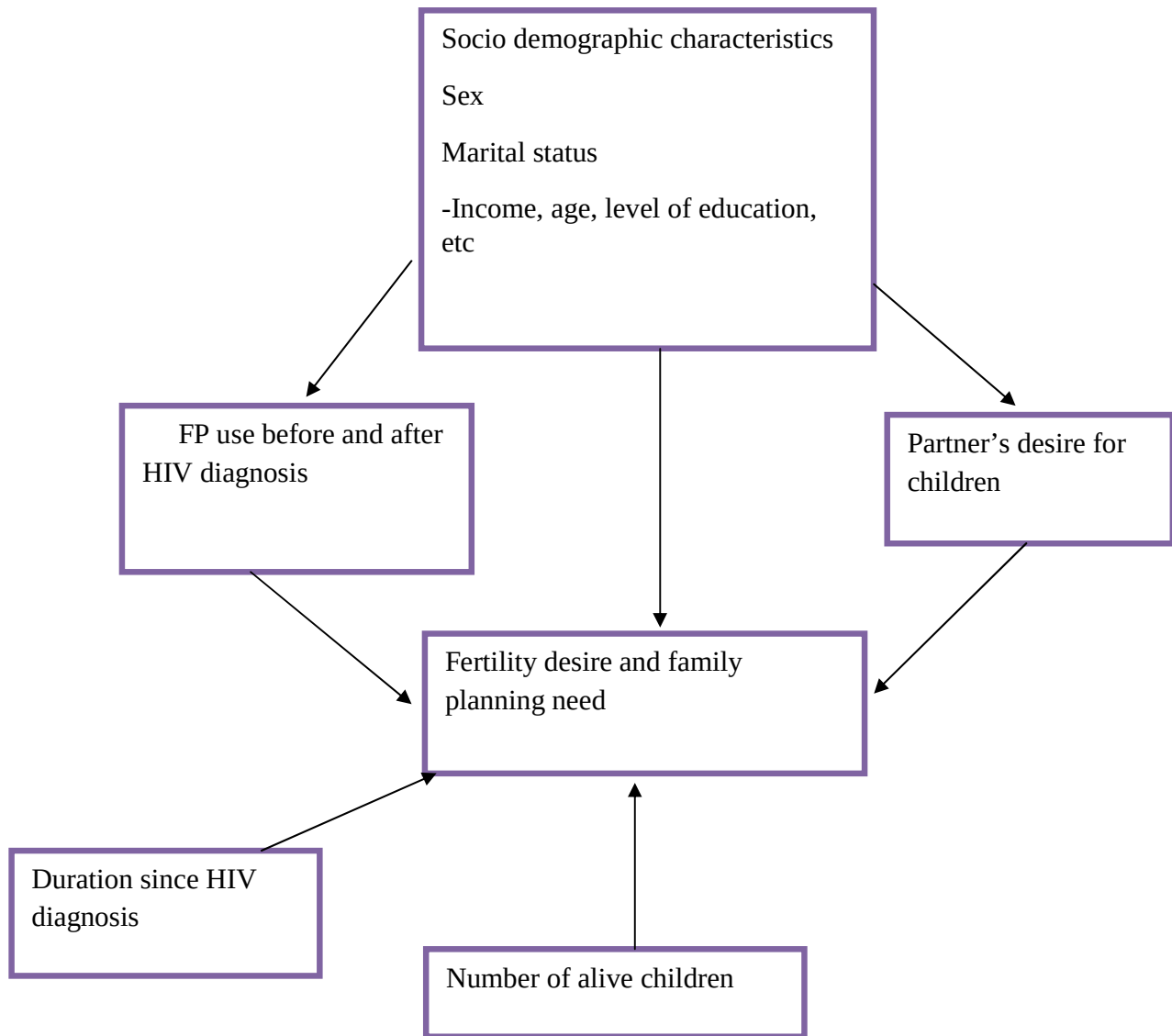


Fig. 1 Conceptual frame work of factors influencing fertility desire and family planning need

CHAPTER THREE- OBJECTIVES

3.1 General objective

To assess fertility desire and family planning need among PLWHA following ARV care unit in selected ART clinics of Horro Guduru Wollega Zone, Oromia National Regional State

3.2 Specific objectives

1. To assess fertility desire among HIV positive people following ART care unit in Horro Guduru Wollega zone
2. To assess contraceptive need among HIV positive people following ART care unit in Horro Guduru Wollega zone
3. To identify factors that influence fertility desire and contraceptive need among HIV positive people following ART care unit in Horro Guduru Wollega zone

CHAPTER FOUR- METHODOLOGY

4.1 Study area and period

The study was conducted in Horro Guduru Wollega (HGW) Zone; Oromia National Regional State. HGW is one of twenty zones of Oromia National Regional State found 330 Km from Addis Ababa. It has ten Woredas with different climatic conditions and has a total population of 576,567. Shambu is the capital town of the zone. HGW zone has a total of 37 health facilities including ten ART care units namely Shambu hospital, Fincha Sugar health center, Fincha health center, Wayu health center, Kombolcha health center, Jarte health center, Harato health center, Tulu Wayu health center, Ayele health center and Agamsa health center. Data was collected from March 12 to April 20, 2012. The site was selected because of many numbers of PLWHAs following ART unit I observed during my stay in the area.

4.2 study design

A cross sectional institution based study that employed both quantitative and qualitative in-depth interview was used

4.3 population and sampling

4.3.1 Source population

All adult PLWHA following ART care unit in selected HGW zone ART care units during the study period

4.3.2 Study population

All adult PLWHA who are in reproductive age and had taken at least one visit at ART care from the selected ART care unit during the study period

Inclusion criteria

Reproductive age group (15-49 years) for women and 18 to 60 for men was included in the study

Exclusion criteria

Those who are unable to hear, have mental health problems, and seriously ill

4.3.3 Sample size determination

A. Quantitative method

The sample size was determined using single population proportion formula taking the proportion of HIV positive individuals who received ART treatment and had the desire to have children is 40% (from study done in A.A), 5% marginal error, 95% confidence interval and 10% non response rate.

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

Where, n =the required sample size

Z =standard score corresponding to 95% confidence interval

P =assumed proportion of fertility desire 40% (from study done in A.A)

d = the margin of error (precision) 5%

$$\begin{aligned}\text{Therefore, } n &= \frac{(1.96)^2 (0.4 \times 0.6)}{(0.05)^2} \\ &= 369\end{aligned}$$

Since the total number of people living with HIV/AIDS who were following ART clinics in HGW zone in ten ART clinics was 1450, correction formula was used

$$\begin{aligned}\text{Hence, } nf &= \frac{no}{1 + \frac{no}{N}} \\ &= \frac{369}{1 + \frac{369}{1450}} = 294\end{aligned}$$

By adding 10% non response rate $10\% \times 294 = 29$

Therefore, the final required sample size is $294 + 29 = 323$

B. Qualitative method

Study participants were interviewed based on their socio demographic characteristics until data saturation occurred

4.3.4 Sampling technique for the quantitative method

There were ten health care institutions (one hospital and nine health centers) providing ART services in HGW zone. Among these, one hospital and two health centers were selected based on daily patient flow such that among 1450 people following ART care units in the HGW zone 1050 of them were found within the selected ART care sites.

These selected sites were;

1. Shambu Hospital which comprises 595 patients
2. Fincha Health Center which comprises 337 patients
3. Wayu Health Center which comprises 118 patients

Total 1050 patients

Therefore study population were selected based on their proportion

i.e. Shambu Hospital = $323/1050 \times 595 = 183$

Fincha Health Center = $323/1050 \times 337 = 104$

Wayu Health Center = $323/1050 \times 118 = 36$

Since the systematic random sampling was used, study participants were selected every k^{th} value.

K is calculated by dividing the total number of PLWHAs in the three selected sites by the

number of total respondents. i.e., $\frac{1050}{323} = 3$

Therefore, the study subjects were selected by every 3rd person

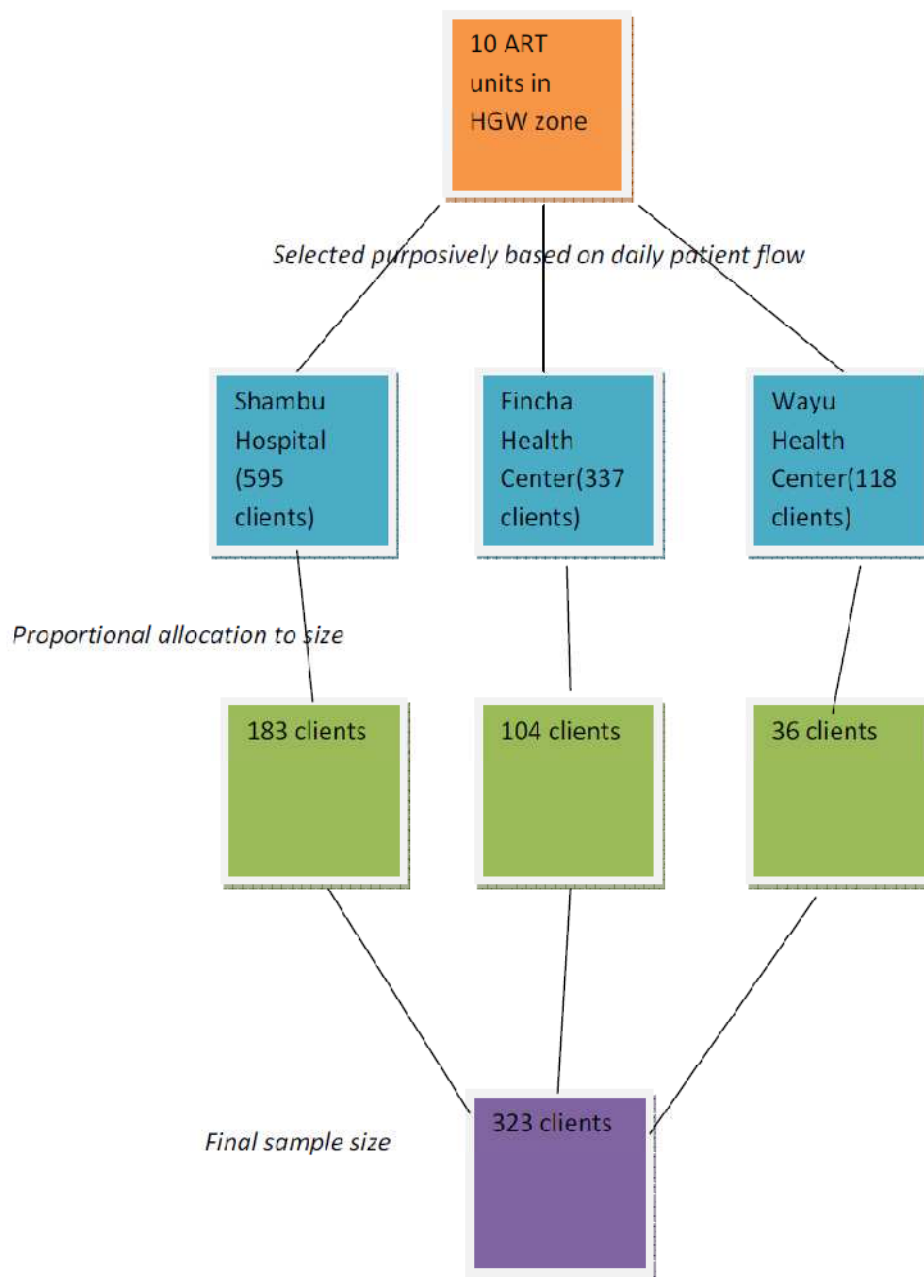


Fig. 2 schematic representation of sampling procedure, Horro Guduru Wollega Zone, 2012

4.3.5 Sampling technique for the qualitative method

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. These variables were selected because they were assumed to affect the fertility desire and family planning need differently and to see the results from different socio demographic characteristics of the study participants.

4.4 Variables

The independent variables

- Socio demographic characteristics (age, sex, income, marital/relationship status, education, religion, occupation, ethnicity)
- Number of a live children
- Partner's HIV status
- Partners desire for children
- Duration since HIV diagnosis
- Family planning use before and after HIV diagnosis and other variables, which are related at list to one of the two outcome variables

The dependent variables

Fertility desire

Family planning need

4.5 Data collection techniques and data collectors

Data was collected using structured questionnaire with closed and open ended questions. The questionnaire was adapted from literatures after getting permission and translated to Afan Oromo

language and then after translated back to English by language experts to keep its consistency. The questionnaire contained questions on socio-demographic characteristics, child desire information, information about family planning use, choice and demand, and ART treatment conditions. In depth interview and semi structured questionnaire were used for the qualitative study which addressed decisions on child desire, impact of HIV on child desire, family planning use and impacts of HIV on use.

A Structured questionnaire was administered by health care providers working in the three selected ART care units after getting one day training on how to collect the data. Three supervisors were also selected from each site and closely followed the data collection process with principal investigator. The qualitative questionnaire was collected by the principal investigator from the three sites and tape recorded and field notes were taken from those who refused to be tape recorded.

4.6 Pre testing the questionnaire

The structured questionnaire was pre- tested in the ARV treatment units selected for the study (Ayele Health Center) which was out of the selected ART sites. The pre-test was done on about 10% of the total sample size and the validity and reliability of the instrument was checked by administering the questionnaire to five different research experts in the areas of title of the study and all of them agreed on 40 of the items. For the left two items the validity was 85% and accepted with modifications. After the pre test corrections were made on the socio demographic questions and issues of family planning need based on the results of the pretest.

4.7 Operational definitions

Fertility desire—whether women or men living with HIV/AIDS who receive ARV treatment would like to have children in the future or not

Family planning need- PLWHA on follow-up cares that were not using but want to use Family planning methods in the future

PLWHA on follow up care-all PLWHA who had at least one visit to the selected ARV treatment units for care who are receiving ARV treatment

HIV positive men- men living with HIV aged between 18 and 60 taken from ART care registration at the study institutions

HIV positive women- women living with HIV aged between 15 and 49 taken from ART care registration at the study institutions

4.8 Data quality control measures

To assure the quality of data, structured data collection was used and data collectors and supervisors were trained for one day. During the data collection procedures, all the collected data were reviewed and checked daily for its completeness. In the data collection process, privacy and confidentiality of the respondents were maintained by excluding their names from the interview and after the questionnaire was collected from the study sites, manual editing and coding were undertaken to enhance data quality.

4.9 Data processing, analysis and interpretation

The quantitative data was coded, cleaned and entered in to a computer and analysis was made using EPI Info version 3.5.1 and SPSS version 16.0 statistical soft wares. Univariate analysis such as frequency distributions, and percentages were used including measures of central tendency and measures of variation. Bivariate analysis of demographic variables and fertility desire and family planning need was described. Odds ratio was used to check significant association between dependent and independent variables. Logistic regression model was employed to control confounding factors. Variables included in the logistic regression model were restricted to those

significantly related at least to one of the two outcomes at the bivariate level. Association of the variables were checked at $p < 0.05$

The qualitative data was audio taped interview and field notes taken. The audio taped was transcribed. Then the transcript and the notes taken were translated to English. The translated data was reviewed and discussed with related parts of quantitative results.

4.10 Ethical considerations

Ethical clearance was obtained from the Institutional Review Board (IRB) of department of Nursing and Midwifery, Faculty of Medicine of Addis Ababa University. A formal letter was written to HGW zone Health Bureau and permission to carry out the study was obtained from the zonal health bureau to deal about the selected ART clinics of HGW zone. Verbal consent was obtained from the study participants after explaining the objective and benefits of the study. Confidentiality was maintained and assured by excluding their names from the identification of the study subjects

4.11 Dissemination of the result

The study result was presented to Addis Ababa University; Faculty of Medicine School of nursing and documents are disseminated to all responsible bodies in the study area, HGW zonal health bureau and zonal HIV/AIDS Prevention and Control Office. More over efforts will be done to publish the study results on the scientific journals.

CHAPTER FIVE- RESULTS

This study tried to assess fertility desire and family planning need among people living with HIV/AIDS in selected ART clinics of Horro Guduru Wollega Zone. The results of the study were described below in tables, charts and texts.

5.1 Quantitative study results

Three hundred twenty one respondents participated in the study among 323 eligible clients in the selected ARV care units, giving a response rate of 99.4%. The majority of the respondents 182 (56.7%) were from Shambu Hospital ARV care unit and the smallest number of respondents 36(11.2%) were from Wayu Health Center

5.1.1 Socio demographic characteristics of the study participants

Table 1. Socio demographic Characteristics of PLWHA attending ARV treatment Units, Horro Guduru Wollega zone, Ethiopia, 2012. N=321

characteristics		Frequency	Percentage (%)
Age (years)	18-29	106	33
	30-39	156	48.6
	40-60	59	18.4
sex	female	195	60.7
	Male	126	39.3
religion	orthodox	165	51.4
	Protestant	136	42.4
	Muslim	13	4
	Others *	7	2.2
Educational status	Illiterate	95	29.6
	Read and write	100	31.2
	Primary	57	17.8
	Secondary	52	16.2
	Post secondary	17	5.2
Ethnicity	Oromo	272	84.7
	Amhara	45	14
	Others **	4	1.3
Marital status	Married	186	57.9
	single/never married	57	17.8
	widowed	40	12.5
	divorce	38	11.8
occupation	House wife	135	42.1
	Farmer	51	15.8
	Daily laborers	46	14.3
	Government/private employee	33	10.3
	jobless	33	10.3
	merchants	23	7.2
Income	No regular income	126	39.3
	≤ 445	147	46.0
	> 445	48	14.7

445 ETB- government's lowest salary, others* religions like catholic, Wakefata , Others** Guraghe, Tigre

As shown on table 1 above, out of 321 study participants, 195(60.7%) were females and 126(39.3%) were males. The majority 156(48.6%) of the respondents were between thirty and thirty nine years of age. The mean age (SD) of females and males were 31.4(5.8) and 35.6(7.9) respectively. The age range of the study subjects were from 19 to 58 years. The majority of the respondents were orthodox Christians 165(51.4%) and Protestants 136 (42.4%) by religion. About half of the study participants were illiterate or only able to read and write. And the majority 272(84.7%) of the study participants were from Oromo ethnic group followed by Amhara 45(14%). One hundred eighty six (57.9%) and fifty seven (17.8%) of the study participants were married and single/never married respectively while 40(12.5%) and 38(11.8%) were widowed and divorced respectively. one hundred thirty five (42.1%) of the respondents were house wives while 51(15.8%) were farmers. About eighty five percent of the respondents had no income or earned below or equal 445 birr which is the lowest government's salary.

Table 2.HIV related characteristics of PLWHA attending ARV treatment units Horro Guduru wollega Zone, Ethiopia, 2012. N = 321

Characteristics	Frequency	Percentage (%)
HIV diagnosis Duration (In months)		
≤36	212	66
>36	109	34
Treatment duration (in months)		
≤24	174	54.2
>24	147	45.8
Recent CD4 count (cells/mm3)		
≤200	86	26.8
>200	235	73.2
ART unit attendance duration(in months)		
≤24	≤24174	54.2
>24	>24147	45.8

As shown on table 2 above, the median duration since HIV diagnosis and receiving the ARV treatment were 36 and 24 months respectively. Recent CD4 count ≥ 200 cells/mm³ was reported by 235(73.2%) of the respondents. One hundred seventy four (54.2%) of the respondents attended the ARV treatment unit for ≤ 24 months. All of the respondents were receiving the ART drugs from government's free access and described their health improved after they started the treatment

Two hundred ninety seven (92.5%) of the respondents know about the transmission of HIV/AIDS from mother to child. Among these people 220(68.5%) of them know at least one mode of transmission of HIV/AIDS from mother to child and 291(90.7%) of the respondents agree the effectiveness of the preventive ARV medications. Two hundred ninety seven (92.5%) of the respondents had previously discussed on personal issues such as sexuality, family planning and child bearing with their ART providers. Three hundred sixteen (98.4%) of the respondents wanted to have discussion on sexuality, fertility desires and contraception with their ART providers

Table 3-Sexual behavior and condom use of PLWHA attending ARV treatment units Horro Guduru Wollega zone, Ethiopia, 2012, N=321

Characteristics	Frequency	Percentage (%)
Sexually active within the past six months		
Yes	196	61.1
No	125	38.9
Used condom (n= 196)		
Yes	128	65.3
No	68	34.7
How often used(n=128)		
Always	115	89.8
Some times	13	10.2
Reason for condom use (n=128)		
Advice from health professionals	57	44.5
To prevent unintended pregnancy	45	35.2
Having HIV negative partner (discordant)	26	20.3
Reason for non condom use (n=68)		
Want to have children	39	57.3
Partners dislike for condom	25	36.8
Others	4	5.9

As shown on table 3 above, one hundred ninety six (61.1%) of the study participants were sexually active within the past six months. Among these 128(65.3%) used condom while 68(34.7%) did not use. Out of those who reported condom use the majority 115(89.8%) used it regularly. The most common reason for condom use was advice from health professionals 57(44.5%) while wanting to have child 39(57.3%) was the most common reason for non condom use.

5.1.2 Fertility desire

Table 4 Association of desire for children by selected Characteristics, among PLWHA in Horro Guduru Wollega Zone, Ethiopia, 2012, N=321

Characteristics	Desire children n (%)	Don't desire children n(%)	Crude OR (95 % CI)	Adjusted OR (95 % CI)
Age				
18-29	67 (45.0)	39 (22.7)	5.5 (2.7, 11.3) *	3.3 (1.3, 8.9) *
30-39	68 (45.6)	88 (51.2)	2.5 (1.3, 4.9)	3.3 (1.4, 7.9) *
≥ 40	14 (9.4)	45 (26.2)	1	1
Sex				
Male	73 (49.0)	53 (30.8)	2.2 (1.4, 3.4) *	1.9 (1.02, 3.62) *
Female	76 (51.0)	119 (69.2)	1	1
Marital status				
Married	95 (63.2)	91 (52.9)	4.4 (2.3, 8.2) *	5.8 (2.7, 12.8) *
Single/never married	39 (26.2)	18 (10.5)	9.1 (4.1, 20.1)	0.97 (0.3, 3.3)
Others	15 (10.1)	63 (36.6)	1	1
Number of alive children				
0	54 (36.2)	7 (4.1)	29.2 (12.0, 71.2) *	75 (20.1, 273.3) *
1-2	67 (45.0)	59 (34.3)	4.3 (2.5, 7.4)	4.5 (2.4, 8.5) *
>2	28 (18.8)	106 (61.6)	1	1
Duration of ART attendance (in months)				
≤24	97 (65.1)	77 (44.8)	2.3 (1.5, 3.6) *	2 (1.14, 3.60) *
>24	52 (34.9)	95 (55.2)	1	1
Recent CD4 count				
≤200	41 (27.5)	45 (26.2)	1.1 (0.7, 1.8)	-----
>200	108 (72.5)	127 (73.8)	1	
Educational status				
Illiterate/read & write	84 (56.4)	111 (64.5)	0.7 (0.4, 1.1)	-----
Primary and above	65 (43.6)	61 (35.5)	1	

* Significant association (p<0.05)

Seventy three (57.9%) of the males and seventy six (39%) of the females desired to have children, giving a total of 149(46.4%) of all study participants. Out of those who desired to have children, 78(52.3%) of them desire to have two or more children, while 69(46.3%) and 2(1.4%) desired to have one child and don't know the number of children to have respectively. Among those who expressed the desire for children, 78(52.3%) of them planned to have child/ren within one or two years, while forty six (30.9%) didn't know when to have a child.

From bivariate analysis (as shown on table 4 above) men were significantly more likely to desire children compared to women. (OR; 2.2, 95%CI; 1.4-3.4 P= 0.001). Those who were age group of 18-29 or 30-39, married or never married, those who have no children or 1-2 children, and those respondents who attended the ART units for less or equal to 24 months were positively and significantly associated with desire for children ($p < 0.001$). On the other hand, there was no statistically significant difference between the proportions of those who desire children among illiterate or read and write and primary and above ($p = 0.14$). Likewise, there was no statistically significant difference between those who had recent CD4 count ≤ 200 and > 200 cells/mm³ ($p = 0.79$).

From multivariate analysis (table 4 above), respondents of age group 18-29 and 30-39 were more likely to desire children than those above forty (adjusted OR: 3.3, 95%CI: 1.3-8.9 and 3.3, 95%CI: 1.4-7.9) respectively. Male respondents were 1.9 (95%CI: 1.02-3.62) times more likely to desire children than female respondents. Study participants who were married were more likely to desire children than others (adjusted OR: 5.8, 95%CI: 2.7-12.8). Those who had no children were more likely to desire children than who had at least one child. (Adjusted OR: 75, 95%CI: 20.1-273.3). Similarly, those who had one or two children were more likely to desire children than who had more than two.

(Adjusted OR: 4.5, 95%CI: 2.4-8.5). Study participants who had attended the ART units for less or equal to two years were more likely to desire children than who attended for more than two years. Among 99 respondents whose partners wanted child desire, 98 (99%) of them wanted to have children. Only one person (1.2%) wanted to have children though his/her partner did not want to have child.

5.1.2 Reason for not to desire Children

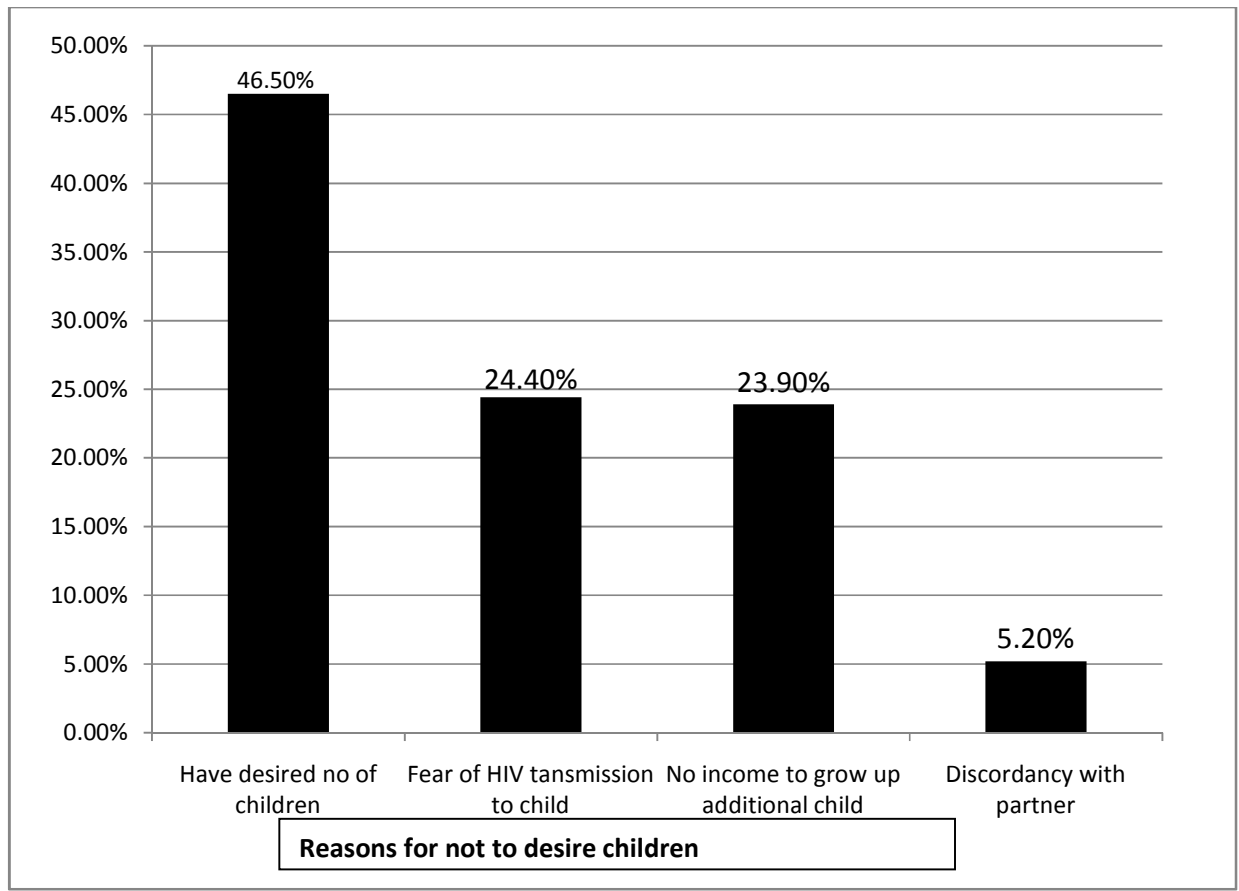


Figure 2 showing the reason for not desiring children among PLWHAs, Horro Guduru Wollega Zone, Ethiopia, 2012

As shown on figure 2 above the major reason for those people who did not desire children were having desired number of children 80 (46.5%) followed by fear of HIV transmission to child reported by 42 (24.4%) of them.

5.1.4 Family planning need, use and choice

Table 5 Distributions of PLWHA under follow up care by contraceptive ever use before And after HIV diagnosis Horro Guduru Wollega Zone, Ethiopia, 2012, N=321

Contraceptive ever use	Before n (%)	After n (%)
Yes	143 (44.5)	185 (57.6)
No/don't remember	178 (55.5)	136 (42.4)
Methods	Before*	After**
Injectables	72(50.3)	73(39.4)
Condom	47(32.9)	130(70.2)
OCPs	32(22.4)	13(7)
Implants	9(6.3)	9(4.9)
Others	1(0.7)	1(0.5)

* Among those who ever used contraceptive before HIV diagnosis (n=143)

**Among those who ever used contraceptive after HIV diagnosis (n=185)

As shown on table 5 shown above, 143 (44.5%) and 185 (57.6%) of the respondents ever used at least one method of family planning method before and after HIV diagnosis respectively. Injectables 72(50.3%) and condom 130(70.2%) were the most commonly used type of family planning method before and after HIV diagnosis respectively

Table 6 distributions of study participants by Current use and future need of family Planning methods in Horro Guduru Wollega Zone, Ethiopia, 2012, N=321

Contraceptive use	Current use n (%)	Future need to use n (%)*
Yes	149(46.4)	58 (33.7)
No	172(53.6)	114 (66.3)
Methods	Current **	Future ***
Injectables	50(33.6)	18(31)
Condom	120(80.5)	31(53.4)
OCPs	5(3.3)	4(6.9)
Implants	9(6)	9(15.5)
Others	1(0.7)	1(1.7)

* Among current contraceptive non users (n=172)

** Among current contraceptive users (n=149)

*** Among those who want to use contraceptive in the future (n=58)

As shown on table 6 above, one hundred forty nine (46.4%) were using different types of family planning methods during the survey period. Among these 120(80.5%) and 50(33.6%) were using condom and injectables respectively. Out of those who were not using family planning method at the time of survey period 58(33.7%) of them have intended to use family planning methods in the future.

Table 7 Association of future family Planning need by selected variables among PLWHA following ART unit, Horro Guduru Wollega Zone, Ethiopia, 2012,N=321

Characteristics	Need for future FP N (%)	Do not need for future FP N (%)	Crude OR(95 % CI)	Adjusted OR (95% CI)
Age				
18-29	26 (55.3)	27 (28.4)	3.1 (1.5, 6.5)	2.5 (1.18, 5.46)*
30-39	21 (44.7)	68 (71.6)	1	1
Sex				
Male	25 (43.9)	33 (28.2)	2 (1.03, 3.89)	1.6 (0.7, 3.8)*
female	32 (56.1)	84 (71.8)	1	1
Marital status				
Married	25 (43.9)	40 (34.2)	1.5 (0.8, 2.9)	-----
Single/divorce/widowed	32 (56.1)	77 (65.8)	1	
Educational status				
Illiterate/read and write	38 (66.7)	80 (68.4)	0.9 (0.5, 1.8)	-----
Primary and above	19 (33.3)	37 (31.6)	1	
Future desire				
Yes	41 (71.9)	46 (39.3)	4 (2.0, 7.9)	2.8 (1.2, 6.6)*
No	16 (28.1)	71 (60.7)	1	
Number of children desired				
<2	9 (22)	23 (50)	1	1
≥2	32 (78)	23 (50)	3.6(1.4, 9.1)	3.8 (1.25, 11.7)*

Adjusted for sex and age

* Significant association at p<0.05

From bivariate analysis (as shown on table 7 above) sex, age, future child desire and number of children desired in the future have significant association with future family planning use (P<0.05). However, marital status, and educational status have no association with future family planning use (p>0.05)

From multivariate analysis, those ages group 18-29 wanted more likely to use family planning methods than those above thirties. (Adjusted OR: 2.5, 95% CI: 1.18-5.46). Study subjects who desired children were more likely to want to use family planning in the future than those who did not desire children (Adjusted OR: 2.8, 95% CI: 1.2-6.6). On the other hand those who desired to have less than two children were less likely to use any family planning in the future than their counter parts (adjusted OR: 0.26, 95%CI: 0.1-0.8).

5.2 Qualitative study result

The issues of the interview guide were desire to have children, reason to/not to desire children, need to use family planning and reason for future family planning need. Ten respondents, equal number of males and females were interviewed.. The age range of the respondents was from 25-45. Their educational status varied from illiterate to first degree graduates. Out of ten, six of them were married, three of them were divorced and one single. Six of them have children.

5.2.1 Desire to have children

Out of ten respondents, two males and two females a total of four respondents reported child desire. They all described improvement of their health as a result of ARV medications. Counseling services with their ART providers and ARV medications which help to reduce mother to child HIV transmission had initiated them to plan for having children. A man explained, *“In the future I want to have one additional child. Now I do have two children. Since my health is getting improved after I started the ART treatment, I hope I will have a healthy child with the help of my ART providers.”*(45 years old, male police with two children said)

Others thought, having children is very important for perpetuating their descendants. A man explained, *“When I heard as I am living with HIV/AIDS for the first time, the first thing that came to my mind was the sorrow of not having a child. I started the ARV treatment after a year of HIV diagnosis and now I am fully healthy. My ART providers told me as I can have a healthy child with the help of this ARV medication after marrying with woman similar to my sero status. Thus, I am planning to get married and have a child.”*(28 years old male with no children said)

Female respondents also expressed their desire because of different reasons; a woman explained, *“When I started this ARV medication, the sister discussed with me about the issue of sexuality and having a child. At that time, I didn’t want to talk about that because I decided not to have sex with anyone since the major concern was about my health for me. But later, my CD4 count increased and my health get very much improved. And even some times I forget as I am living with the virus. My desire for sex is also increasing; I think the medication has the function to do that, ha ha ha... I am discussing with the sister about having a child in the future too and I hope I will have a child free of HIV virus. (30 years old divorced woman with no child said)*

Similarly a 33 years old female who lost her child as a result of AIDS said, *“My ART provider told me that I have to discuss with him when I wanted to have children. Now I have no children. I lost one child due to AIDS. If God allows me, I want to replace my lost child in the future.”*

5.2.2 Did not desire to have children

Six out of ten respondents reported not desiring children. Of these three were males and three females. Respondents’ reason for not desiring children was varied, a woman explained,

“I think no one hates to have children because it’s a God who gives us children. Now I do have two children thanks to Him. But because of this disease, I don’t want to have a child in the future plus I don’t have income to have additional child. Let God grow them up those kids I have.”(25 years old female with two children said)

Some do not fully trust the reduction role of ARV medication in preventing HIV transmission from mother to child. A man explained, *“In fact the ARV medication may help to reduce the chance of transmission of the virus from mother to child. But it is not hundred percent protective. To have healthy child, close follow up is needed from you and your health care provider. After that you may get a healthy child if you are chanceful. Therefore, it’s better for me not to have a child in the future.”(36 years old male-government employee with one child said)*

Others still fear the transmission of the disease from mother to child regardless of the ARV medications. They put it as the main reason for not desiring children. A woman explained, *“I don’t want to talk about having a child because I am living with the virus. Indeed, after I started the ARV treatment my health is improved. But, I don’t believe about the transmission of this disease- I sometimes think this disease may be transmitted by air. Its transmission from mother to child is quite sure and the new child will be borne with HIV virus and after a time, she will end up with death. That’s way I don’t want to have a child.”(34 years old woman and have one child)*

“I think for those people living with HIV/AIDS, talking about having children is not important because the child to be born is also going to be HIV positive which makes the coming generation

HIV positive generation. Therefore it is better for us even to abstain from sex.”(42 years old male and have two children)

5.2.3 Family planning need

Most of them are using modern contraceptive. Those who were not using decided to use it in the future and preferred to use injectables and condom. Condom is mostly recommended by ART providers because of its dual role in re-infection prevention and contraception. A man explained *“Currently I am not using any form of contraceptive because my wife is also HIV positive. But, my health care provider advised me to use condom since it prevents the occurrence of re infection from my wife and unwanted pregnancy. I agreed to use condom in the future.” (34 years old man with two children said)*

Others deny using any form of contraception due to various reasons like partner’s death, and fear of its side effects with ARV medications. A woman said, *“In the future, I don’t want to use any contraceptive method because my husband is dead. I don’t want to marry again. I don’t want to have sex after this. I can live without sex.”(30 years old widowed with one child said)*

Some explained fear of side effects of FP methods as reason for not to use it in the future. A woman explained; *“Before knowing my HIV sero status, I have been using oral contraceptive pills. After I started the ARV medication, I gave it up because I feared both medications together may alter my health. Because of this I am not currently using and do not want to use it in the future”*

CHAPTER SIX- DISCUSSION

Addressing fertility issues among PLWHA is crucial for prevention of unwanted pregnancies and PMTCT especially with advance in treatment which changes views of fertility intention and childbearing despite having the disease. The study was intended to asses fertility desire and family planning need among people living with HIV/AIDS attending ART clinics in selected sites of Horro Guduru Wollega Zone.

Among 321 PLWHA in the reproductive age interviewed, 73 (22.7%) men and 76 (23.7%) women desire to have children giving a total of 149 (46.4%) of the total participants. 149 (46.4%) were using contraceptive during the survey period and among those not currently using, 58 (33.7%) have intended to use family planning methods in the future. This study is similar to a study conducted in South Africa among 459 women and men which revealed 57% men and 45% women were open to the possibility of having children (27). Similarly, this study coincided with study done in Addis Ababa by Wossenyelesh Tamene in which 40% of the 460 respondent's desire for children. On other hand, the result of the present finding is lower than study conducted in Nigeria (66%) and northern shewa Zone (79.9%) (8, 9)

In the present study, the proportion of men desiring children was higher (56%) than women (39%). This result was similar with study done in Brazil and South Africa. In a study conducted in Brazil, 50% (men) and 19.2% (women) desire for having children While 57% men and 45% women desire to have children in South Africa. Men more likely desire children compared to women in this study may be because; the greater burden of growing up and caring for children is plunged on the shoulders of women than men in the Ethiopian context.

In this study, more than 80% of the respondents had no calculated monthly income or earned less than 445 ETB which is below the government's lowest salary. But regardless of their income, about 46.4% of them desire to have children in the future and are not able to access optimal care for themselves and to reduce the likely hood of transmission to the new born; Therefore the likely hood of preventing HIV/AIDS transmission from mother to child by breast milk substitution is very low among these populations

According to this study there were many factors associated with fertility desire. Among these age of the respondents was one of the important factors. In this study, those age group below forty was three times more likely to desire children than those above forty. This was similar to study conducted in Brazil, Nigeria, Addis Ababa and North shewa Zone (2, 8, 9, and 45). This association may be due to a belief of having children at younger age will be good and acceptable. The qualitative results of this study also support that those younger age respondents need to have children than others.

Other significantly associated factor with fertility desire among these populations was the number of alive children they had. Those who had no children were more likely to desire children than who had one or more children. The qualitative result also supported the idea that those who had no any child had desire to have at least one child to perpetuate their descendents and wish to be fatherhood or motherhood. This finding was consistent with studies done in Nigeria and Brazil. (9, 45). The results of studies conducted in other regions of Ethiopia (South Wollo Zone, SNNPR, and Addis Ababa) were also similar to our study result such that the childless were more likely to desire to have children than others.

Marital status was another significant factor identified from this study associated with child desire. Those who were married were more likely to desire children than other groups. The result of this study was similar to studies conducted in Addis Ababa by Wossenyelesh in which married or in relationship were three times more likely to desire children than others. On the other hand, studies conducted in two different places in Nigeria (south western and Sagamu, Ogun state Nigeria) revealed that marital status had no association with the desire to have children in the future. This difference may be due to the socio cultural values of Ethiopians that having children before marriage is unacceptable thus they prefer to have child after they get married.

Partner fertility desire was also an important determinant of the current fertility decision in this study; those people whose partners' desire children were more likely to desire children than those who were their partner did not want to have. This was in agreement with the study conducted in Addis Ababa and Brazil (2, 14). This could be due to better opportunity to discuss on fertility related decisions among couples

Assessment of family planning need among people living with HIV/AIDS was another objective of this study. The choice of contraception in people living with the Human Immunodeficiency Virus (HIV) is very important to prevent both sexual transmission of HIV and unwanted pregnancies. In sub-Saharan Africa, the majority of cases of HIV transmission are estimated to occur via heterosexual intercourse (36). Several methods of providing protection from both unintended pregnancy and sexually transmitted disease (STD) should ideally be available. According to the current consensus of opinion, HIV-infected women and women at risk of HIV infection can use all

available contraceptive methods (30). Avoiding unintended pregnancy (2) and provision of condom among HIV positive women (36) are good ways of vertical transmission and effective horizontal transmission reduction strategies respectively.

In this study about 44.5% of the respondents had used at least one method of family planning methods before HIV diagnosis and this number was increased to 57.6% after HIV diagnosis. This may be due to the counseling services they got from their ART providers to prevent unintended pregnancies and prevention of HIV re-infection from their partners. In qualitative result of this study, study participants shared this idea that their health care providers advised them to use condom to prevent the possibility of viral re infection and unintended pregnancy.

Among those who were not currently using, only 33.7% did want to use family planning in the future; indicating that counseling for family planning for these people still needs to be addressed. Condom was the most commonly practiced (80.5%) type of family planning after HIV diagnosis and preferred family method to use in the future though more than 10% of these populations used it irregularly which has greater risk of horizontal and vertical HIV transmissions.

This study identified many factors like age, desire to have children and number of children desired as important factors associated with future family planning need. Those who were age group between 18 and 29 were more likely to use family planning than those above thirties which was similar to study conducted in Uganda (4). This may be attributed to the possible need of these populations to prevent unintended pregnancy and limit births since the age group 18-29 desired to

have children than their counter parts. However, according to study conducted in Addis Ababa; age has no significant association with future family planning need. (2)

The other factor associated with future family planning use was future desire for children. Those who desired children were three times more likely want to use future family planning than those who did not desire children. This may be again the possible need of these populations to limit and space the number of children. Similarly study conducted in Addis Ababa and North shewa zone (conducted by Mesfin Abebe) also identified that those people living with HIV/AIDS who desired children were more likely want to use family planning in the future than their counter parts (2, 8)

Number of children desired was another factor for future family planning need identified in this study. Those who desired two and above children were more likely want to use family planning methods than those who desired one. This may be again due to the possible desire of these populations to limit and space births as their desired number of children increases. On the other hand, number of children desired has no significant association according to study conducted in Addis Ababa (2)

CHAPTER SEVEN- STRENGTHS AND LIMITATIONS OF THE STUDY

7.1 Strength of the study

- ❖ The study was supplemented by qualitative result to identify factors that were not addressed by the quantitative result.
- ❖ The study has high response rate of 99.4%

7.2 Limitation of the study

- **Social desirability bias-** data was collected by health care providers working in ART clinics to keep the confidentiality of the study participants. However, participants may still respond the acceptable answers by their care providers and the society they live in.
- Like other cross sectional studies this study also shares the drawbacks of the design

CHAPTER EIGHT- CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusion

In this study high numbers (61%) of people living with HIV/AIDS were sexually active and many 149 (46.4%) need to have children in the future. Those who desire children were males, younger age, those who have no children and married or single in marital status.

The study also identified as high numbers (46.4%) of the study participants were using at least one form of family planning methods and among current non users, one third of them want to use it in the future. Injectables were the prevalent method before HIV diagnosis and condom was the prevalent method after HIV diagnosis among these populations. The need to use family planning is affected by factors like age; desire to have children and marital status.

Generally, considerable number of PLWHA wants to have a child currently or in the near future. Many variables like socio demography, partner related, number of alive children and HIV related disease condition were significantly associated with fertility desire and those who desired children tend to use family planning methods in the future.

8.2 Implication of the study to:

- A. **Nurse practitioners-** the study helps nurse practitioners in identifying the prevalence of desire for children and unmet need of family planning methods in the study area among PLWHAs for giving quality care and possible interventions for these populations.
- B. **Nurse educators-** the result of the study helps nurse educators to focus in providing health education about time to have child, importance of family planning methods to

reduce HIV re infection and to space and limit births for PLWHA especially for younger ages and the childless.

- C. **Nurse researchers**- the study helps to give a base line data for nurse researchers who wish to conduct a study in similar issue and can be used as a reference too.
- D. **Nurse Administrators**- the result of the study may also supports nurse administrators to design interventions in preventing mother to child transmission of HIV among PLWHAs who desire children. It also helps nurse administrators to give attention for those populations who were not using family planning methods but want to use it in the future.

8.3 Recommendations

- Regardless of educational status, the childless as well as the youngest should be regarded as groups to be particularly targeted by counseling, and to be provided with information about reproductive rights and options.
- Horro Guduru Wollega Zone, HAPCO office should promote intervention efforts that can effectively assist PLWHA in maintaining safer sex practices
- Zonal health office together with ART providers should provide education on use of condom for PLWHAs since one third of sexually active HIV positive individuals were not practicing condom use.
- Increased access to ART is critical in view of the high demand of PLWHAs for children so as to reduce the number of HIV positive babies
- FP counseling services and support for PLWHA to make informed decision about childbearing should form an integral part of care for PLWHAs,
- Further research is warranted to identify problems that were not addressed in this study

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ANNEXES

Annexe I- subject information sheet

Addis Ababa University

College of Health Sciences

Department of Nursing and Midwifery

Here, I the undersigned, at Addis Ababa University College of Health Sciences department of nursing and midwifery, Graduate studies Program, currently I will be undertaking research on a topic entitled Fertility desire and family planning need among People Living With HIV/AIDS (PLWHA) in selected ART clinics of Horro Guduru Wollega Zone, North West Oromia, Ethiopia

For this study, you will be selected as a participant and before getting your consent or permission of your participation, you need to know all necessary information related to the study. Thus, this information will be detailed as;

Objective: To assess fertility desire and family planning need among PLWHA following ARV care unit in selected ART clinics of Horro Guduru Wollega Zone, Oromia National Regional State

Significance of the study: In our country, there is only limited information available about fertility desire of women and men living with HIV/AIDS. Some women may have children even after HIV diagnosis and very little is known about whether the pregnancies were intentional or not.

In addition, the majority of HIV positive men and women are of reproductive age and major mode of transmission in Ethiopia is heterosexual and vertical transmission. (12) Therefore a better understanding of fertility desire and family planning need of HIV positive people is important since ARV medication is becoming available and the study is also intended to identify some of the factors influencing their fertility desire and family planning need which might help in the prevention, control and policy formulation on the preventive strategy of HIV/AIDS

➤ **Participants to be included:** All people living with HIV/AIDS following ART care units who have at least visited once

- **Confidentiality:** All information you give will be kept confidential and won't be accessible to any third party. Your name won't be registered on the question sheet so that you will not be identified.
- **Risks and Benefits of the study**
 - Risks:** the study has no clear and identifiable risks except perceived fear of respondents
 - Benefits:** For your participation in the study no payment will be granted or has no any special privilege to you. But, participating in the study and giving your information to questions asked will have great input in efforts of prevention of transmission of HIV/AIDS
- **Consent:** Your participation in the study will be totally based on your willingness. You have the right not to participate from the beginning, or stop any time after starting participation. You will not be forced to respond to the information you do not know

Annexe II- English version questionnaire (quantitative part)

Addis Ababa university faculty of medicine school of nursing department of nursing and midwifery Individual consent form for the study on fertility desire and demand for family Planning in HIV positive men and women on follow up care in HGW zone selected ART clinics

My name is -----, I am working with the research team of Addis Ababa University. Here at -----Hospital/Health center ARV treatment unit we are interviewing men and women PLWHA on follow up care to evaluate their fertility desire and demand for family planning .We believe that this study would help to bring change in fertility and family planning services for HIV positive people on ARV treatment We would like to assure you your name will not be mentioned in the questionnaire and the information that you will give us will be kept confidential and only used for research purpose. You have full right to refuse to take part or to interrupt the interview at any time. But the information that you will give us is quite useful to achieve the objective of the study and to bring change in the fertility and family planning service provision for HIV positive people on ARV treatment

Are you willing to participate in the study?

1- Yes 2 - No

If the answer is yes, thanks! Conduct the interview.

If the answer is no, Thanks!

Don't force or reinforce an individual to participate in the survey

Interviewer's code -----name ----- signature -----

Date of interview ----- date -----month/2004 E. C

Supervisor's name -----signature -----

Checked on ----- date-----month/2004 E.C

Complete 1

Incomplete 2

Other (specify) -----

PART I – Socio - demographic characteristics

No	Questions	Categories
101	How old are you?	----- Years (age in completed years)
102	What is your Sex?	Male ----- 1 Female ----- 2
103	What is your religion?	Orthodox ----- 1 Catholic ---- 2 Muslim ----- 3 Protestant -- 4 Others (specify) ----- 89
104	What is the highest Educational level you completed?	----- Grade completed Able to read and Write ----- 86 Un able to read & Wright ----- 87 No response -----99 Other specify -----89
105	What Ethnic group do you belong to?	Oromo ----- 1 Amhara -----2 Gurage ----- 3 Other (Specify) -----89
106	What is your Current Marital / relation ship status?	Married----- 1 Single ----2 Widowed ----- 3 Divorced ----4 Non married partner ----- 5 No response -----99
107	What is your total Monthly income?	----- Eth.Birr No income ----- 1 Don't know ----- 2 No response ----- 99 Other (specify)-----89
108	What is your current Occupation?	Unemployed ----- 1 Student ----- 2 House wife ----- 3 House servant ----- 4 Daily laborer ----- 5 Merchant ----- 6 Sex worker ----- 7 Government employ ----- 8

		Private employ ----- 9
		Other (specify)----- 89

PART II- Information on Child Desire

109	How many live births have you had in your life?	-----Live births I did not give birth at all -----97 I do not have any live birth ---98 No response ----- 99 Other (specify) -----89
110	How many alive children do you have now?	No of alive children ----- I do not have children at all--- 97 I do not have alive children ----98 No response ----- 99 Other (specify) -----89
111	Would you like to have children in the future?	Yes ----- 1 No ----- 2 Don't know ----- 3 No response ----- 99 Other (specify) -----89
112	If the answer for Q 111 yes, when do you prefer to have a child?	-----months /-----years Don't know-----98 No response ----- 99 Other (specify) -----89
113	If the answer for Q 111 yes, How many (more) children would you like to have in the Future?	One-----96 Two and above----- 97 Don't know ----- 98 No response ----- 99 Other (specify) -----89
114	(If the answer for question 111 no) why do you not want to have children in the future?	have desired number of children -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 ----- 3 Child bearing may further compromise my/my partner health-----4 No response ----- 99 Other (specify) -----89
115	Does your husband /wife/ partner want to have a child in the future?	Yes ----- 1 No ----- 2 Don't know -----3 Don't have partner ----- 4 No response ----- 99 Other specify -----89

PART III –Information on contraceptive use, demand and choice

116	Have you (your partner) ever used family planning method before HIV diagnosis?	Yes ----- 1 No ----- 2 Don't remember ----- 3 Don't know ----- 4 No response ----- 99 Other specify -----89
117	If yes for Q116 specify the method you /your partner used? (More than one answer can be possible)	Abstained from sex ----- 1 Condom ----- 2 Pill (OCP) ----- 3 Injectable ----- 4 IUD -----5- Implant-----6
118	Have you (your partner) ever used family	Yes ----- 1 No ----- 2

	planning method after HIV diagnosis?	Don't remember ----- 3 Don't know ----- 4 No response ----- 99 Other (specify)----- 89
119	If yes for Q 118 specify the method you /your partner used? (More than one answer can be possible)	Abstained from sex ----- 1 Condom ----- 2 Pill (OCP) ----- 3 Injectable ----- 4 IUD ----- 5 Implants ----- 6 Tubalegation /Vasectomy ----7 No response -----99 Other (specify) -----89
120	Are you/your partner/ using Family planning method currently (during the study period)?	Yes ----- 1 No ----- 2 I don't know ----- 3 No response ----- 99
121	If yes for question 120, specify the method you are using? (More than one answer can be possible)	Abstained from sex ----- 1 Condom ----- 2 Pill(OCP) ----- 3 Injectable ----- 4 IUD ----- 5 Implants ----- 6 Tubalegation /vasectomy ----7 No response -----99 Other (specify) -----89
122	(If the answer for Q120 No) would you like to use family planning method in the future?	Yes ----- 1 No ----- 2 Don't know ----- 3 No response ----- 99 Other (specify) ----- 89

123	If yes for question 122, specify the method you intend to use? (More than one answer can be possible)	Abstained from sex ----- 1 Condom ----- 2 Pill(OCP) ----- 3 Injectable ----- 4 IUD ----- 5 Implants ----- 6 Tubal ligation /vasectomy ---7 Other (specify) -----89
124	If the answers for question 122 no, why don't you want to use family planning?	want to have a child -----1 fear that family planning drugs may create complication with ARV treatment -----2 I abstained from sex ----3 No response -----99 Other specify-----89

PART IV Information on Knowledge and Attitude on MTCT and PMTCT

125	Does HIV transmit from mother to child?	Yes ----- 1 No -----2 Don't know -----3 No response ----- 99 Other (specify) -----89
126	If yes when does HIV transmissions occur from mother to child?	During pregnancy ----- 1 During labor ----- 2 Through breastfeeding ----3 I don't know -----4 No response -----99 Other (specify) -----89

127	Is there any medication, which may help to prevent mother to child HIV transmission?	Yes ----- 1 No ----- 2 Don't know ----- 3 No response ----- 99 Other (specify) -----89
128	How much do you think the risk of HIV transmission from mother to child, if the mothers do not use any preventive medication?	All children born to infected mother acquire the infection-1 About 50% children acquire the infection----- 2 I don't know ---- 3 I don't know the exact figure-- ----- 4 No response -----99 Other specify -----89-
129	Do you think medication provided to reduce mother to child HIV transmission actually reduce the transmission?	Yes ----- 1 No ----- 2 Don't know----- 3 No response ----- 99 Other (specify) -----

PART V- Information on HIV /AIDS and treatment conditions

130	How many years / months since HIV diagnosis?	----- Months or -----years Don't remember ----- 1 No response ----- 99 Other (specify) -----89
131	When did you start receiving ARV treatment?	Before ---month or-----years Don't remember ----- 1 No response ----- 99
132	Who cover the cost of the Drugs?	My self ----- 1 Free access from the

		Government ---- 2 Covered by care and support NGO's-- 3 My parents/ Relatives ----- 4 No Response ----- 99 Other (specify) -----89
133	How is your over all health condition after you start receiving ART?	Improved -----1 No change -----2 Deteriorated ----- 3 No Response -----99 Other (specify) -----89
134	How much is your recent CD4 count?	-----
135	How long did you attend in this ARV treatment unit?	----- Months and ----years Don't remember ----- 1 No response -----99 Other specify -----89
136	Did Your counselor /ART provider discuss about sexuality, child bearing and family planning?	Yes ----- 1 No -----2 No response - 99
137	Would you like to discuss with your counselor/ART provider about sexuality, child Bearing and family planning?	Yes ----- 1 No ----- 2 Don't know ----- 3 No response ----- 99

PART VI – Information on reproductive characteristics

138	Have you had sexual Intercourse In the past six months?	Yes ----- 1 No ----- 2 No response -----99 Other (specify) -----89
139	(If yes for Q 140) Have you used condom?	Yes ----- 1

		No ----- 2 I don't remember ---3 No response ----- 99 Other (specify) -----89
140	If yes for Q141 how often?	Always -----1 Some times -----2 No response -----99 Other (specify) -----89
141	If the answer for question 141 yes, why do you used condom?	To prevent pregnancy ---- 1 Because my partner HIV status is negative 2 Health care providers advised me to use condom --- 3 No response -----99 Other (specify) -----89
142	If the answer for question 141 no, why didn't you used condom?	I want to have children -----1 My partner did not like it --- 2 No response -----99 Other (specify) -----89

Annex III-Qualitative questionnaire / in-depth interview guide

Part I - Socio demographic information

How old are you (age in completed years)? -----

What is your sex? -----

What is your marital status? -----

What is your current occupation? -----

What is your Ethnicity? -----

What is your Religion? -----

What is the highest educational level you completed? -----

Part II- Information on child desire and in reproductive characteristics

Q1-How many current alive children did you have?

Their age -----

Their sex -----

Their HIV/status-----

Q2- How important is it for you to have /not to have (more) children?

Q3-What effect, if any, does HIV have on your desire to have or not to have (More) children

Q4- How many more children would you like to have? Why?

Q5- Do you think HIV changed the way people in your community think about The number of children you want to have? EXPLAIN

PART III– Information on family planning choice

Q6- How important is it for you to use or not to use family planning?

Q7- What are some of the reasons for the way you feel about this?

Q8- What effect, if any, does HIV have on your demand to use or not to use family Planning?

Q9-What method of family planning do you want to use /are using? Why?

Q10-How and why do you choose the method you want to use/you are using?

Q11- Have you ever discussed about your sero status to your family planning Provider? Why?

Q12- Have you ever discusses about your sero status to your partner /your family, Why?

Q13- Do you want to discuss about fertility, sexuality and family planning with your counselor and ART provider? Why?

Q14 -What do you know about MTCT? Explain.

Q15- What do you know about PMTCT services? Explain.

Q16 – 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

Annex IV-subject information sheet, Afan Oromo version

Yuuniversiitii Finfinneetti Koolleejjii saayinsii fayyaa

Mana barnootaa narsummaa fi miidwaayiferii

Armaan gaditti, maqaafi mallattoon koo kan taa'e, yuuniversiitii Finfinneetti koolleejjii saayinsii fayyaa, depaarimentii narsummaa fi miidwaayiferiitti qorannoo mata dureen isaa "Fedhii mucaa godhachuu fi karoora maatiitti fayyadamuu namoota vaayiresii HIV/EEDSII waliin jiraatan kan buufata tajaajila farra HIV/EEDSII (ART clinic) filataman Godina Horroo Guduruu Wallaggaa irratti godhamu" gaggeessuudha.

Qorannoo kanaaf, isin immoo akka irratti hirmaattaniif filatamtanii jirtu. Isin eeyyamsiisuu keessan dura, odeeffannoo waa'ee qorannoo kanaa beekuun keessan gaarii ta'a. kunniinis odeeffannoo armaan gadiiti.

Dhimmi guddaan qorannoo kanaa waa'ee fedhii mucaa godhachuu fi karoora maatiitti fayyadamuu namoota vaayiresii HIV/EEDSII waliin jiraatan kan buufata tajaajila farra HIV/EEDSII (ART clinic) filataman Godina Horroo Guduruu Wallaggaa irratti godhamu" gaggeessuudha

Barbaachisummaa qorannoo kanaa –biyya keenya keessa odeeffannoon waa'ee mucaa godhachuu fi karoora maatiitti fayyadamuu namoota HIV/EEDSII waliin jiraatan irratti godhame baay'ee muraasadha. Haadholiin tokko tokko erga vaayiresii HIV waliin jiraachuu isaanii beekanii fedhii mucaa godhachuu qabaachuu danda'u. Akkasumas, ulfi uumamu kan barbaadamu ta'uu fi dhiisuu isaa odeeffannoon jiru baay'ee muraasadha. Kanaafuu bu'aa qorannoo kanaarraa argamu, to'annaa fi ittisa HIV/EEDSII irratti godhamu irratti gahee mataa isaa qaba.

Namootni qorannoo kanarratti hirmaatan, kanneen vaayiresii HIV waliin jiraatanii fi yoo xiqqaate altakkaa gara buufata kilinika ART deemanii beekanidha.

Icciiitii eeguu; odeeffannoon isin nuu kennitan nama biraa kamittuu hin kennamu. Maqaan keessan waraqaa gaaffii irratti hin barreeffamu. kanaafuu namni kamiyyuu adda isin baasuu hin danda'u.

Faayidaa fi miidhaa qorannoo kanaa; qorannoon kun miidhaa qaba kan jedhu amantii hin qabnu. Sodaa namootni irratti hirmaattan irraan kan hafe.

Faayidaan qorannoo kanaa ammoo, qorannoo kana irratti hirmachuun keessan gama to'annaa fi ittisa HIV/EEDSII irratti gahee mataa isaa qaba.

Hayyama; qorannoo kana irratti hirmaachuun keessan kan hundaa'u hayyama keessan irratti. Irratti hirmaachuun, dhiisuuni fi gidduutti dhaabuun mirga keessani. Gaaffii hin beeknes akka deebistaniif hin dirqisiifamtani.

Annex V-Afan Oromo version questionnaire (quantitative part)

UNIVERSIITII FINFINNEE FAAKAALTII FAYYAATTI MANA BARNOOTA
NARSUMMAA DAMEE NARSUMMAA FI MIID WAAYIFERII QORANNOO FEDHII
MUCAA GODHACHUU FI KAROORA MAATIITTI FAYYADAMUU NAMOOTA
HIV/AIDS WALIIN JIRAATAN IRRATTI GODINA HORROO GUDURUU WALLAGGAA
BAKKEEWWAN BUUFATA TAJAJILA ART FILATAMAN IRRATTI GODHAMU

Seensa;

Maqaan koo _____ jedhama. Ani kan hojjachaa jiru ragaa qoranaa Univarsitii Finfinne,
fakalitii fayyatti mana barnoota narsummaa damee narsummaa fi miid waayiferii mata-duree
“fedhii mucaa godhachuu fi karoora maatiitti fayyadamuu namoota HIV/AIDS waliin jiraatan”
irratti gageefamuuf oolu funanuu dha. Bu’aan qorannoo kanaa jijjiirama waa’ee mucaa
godhachuu fi karoora maatiitti fayyadamuu namoota HIV/AIDS waliin jiraatan irratti fiduu
danda’a kan jedhu amantiin qaba. Maqaan keessan guca kana irrattii hin-bareefamu, akkasummas
ragaa naa keenitan walin qabsifamees itti hin-fayyadamamu. Gafiin isin deebisuu hin-barbanne
yoo jiratee dhisuun mirga keessan ta’e yeroo barbaaddanis gafii fi debii gageesinu dhaabuu ni-
dandeessu. Haa ta’u malee, gafiilee hundaaf deebiin sirrii ta’e kaayyoo qoranaa kanaf bahee ni-
barbachisadha.

Hirmaachuuf fedhii qabduu? eeyyee _____ lakki _____
‘eeyyee’ yoo ta’e galatoomfadhuutii gaaffiif deebiikee itti fufi
Yoo ‘lakki’ ta’es galatoomfadhu.

Gaafachuuf hin dirqisiisiin!

Koodii nama gaafatuu _____ maqaa _____ mallattoo _____
to’ataa hordofe Maqaa _____ mallattoo _____
Guyyaa mirkanaa’e _____

KUTAA TOKKOFFAA GAAFFILEE HAALA DHUUNFAA FI HAWAASUMMAA

Lakk.	Gaaffilee	Deebii
101	Umuriin keessan meeqa?	Waggaa_____
102	Saala	Dhiira-----1 Dhalaa-----2
103	Amantiin keessan maali?	Oroodoksii---1 kaatoliki---2 Musliima-----3 protestaantii----3 Kabiraa (ibsi)-----4
104	Sadarkaa barnootaa keessan meeqa?	Kutaa----- Dubbiisuuf barreessuu danda'a-----86 Dubbiisuuf barreessuu hin danda'u----87 Ka biraa (ibsi)-----89
105	Qomoon keessan maali?	Oromoo-----1 Amaaraa-----2 Guraagee-----3 Tigree-----4 Ka biraa (ibsi)-----89
106	Haalli fuudhaa fi heerumaa keessan akkami?	Fuudhee/heerumee waliin jiru/married-----1 Qophaa/single-----2 Haati ykn abbaa manaa kan irraa du'e/duute-----3 Kan wal hiikan-----4 Deebii hin kennine.....99
107	Ji'atti galiin argattan meeqa ta'a?	Qarshii ----- Galii hin qabu----1 Hin beeku-----2 Deebii hin kinnine----99 Ka biraa(ibsi)-----89
108	Yeroo ammaatti hojiin keessan maali?	Kan hin qacaramne-----1 Barataa.....2 Haadha manaa qofa-----3 Hojjettuu mana keessaa----4 Hojjetaa/ttuu guyyaa-----5 Daldalaa-----6 Hojjettuu mana bunaa-----7 Hojjetaa mootummaa-----8 Hojjataa jarmiyaa dhunfaa-----9 Ka biraa (ibsi)-----89

KUTAA LAMMAFFAA- GAAFILEE WAA'EE MUCAA GODHACHUU

109	Ijoollee meeqa deesse/dhalchite?	Ijoollee------(lakkoofsaan) Takkaayyuu hin deenye/hin dhalchine----97 Mucaa lubbuudhaan jiru tokkoyyuu hin qabu-----98 Deebii hin kennine-----99 Kabiraa (ibsi)-----89
110	Yeroo ammaa ijoollee lubbuun jiran meeqa qabdu?	Baayina ijoollee lubbuun jirani------(lakkoofsan) Hinumaa ijoollee hin qabu-----97 Ijoollee lubbuun jiran hin qabu----98 Deebii hin kennine-----99 Ka biraa (ibsi)-----89
111	Gara fuulduraatti ijoollee godhachuu barbaadduu?	Eeyyee-----1 lakki-----2 Hin beeku-----3 Deebii hin kennine-----4 Ka biraa (ibsi)-----89
112	Yoo deebiin gaaffii 111 eyyee ta'e, yoom mucaa godhachuu barbaddu?	Ji'a-----/waggaa-----keesatti Hin beeku-----98 Deebii hin kennine-----99 Ka biraa(ibsi)-----89
113	Yoo deebiin gaaffii 111 eyyee ta'e, ijoollee meeqa godhachuu barbaaddu?	Tokko-----96 Lamaa fi isaa ol-----97 Hin beeku-----98 Deebii hin kennine-----99 Ka biraa (ibsi)- -----89
114	Yoo deebiin gaaffii 111 'lakki' ta'e, maaliif fuulduraatti mucaa godhachuu hin barbaanne?	Baayina ijoollee barbaadu qaba-----1 Sodaa HIViin mucaatti darbuuf-----2 Qabeenya mucaa dabalataaf ta'u waan hin qabneef-----3 Sodaa mucaa dabalataa godhachuun dhiibbaa fayyaa koo irratti fiduuf-----4 Deebii hin kennine-----99 Ka biraa(ibsi)-----89
115	Abbaan manaa/haati manaa keessan gara fuulduraatti mucaa godhachuu ni barbaadduu?	Eeyyee-----1 lakki-----2 Hin beeku-----3 Abbaa manaa/haadha manaa hin qabu---4 Deebii hin kennine-----99 Ka biraa yoo ta'e (ibsi)-----89

KUTAA SADAFFAA - GAAAFFILEE WAA'EE FEDHA, ITTI FAYYADAMA FI FILANNOO KAROORA MAATII

116	Isin/abbaan manaa/haati manaa keessan HIV'iin qabamuu keessan dura karoora maatiitti fayyadamtanii beektuu?	Eeyyee-----1 lakki-----2 Hin yaadadhu-----3 Hin beeku-----4 Deebii hin kennine-----99 Ka biraa(ibsi)-----89
117	Yoo gaaffii 116 'eeyyee' ta'e, mala karoora maatii isa kamitti fayyadamtani?	Quunnamtii saalaa gochuu dhiisuun-----1 Kondoomii-----2 Piilsii-----3 Kan lilmoodhaan kennamu-----4 Kan gadameessa keessa taa'u/luuppaa----5 Kan irreerratti gogaa jala awwaalamu----6
118	Isin/abbaan manaa/haati manaa keessan erga HIV'iin qabamuu keessan beektanii booda karoora maatiitti fayyadamtanii beektuu?	Eeyyee-----1 lakki-----2 Hin yaadadhu-----3 Hin beeku-----4 Deebii hin kennine-----99 Ka biraa(ibsi)-----89
119	Yoo gaaffii 118 'eeyyee' ta'e, mala karoora maatii isa kamitti fayyadamtani? (deebiin tokkoo ol ni danda'ama)	Quunnamtii saalaa gochuu dhiisuun-----1 Kondoomii-----2 Piilsii-----3 Kan lilmoodhaan kennamu-----4 Kan gadameessa keessa taa'u/luuppaa----5 Kan irreerratti gogaa jala awwaalamu----6 Karoora maatii isa dhaabbataa/tubaligation/vasectomy----7 Ka biraa (ibsi)-----89
120	Isin/haati manaa/abbaa manaa/hiriya keessan yeroo ammaa kanatti karoora maatiitti fayyadamaa jirtuu?	Eeyyee-----1 lakki-----2 Hin beeku-----3 Deebii hin kennine/callisaa-----99
121	Yoo gaaffii 120 eeyyee ta'e, karoora maatii isa kamitti fayyadamaa jirtu?	Quunnamtii saalaa gochuu dhiisuun-----1 Kondoomii-----2 Piilsii-----3 Kan lilmoodhaan kennamu-----4 Kan gadameessa keessa taa'u/luuppaa----5 Kan irreerratti gogaa jala awwaalamu----6 Karoora maatii isa dhaabbataa/tubaligation/vasectomy----7 Ka biraa (ibsi)-----89
122	Yoo gaaffiin 120 'lakki' ta'e gara fuulduraatti karoora maatiitti fayyadamuu barbaadduu?	Eeyyee-----1 lakki-----2 Hin beeku-----3 Deebii hin kennine-----99

		Ka biraa(ibsi)-----89
123	Yoo gaaffii 122 ‘eeyyee’ ta’e, karoora maatii isa kamitti fayyadamuu barbaaddu?(deebii tokkoo ol ni danda’ama)	Quunnamtii saalaa gochuu dhiisuun-----1 Kondoomii-----2 Piilsii-----3 Kan lilmoodhaan kennamu-----4 Kan gadameessa keessa taa’u/luuppaa----5 Kan irreerratti gogaa jala awwaalamu-----6 Karoora maatii isa dhaabbataa/tubaligation/vasectomy----7 Ka biraa (ibsi)-----89
124	Yoo gaaffii 122 ;lakki’ ta’e, maaliif karoora maatiitti fayyadamuu hin barbaadne?	Mucaa godhachuu waanan barbaaduuf---1 Sodaa qorichootni karoora maatii fi farra eedsii waliin yoo fudhataman rakkoo uumaniif-----2 Quunnamtii saalaa gochuu waan hin barbaadneef-----3 Deebii hin kennine/callisaa-----99 Ka biraa(ibsi)-----89

KUTAA ARFAFFAA- GAAFILEE WAA’EE BEEKUMSAA FI ILAALCHA ITTISA HIV/EEDSII HAADHA IRRAA MUCAATTI (PMTCT)

125	HIViin haadha irraa mucaatti darba jettanii yaadduu?	Eeyyee-----1 lakki---2 Hin beeku-----3 Deebii hin kennine/callisa----99 Ka biraa(ibsi)-----89
126	Yoo eeyyee ta’e karaa kamiin mucaatti darba?	Yeroo ulfaa-----1 Yeroo da;umsaa-----2 Karaa harma hoosisuun----3 Hin beeku-----4 Deebii hin kennine-----99 Ka biraa(ibsi)-----89
127	Qorichi HIViin haadha irraa mucaatti akka hin darbine godhu jira jettanii yaadduu?	Eeyyee-----1 lakki-----2 Hin beeku-----3 Deebii hin kennine----99 Ka biraa yoo ta’e/ibsi----89
128	Yoo haati qoricha farra eedsiitti fayyadamuu baatte, hagam HIViin mucaatti darbuu danda’a jettanii yaaddu?	Mucaa kamiyyuu HIViin kamiyyuu ni qabama-----1 Persentiin 50 ni qabamu----2 Hin beeku-----3 Lakkoofsaan ibsuu hin danda’u-----4 Deebii hin kennine/callisa--99

		Ka biraa yoo ta'e ibsi-----89
129	Qorichi farra eedsii HIVii mucaatti darbu ni hir'isa jettanii yaadduu?	Eeyyee----1 lakki-----2 Hin beeku-----3 Deebii hin kennine---99 Ka biraa yoo ta'e(ibsi)-----89

KUTAA SHANAFFAA-GAAFILEE WAA'EE HIV/EEDSII FI YAALAMA ISAA

130	Yoom HIV/eedsiiin qabamuu keessan beekame?	Ji'a-----/waggaa----dura Hin yaadadhu-----1 Deebii hin kennine-----99 Kabiraa yoo ta'e ibsi----89
131	Qoricha farra eedsiiitti fayyadamuu yoom eegalte?	Ji'a-----/waggaa----dura Hin yaadadhu-----1 Deebii hin kennine-----99
132	Gatii qorichichaa eenyutu kaffale/danda'e?	Ofii kiyya----1 Mootummaa irraa tola----2 Jaarmiyaa miti mootummaa3 Warra/firakoo-----4 Deebii hin kennine-----99 Kabiraa yoo ta'e ibsi----89
133	Erga qoricha farra eedsiiitti fayyadamuu eegaltee fayyaan keessan maal fakkata?	Natti fooyya'ee jira----1 Jijjiirama hin qabu----2 Inumaa natti caale----3 Beebii hin kennine-----99 Kabiraa yoo ta'e ibsi-----89
134	Yeroo ammaa kana baayinni CD4 keessan meeqa?	-----
135	Yeroo hagamiiif kutaa qorichi farra eedsii itti kennamu kana hordoftan?	Ji'a-----f/waggaa-----f Hin yaadadhu-----1 Deebii hin kennine-----99 Ka biraa yoo ta'e ibsi-----89
136	Hojjetaan qoricha farra eedsii isinii kennu, waa'ee karoora maatii,mucaa godhachuu fi dhimma saalaa isin mariisisee beekaa?	Eeyyee----1 lakki-----2 Deebii hin kennine/callisa--99
137	waa'ee karoora maatii,mucaa godhachuu fi dhimma saalaa hojjetaa qoricha farra eedsii kennu waliin mariachuu ni barbaadduu?	Eeyyee----1 lakki-----2 Hin beeku-----3 Deebii hin kennine-----99

KUTAA JAHAFFAAA- GAAFILEE WAA'EE WAL HORMAATAA

138	Ji'a jaha darbe keessatti quunnamtii saalaa gootanii jirtuu?	Eeyyee-----1 lakki-----1 Deebii hin kenine-----99
139	Yoo gaafii 140 eeyyee ta'e, kondoomiitti fayyadamteettaa?	Eeyyee-----1 lakki-----2 Hin yaadadhu----3 Deebii hin kennine/callisa--99
140	Yoo gaafii 141 eeyyee ta'e, yeroo kamfaa itti fayyadamta?	Yeroo hundaa----1 Takka takka-----2 Deebii hin kennine----99 Ka biraa yoo ta'e/ ibsi-----89
141	Yoo gaaffii 141 eeyyee ta'e, maaliif kondoomiitti fayyadamte?	Ulfa hin barbaadamne ittisuuf-----1 Sababni isaa abbaa/haati manaa koo HIViin waan hin qabamneef-----2 Ogeessi fayyaa akkan itti fayyadamu waan na gorseef--- -----3 Deebii hin kennine-----99 Ka biraa yoo ta'e/ibsi-----89
142	Yoo gaaffii 141 'lakki' ta'e, maaliif kondoomiitti hin fayyadamne?	Mucaa godhachuu waanan barbaaduuf-----1 Abbaan manaa/haati manaakoo waan hin barbaadneef-----2 Deebii hin kennine-----99 Ka biraa yoo ta'e ibsi-----89

Annex- VI Afan Oromo version questionnaire (qualitative part)

UNIVERSIITII FINFINNEE FAKAALTII FAYYAATTI MANA BARNOOTA NARSUMMAA DAMEE NARSUMMAA FI MIID WAAYIFERII QORANNOO FEDHII MUCAA GODHACHUU FI KAROORA MAATIITTI FAYYADAMUU NAMOOTAA HIV/AIDS WALIIN JIRAATAN IRRATTI GODINA HORROO GUDURUU WALLAGGAA BAKKEEWWAN BUUFATA TAJAJILA ART FILATAMAN IRRATTI GODHAMU

Seensa;

Maqaan koo _____ jedhama. Ani kan hojjachaa jiru ragaa qoranaa Univarsitii Finfinne, Fakalitii fayyatti mana barnoota narsummaa damee narsummaa fi miid waayiferii mata-duree “fedhii mucaa godhachuu fi karoora maatiitti fayyadamuu namoota HIV/AIDS waliin jiraatan” irratti gageefamuuf oolu funanuu dha. Bu’aan qorannoo kanaa jijjiirama waa’ee mucaa godhachuu fi karoora maatiitti fayyadamuu namoota HIV/AIDS waliin jiraatan irratti fiduu danda’a kan jedhu amantiin qaba. Maqaan keessan guca kana irrattii hin-bareefamu, akkasummas ragaa naa keenitan walin qabsifamees itti hin-fayyadamamu. Gafiin isin deebisuu hin-barbanne yoo jiratee dhisuun mirga keessan ta’e yeroo barbaaddanis gaffii fi debii gageesinu dhaabuu ni-dandeessu. Haa ta’u malee, gaffilee hundaaf deebiin sirrii ta’e kaayyoo qoranaa kanaf bahee ni-barbachisadha.

Hirmaachuuf fedhii qabduu? eeyyee_____ lakki_____

‘eeyyee’ yoo ta’e galatoomfadhuutii gaaffiif deebiikee itti fufi

Yoo ‘lakki’ ta’es galatoomfadhu.

Gaafachuuf hin dirqisiisiin!

Koodii nama gaafatuu_____maqaa_____mallattoo_____

to’ataa hordofe Maqaa _____mallattoo_____

Kutaa tokkoffaa

1. Gaafilee waa'ee dhimma hawaasummaa fi dhuunfaa

Umuriin keessan meeqa? Saala-----

Haala fuudhaa fi heerumaa keessan maal fakkaata?

Hojiin keessan yeroo ammaa maalidha?

Qomoon keessan maali?

Amantiin keessan hoo?

Sadarkaan barnootaa keessan meeqa?

2. Gaaffilee waa'ee fedhii mucaa godhachuu fi dhimma wal hormaataa

1. Ijoollee lubbuun jiran meeqa qabdu?

Umuriin ijoollee keessanii meeqa?

Saalli isaanii maali?

Sadarkaan HIV isaanii maali?

2. Ijoollee godhachuun isiniif hagam barbaachisaadha jettanii yaaddu?

3. HIV iin fedhii mucaa godhachuu keessan irratti rakkoo fideera jettanii yaadduu?

4. Ijoollee meeqa godhachuu barbaaddu? Maaliif?

5. HIV iin ilaalcha mucaa godhachuu uummata keessa jiru miidheera jettanii yaadduu?

Ibsi -----

3. Kutaa sadaffaa- gaaffilee waa'ee karoora maatii

6. karoora maatiitti fayyadamuun isiniif hagam barbaachisaadha?

7. Ilaalcha akkanaa kana qabaachuuf sababni keessan maali?

8. HIV iin karoora maatii fayyadamuu irratti rakkoo akkamii isin irratti fideera?

9. Karoora maatii isa kamitti fayyadamaa jirtu? fayyadamaa jirtu?

10. Maaliif karoora maatii kana filattan?

11. Haala dhiiga keessanii hojjetaa fayyaa karoora maatii isinii kennuu waliin marii'attanii beektuu?

12. Haala dhiiga keessanii haadha manaa/abbaa manaa/maatii keessan marii'attanii beektuu? Maaliif?

13. Waa'ee hormaataa, dhimma saalaa, fi waa'ee karoora maatii hojjetaa nama qoricha farra eedsii isinii kennuu waliin haasa'uu barbaadduu? Maaliif?

14. Waa'ee darbinsa HIV haaadha irraa mucaattii beektuu? Ibsi-----
15. Waa'ee tajaajila haadha irraa mucaatti daddarbuu HIV ittisuu hagam beektu? Ibsi
16. Qorichi farra eedsii HIV iin haadha irraa mucaatti akka hin darbine hir'isa jettanii yaadduu/ maaliif?

HUB. Akka barbaachisummaasaatti gaaffilee hundaaf gadi fageessii gaafadhu.

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 SOURCES OF MATERIALS USED FOR THIS THESIS HAVE BEEN DULY ACKNOWLEDGED.

NAME: RETA TSEGAYE (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

DANIEL MENGISTU (RN, BSC, MSC, LECTURER)
