

FERTILITY INTENTION AND USE OF CONTRACEPTION AMONG WOMEN LIVING
WITH HIV IN ADAMA HOSPITAL MEDICAL COLLEGE, ETHIOPIA.

by

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Dedication

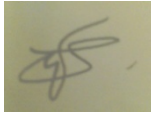
I DEDICATE THIS STUDY TO MY FAMILY FOR THE SACRIFICES THEY MADE IN MAKING ME WHO I AM TODAY.

Student number: 46509607

DECLARATION

I declare that **FERTILITY INTENTION AND USE OF CONTRACEPTION AMONG WOMEN LIVING WITH HIV IN ADAMA HOSPITAL MEDICAL COLLEGE, ETHIOPIA** is my own work and that all the sources that I have used have been indicated and acknowledged by means of complete references and this work has not been submitted before for any other degree at any other institution.

Signature _____



(Miss Y R BOGALE)

DATE 6/9/2013

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FERTILITY INTENTION AND USE OF CONTRACEPTION AMONG WOMEN LIVING WITH HIV IN ADAMA HOSPITAL MEDICAL COLLEGE, ETHIOPIA.

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ABSTRACT

This study assessed the intentions with regard to fertility and use of contraception by women living with HIV/AIDS. The study was a quantitative cross-sectional study on a sample of 362 HIV-positive women in the ART follow-up unit in Adama Hospital Medical College. Large numbers of HIV-positive women with no income, housewives, illiterates and women in the age group of 28-32 years declared their intention to fall pregnant. The most prevalent family planning method among the HIV-positive women before their HIV diagnosis was injectables. After wards the most popular method of contraception was the condom. The results suggest that the counselling about condom use that is offered to HIV positive women yields results, as more women adopt this method of contraception. This is important in view of prevention of HIV infections and re-infections.

KEY CONCEPTS

Fertility intention; contraceptives; contraception utilization; factors influencing fertility; factors influencing contraception use

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Abbreviations

AIDS - Acquired Immune Deficiency Syndrome

ARV - Anti-retroviral

ART - Anti-retroviral Therapy

CSA - Central Statistical Agency

EDHS- Ethiopian Demographic Health Survey

FGA- Family Guidance Association

FHAPCO- Federal HIV/AIDS Prevention and Control Office

FMOH - Federal Ministry of Health

FP- Family Planning

HBM- Health Belief Model

HSDP- Health Sector Development Programme

HIV - Human Immunodeficiency Virus

MCH- Maternal and Child Health

NGOs- Non Governmental Organizations

PLWHA- People Living with HIV/AIDS

PMTCT- Prevention of Mother to Child Transmission of HIV

SNNPR- Southern Nations, Nationalities, and People's Region

SSA- Sub-Saharan Africa

STIs- Sexually Transmitted Infections

TFR- Total Fertility Rate

UNAIDS - The Joint United Nations Programme on HIV/AIDS

UN DESA- United Nations Department of Economics and Social Affairs

UNFPA- United Nations Population Fund

UNGASS- United Nations General Assembly Special Session

UNISA - University of South Africa

USAID- United States Agency for International Development

WHO - World Health Organization

CHAPTER 1: ORIENTATION TO THE STUDY

1.1 INTRODUCTION

HIV infection as well as the resultant AIDS are a major health, social and political problem worldwide which has taken a distressing toll in society generally. It ranks fourth among the leading causes of death worldwide and first in sub-Saharan Africa. At the end of 2010, an estimated 34 million people (31 600 000 - 35 200 000) were living with HIV globally, including 3.4 million (3 000 000 - 3 800 000) children less than 15 years old. There were 2.7 million (2 400 000 - 2 900 000) new HIV infections in 2010, including 340 000 - 450 000 among children less than 15 years old. Globally, women constituted half (48% –53%) of the adults (15 years old and older) living with HIV in 2010 (The Joint United Nations Programs on HIV/AIDS 2011).

According to UNAIDS estimates, sub-Saharan Africa still remains most heavily affected by HIV, accounting for 67% of the global prevalence of infections (Federal Ministry of Health 2007). In sub-Saharan Africa (SSA), women of reproductive age account for the majority of the people living with HIV (The Joint United Nations Programs on HIV/AIDS 2010).

Compared to other African countries, the overall HIV prevalence has remained low in Ethiopia. According to the 2011 EDHS, 1.5% of women and men aged 15 - 49 years are HIV-positive, compared with 1.4% in the 2005 EDHS. The HIV prevalence in 2011 was 1.9% for women and 1.0% for men. Women account for 59% of the HIV-positive population (Federal Ministry of Health 2011; Federal HIV/AIDS Prevention 2011; Control Office, 2011). HIV prevalence is six-and-a-half times higher among women living in urban areas (5.2%) than among women living in rural areas (0.8%). HIV estimates vary by age, with HIV prevalence highest among women aged 30 - 34 and men aged 35 - 39. HIV prevalence also varies by region. In the Gambela region HIV the prevalence is

6.5%, compared with 0.9% in the SNNP region. (Federal Ministry of Health 2011; Federal HIV/AIDS Prevention and control office 2011).

HIV prevalence varies dramatically by marital status. Less than 1% of never-married women and men are HIV-positive, compared with 12% of widowed women and 14.5% of widowed men. HIV prevalence is also higher among women and men who are divorced or separated. (Federal Ministry of Health 2011; Federal HIV/AIDS Prevention and Control Office 2011).

The adult HIV prevalence for the Oromia region is reported to be 1.6%, with 1.3% for males and 1.9% for females, which is close to the national estimate. (Federal Ministry of Health 2011; Federal HIV/AIDS Prevention and Control Office 2011). Heterosexual HIV transmissions are responsible for most infections in Ethiopia, and are followed by mother-to-child transmissions (Federal Ministry of Health 2005; Federal HIV/AIDS Prevention and Control Office 2006; MOH 2007; Federal HIV/AIDS Prevention and Control Office 2007).

Condom use is promoted as the most appropriate contraceptive because it serves a dual purpose of preventing HIV infections, as well as pregnancies among HIV positive women. It is often assumed that HIV positive women would not want to have children because of the risk of transmitting infection to their children. This approach often disregards the desire and intent to have children among HIV-infected women, which has shown to be increasing because of the improved quality of life and survival following the commencement of anti-retroviral treatment and tailor-made reproductive health services (World Health Organization and United Nations Population Fund 2006). The fact that many HIV-infected adults desire and expect to have children in the future has significant implications for the prevention of HIV transmission to sexual partners, the new-born and the future demand of social services for children born to infected parents (The Joint United Nations Programs on HIV/AIDS and World Health Organization; 2007). It has

been widely recognized that significant and major investments must be made into sexual and reproductive health services to PLHV (Federal Ministry of Health 2007).

In many societies, especially in Africa, a woman's identity, position and status is influenced by the ability to bear children. The ability to reproduce affects her social standing, individual recognition, partnership stability, and through these conventions, her financial security (Serour 2008). Antiretroviral therapy (ART) restores health and fertility in people living with HIV and drastically reduces the mother-to-child transmission (MTCT) of HIV (World Health Organization/ United States Agency for International Development 2008; World Health Organization 2005; Ministry of Health 2005). As major efforts are under way to expand access to this life-saving treatment in sub-Saharan Africa (Federal HIV/AIDS Prevention and Control Office 2006; Ministry of Health, Federal HIV/AIDS Prevention and Control Office 2007), thousands of men and women on ART are resuming socially productive and sexually active lives involving protected and unprotected sex with or without a desire for children (World Health Organization 2005; Central Statistics Agency 2005; Serour 2008; Cooper, *et al.* 2007).

Numerous behavioural and contextual factors interact in a complex way to determine the intended and unintended reproductive outcomes among women living with HIV. Age, marital status, education, and socio-economic status, cultural and religious beliefs and sexual behaviour as well as family size and losses and access to family planning services are documented predictors of pregnancy (Chen et al. 2001). In sub-Saharan Africa, where the HIV prevalence is highest, these factors may be considerably influenced by the traditional roles of women, the socio-cultural importance of motherhood, and a woman's partner's desire for children, independent of her own desire. This gives rise to the added risk of MTCT of HIV through breastfeeding (World Health Organization and United Nations Population Fund 2006) and a reduced capacity for the timely diagnosis and treatment of infants infected with HIV (Federal Ministry of Health 2007).

The infection rate among pregnant women in Sub-Saharan Africa is also alarmingly high, where a 90% of global new child infections occur through MTCT (World Health Organization; 2005). The fertility intentions of HIV-infected women are affected by the same community and cultural norms as those of uninfected women and are generally similar to those of uninfected women. However, these intentions are seldom acknowledged or realized (Cooper et al. 2007).

1.2 BACKGROUND TO THE RESEARCH PROBLEM

HIV-positive women may desire children for different reasons. For example, women may wish to have a child to conceal their HIV status and to avert suspicion that they are infected. Having children may also provide a sense of normalcy to family life and an affirmation of health. Despite the fact that HIV-positive people still express the desire to bear children in the future, they also express the need to prevent unplanned pregnancy, to space their children, or to stop childbearing (Baek et al. 2005). All these factors impact on the extent of their commitment to advice and counselling they receive from the ART clinic.

Sub-Saharan Africa still remains the area most heavily affected by HIV, accounting for 67% of all HIV-positive people. HIV infections are higher among women than men (The Joint United Nations Programs on HIV/AIDS 2007). Regardless of their HIV status the ability to express oneself sexually and the desire to experience parenthood are essential for many people (The Joint United Nations Programs on HIV/AIDS 2006). The intersection between a woman's HIV status and childbirth becomes complicated now. On the one hand, HIV-positive men and women report strong pressure from family members, people in their community and healthcare providers to give up the idea of having children, either because of the risk of prenatal HIV transmission or out of concern for the welfare of the children raised by parents who may die prematurely of

AIDS. On the other hand, childbearing in most societies plays a central role in the social identity of both men and women, and couples are expected to have children. However, there is limited understanding of the reproductive healthcare needs and the impact of infection on the fertility desires of women living with HIV/AIDS. Acknowledging these needs and aspirations is essential to maintaining the basic human rights of HIV-positive women (The Joint United Nations Programs on HIV/AIDS 2006).

The impact of HIV and AIDS on the lives of women is one of the most critical reproductive health concerns of our times. In sub-Saharan Africa, where the epidemic has spread to the general population mainly through sexual contact, women make up 59% of the adults living with HIV. Young women aged 15 - 24 in the region are between two and six times as likely to be infected as young men of the same age. Women are especially at risk of contracting HIV because of the interplay of biological, economic and cultural factors (International Council of Women Living with HIV/AIDS 2004).

In Ethiopia, like in many developing countries, in the age group of 15 - 24 years females than males are infected with HIV (The Joint United Nations Programs on HIV/AIDS 2007). HIV is an important factor for considerations on WLHA reproductive choices. Irrespective of whether the woman has a child or not, the reasons cited for not wanting to bear another child include concerns about imminent death, leaving the child orphaned, and the financial implications of their status, while those who had not changed their fertility intentions indicated that having a child, particularly a son, would give them a reason to live and ensure bonding between siblings (Boonsra 2006).

For women living with HIV who revised or continued their initial childbearing intentions, the key distinguishing factors include the support of the family and the husband, and knowledge about and the availability of PMTCT and ART services (Kanniappana 2008).

A crucial factor preventing WLHA from fulfilling their desire for motherhood was the fear of transmitting infection to the child. They were unaware of or unconvinced about the doctors' advice/counselling about the possibility of bearing an HIV-negative child. Indeed, these women decided either to undergo abortion or took precautions to ensure that they did not become pregnant. For women who decided to have a child or continue their pregnancy, the advice of a service provider or counselling on available services played a key role in the final decision about childbearing (Kanniappana 2008).

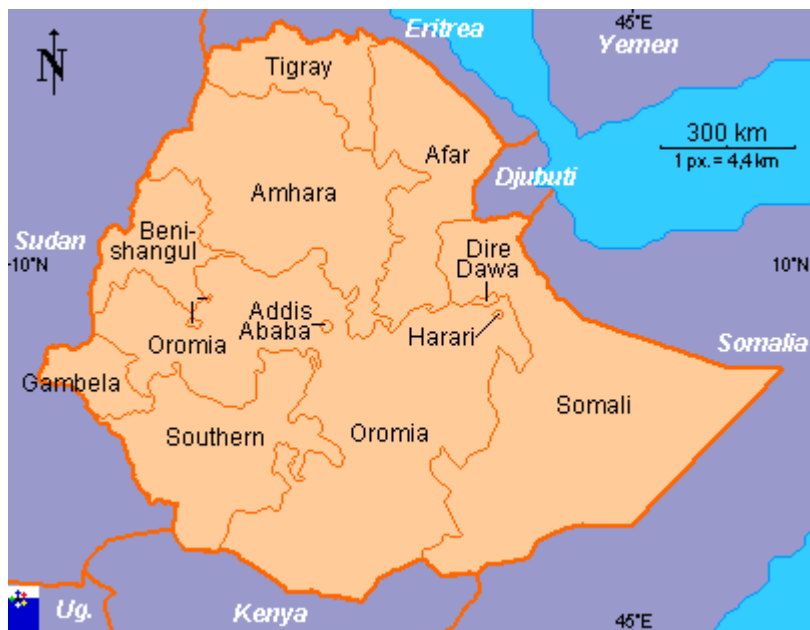


Figure 1: Map of Ethiopia and its regional states

1.3 THE RESEARCH PROBLEM

There had been a remarkable increase in the incidence of HIV infection in women and children that have resulted in a major public health effort directed at preventing prenatal transmission. Without intervention HIV has a 25 - 50% risk of infecting an HIV-positive mother's baby, and the use of a combination of anti-retroviral therapy during pregnancy and labour, delivery by Caesarean section, and the avoidance of breastfeeding are

proved measures which have reduced the risk of vertical transmission to less than 2%. This makes positive parenting a viable option at least in countries where Anti-retroviral treatment is widely available. In these countries HIV-positive or infected individuals are exercising their reproductive choice in a way that poses new medical, ethical and legal challenges (Theree 2007). According to Oromia HIV/AIDS Prevention and Control Office; Adama is one of the country's cities which are highly affected by HIV, with a prevalence of 9.0% in 2005. There was an enormous gap between prevalence in the Oromia region and that of the Adama city administration.

Despite the increased availability of anti-retroviral therapy (ART) and other healthcare services for HIV-infected individuals in sub-Saharan Africa, issues of fertility and childbearing have received relatively little attention. In particular, little is known about the prevalence and determinants of fertility intentions among HIV-infected women who are receiving ART. Also little is known about the utilization of family planning among women living with HIV/AIDS.

Currently available research on the relationship between fertility and HIV in Ethiopia is scarce. The desire of HIV-infected persons to have children in the future has significant implications for the transmission of HIV to sexual partners and new-borns. A study in Addis Ababa has indicated that in a population in the age group 18-29 and 30-39, being female, being married/in a relationship, having secondary education and above, having no children or 1-2 children and having a partner who desires fertility were positively and significantly associated with the desire for children ($p < 0.05$). On the other hand, the disclosure of one's sero status to the partner/spouse is associated with a lesser desire for children (Temam 2006).

This risk of HIV transmission among individual couples is likely to increase as more infected individuals choose to have children with their HIV-negative partners (Chen et al

2001). Emenyonu et al (2007) indicate that women express worry about the possibility of bearing HIV-positive children, the impact of pregnancy on their own health, and what will happen to their children in the event of their death. On the other hand, individuals report a strong desire to bear and raise children, consistent with the high social value placed on children. The relative strength of these conflicting feelings varies according to individual and contextual factors. For instance, young women and low parity women are more likely to desire some additional children even when HIV-infected, but are also more likely to reduce the time-span of their intended fertility. Unmarried women express more confidence in their ability to stop childbearing than married women, who in many contexts report pressure from their husbands to have children (Cooper et al. 2007).

The fertility intention and use of contraception of HIV-positive women are influenced by their culture, their level of education, their socio-economic status, and the condition of their health. This study assessed the relationship between the HIV-positive woman's fertility intention and the use of contraception. Unintended/ unplanned pregnancies increase the risk on the mother's health as well as on the foetus' health. This study will serve as a guide to design possible intervention for women living with HIV in Adama city administration. Besides it would help to contribute to the on-going intervention designed to strengthen informed decision-making by women living with HIV on reproductive health programmes in the study area.

1.4 PURPOSE AND OBJECTIVE OF THE STUDY

1.4.1 The purpose of the study

The aim of this study was to determine the fertility intention and contraceptive use of people living with HIV/AIDS in Adama.

1.4.2 The objectives of the study

The objectives of the study were the following:

- To describe the fertility intentions of women living with HIV/AIDS.
- To describe the extent of the utilization of methods of contraception by women living with HIV/AIDS.

1.5 THE SIGNIFICANCE OF THE STUDY

Despite the growing importance of fertility for HIV-infected women, little is known about their actual fertility intentions and utilization of contraception. The study was intended to provide information about these matters, and to recommend possible interventions to address the established need in a way that it will protect the babies and the sexual partners of the women. Since only a limited amount of literatures are found regarding the fertility intentions and utilization of contraception among HIV-positive women in Ethiopia, let alone in Oromia, this research would be the only source of information about the position in Adama, and also would be of use to those designing healthcare intervention.

The results would be useful for efforts to improve the ART and contraception services for women living with HIV in Adama and of paramount importance to policy makers as they develop policies regarding contraception services for HIV positive women.

1.6 DEFINITION OF TERMS

1.6.1 Definition of key concepts

Fertility intention – the intention of women living with HIV who desire to have a child and intend to have at least one child in the future.

Family planning utilization – the practice of using any type of contraception.

Women living with HIV/AIDS – women who have been diagnosed as being HIV-positive.

1.6.2 Operational definitions

Fertility intention – the intention of women living with HIV who desire to have a child and intend to have at least one child in the future.

Family planning utilization – the practice of using contraception

Women living with HIV/AIDS - women who have at least once visited the selected ARV treatment care centre for the purpose of receiving ARV treatment.

Unmet need of family planning - the number or percentage of women currently married or in a union, who are productive and who desire either to terminate or to postpone childbearing for at least two years, but who are not currently using contraceptives.

Unintended pregnancy - pregnancy that is mistimed, unexpected or unplanned but not necessarily unwanted.

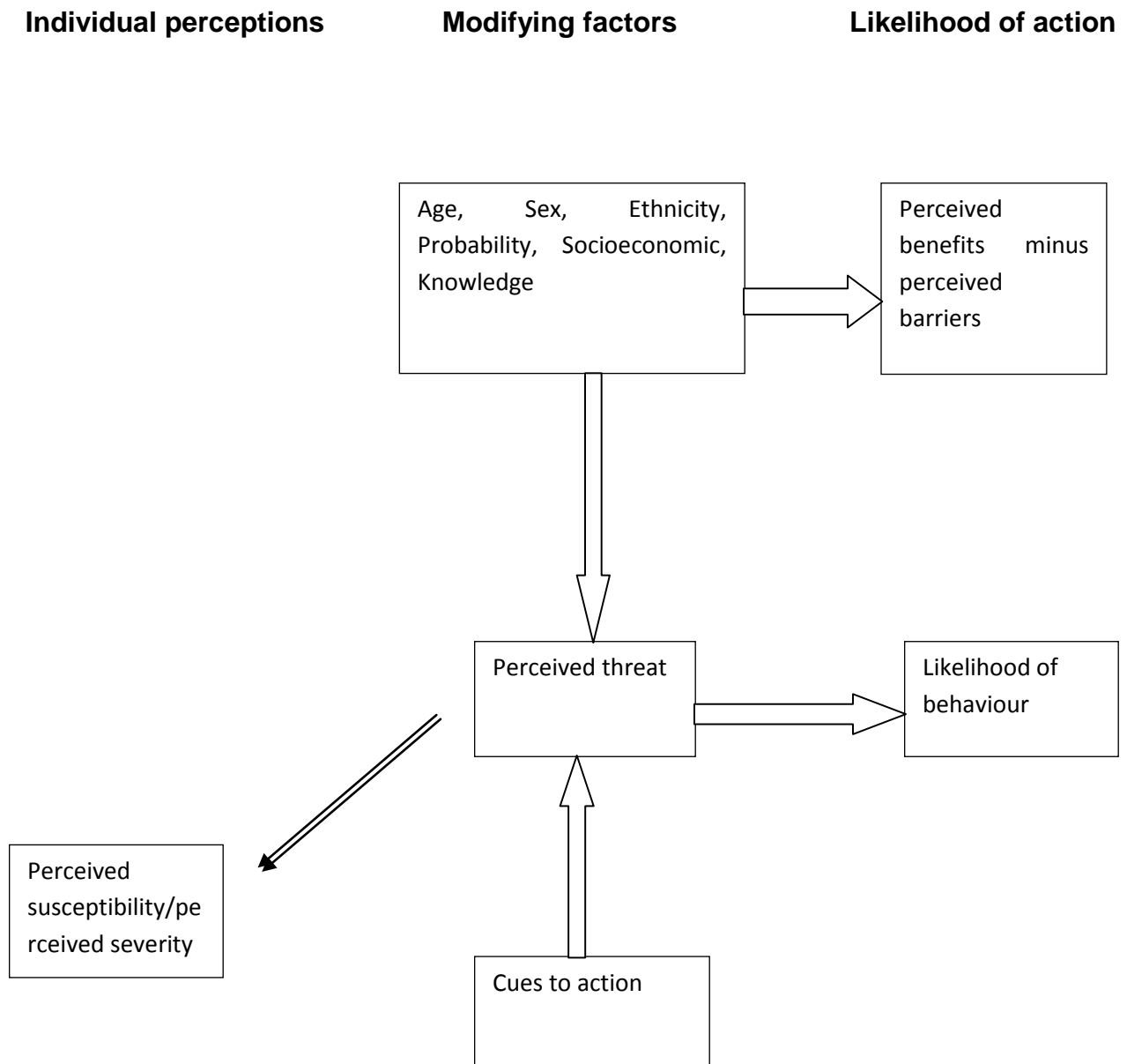
1.7 THE FOUNDATIONS OF THE STUDY

THEORETICAL/METATHEORETICAL GROUNDING

The desire and intention to have children among HIV-infected women is influenced by different factors such as socio-cultural factors, economic factors, the availability of

family planning services and ART, their knowledge, stigma and discrimination. The effect of these factors is illustrated by the Health Belief Model, which is demonstrated below:

Figure 2 Health Belief Model



Source: Stretcher, V. and Rosenstock I.M (1997). *The health belief model*. In Glanz K, Lewis F. M., and Rimor B.K, (Eds). *Health Behaviour and Health Education: Theory, Research and Practice*, San Francisco: Jossey- Bass.

Health Belief Model (HBM): An intrapersonal theory that “addresses a person’s perceptions of the threat of a health problem and the accompanying appraisal of a recommended behaviour for preventing or managing the problem.” (Cottrell et al 2006).

The HBM is a psychological model that attempts to explain and predict health behaviours by focusing on the attitudes and beliefs of individuals.

Perceived Threat: Consists of two parts: perceived susceptibility and perceived severity of a health condition
Perceived Susceptibility: One's subjective perception of the risk of contracting a health condition
Perceived Severity: Feelings concerning the seriousness of contracting an illness or of leaving it untreated (including evaluations of both medical and clinical consequences and possible social consequences).

Perceived Benefits: The believed effectiveness of strategies designed to reduce the threat of illness.

Perceived Barriers: The potential negative consequences that may result from taking particular health actions, including physical, psychological, and financial demands.

Cues to Action: Events, either bodily (e.g., physical symptoms of a health condition) or environmental (e.g., media publicity) that motivate people to take action.

Other Variables: Diverse demographic, socio-psychological, and structural variables that affect an individual's perceptions and thus indirectly influence health-related behaviour.

Self-Efficacy: The belief in being able to successfully execute the behaviour required to produce the desired outcomes (Stretcher 1997).

1.8 THE STUDY DESIGN AND METHOD

1.8.1 The study paradigm

Quantitative research utilizes experimental methods and quantitative measures to test hypotheses and generalizations. They also emphasize the measurement and analysis of causal relationships between variables (Creswell 2003; McMillan and Schumacher 2006). According to Golafashani (2003) in the quantitative research paradigm charts and graphs illustrate the results of the research.

This enquiry into the fertility intention and the utilization of contraception among HIV-positive women in Adama hospital medical college was a quantitative study because the study tried to describe the HIV-positive women's fertility intentions and contraception utilization quantitatively. And also the study tried to describe the relationship between the dependent variables (the HIV-positive women's intention and the utilization of contraception) and the independent variables.

1.8.2 The study design

The design of a study is the approach followed by the researchers to answer a particular research question. The choice of study design determines the sampling process, the method of collecting data, and the measurement and analysis of the data (Joubert et al 2007). In this study the researcher implemented a descriptive survey study design.

Survey research is used to gain insight into the thoughts, ideas, opinions, and attitudes of a population. It is descriptive in nature, so unlike experimental designs, the researcher does not manipulate the variables (Polit & Beck 2006). Instead, the survey researcher describes data and draws conclusions from frequency counts and other

types of analysis. Although it is descriptive research, survey research may serve as a stimulus for more in-depth analytical research (Mertler & Charles 2008).

However, most survey research is conducted with a sample of respondents from the target population. If proper sampling techniques are employed, the researcher can generalize the attitudes and ideas from the sample to the larger population (McMillan & Schumacher 2006).

1.9 THE SCOPE OF THE STUDY

The scope of this study was to study the fertility intention and the use of contraception among women living with HIV in Adama, The study was limited to HIV positive women who were receiving their ART at Adama Hospital Medical College in Ethiopia.

1.10 STRUCTURE OF THE DISSERTATION

This dissertation is divided into the following chapters:

Chapter 1: Orientation to the study

Chapter 2: Literature review

Chapter 3: Research methodology

Chapter 4: Presentation and discussion of the results of the research

Chapter 5: Conclusions, limitations and recommendations

1.11 CONCLUSION

Even though the HIV epidemic is slowing down, millions of people are getting infected and losing their lives. In the last decade it has been increasingly recognized that global

HIV/AIDS efforts often fail to address the reproductive health—and specifically family planning (FP)—needs of people living with HIV (S. Gruskin et al 2007). Thus, understanding the factors which influence women's fertility intention and contraception use is critical for countries like Ethiopia with a population policy aiming at reducing fertility.

In this chapter the researcher has presented the background of the research, the significance of the research, the objectives of the research and the research questions. This chapter also contains definitions of terms and descriptions of the foundation of the study and the research design and method.

The next chapter consists of a review of the literature on the fertility intention and use of contraception among HIV-positive women.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

According to Cooper (1998) '...a literature review uses as its data base reports of primary or original scholarship, and does not report new primary scholarship itself. The primary reports used in the literature may be verbal, but in the vast majority of cases reports are written documents. The types of scholarship may be empirical, theoretical, critical/analytic, or methodological in nature. Second, a literature review seeks to describe, summarize, evaluate, clarify and/ or integrate the content of primary reports.'

The review of relevant literature is nearly always a standard chapter of a thesis or dissertation. The review forms an important chapter in a thesis where its purpose is to provide the background to and justification for the research undertaken (Bruce 1994). Bruce, who has published widely on the topic of the literature review, has identified six elements of a literature review. These elements comprise a list, a search, a survey, a vehicle for learning, a research facilitator, and a report (Bruce 1994).

2.2 HIV/AIDS IN ETHIOPIA

The first two cases of HIV infection in Ethiopia were reported in 1986. Since then the disease has spread at an alarming rate. HIV/AIDS is one of the key challenges for the overall development of Ethiopia, as it has led to a seven-year decrease in life expectancy and a greatly reduced workforce. The primary mode of HIV transmission in Ethiopia is heterosexual contact. Young women are more vulnerable to infection than young men, and urban women are three times as likely to be infected as urban men. According to the 2007 single-point HIV prevalence estimate of Ethiopia for the year 2010, the average adult HIV prevalence was 2.4% (1.9% males and 2.9% females).

There was a total population of 1,216,908 HIV-positive cases in the country, of which 499,239 were males and 717,669 were females. There were 90,311 HIV-positive pregnant women and there were 14,276 annual HIV-positive births (Federal Ministry of Health & Federal HIV/AIDS Prevention and Control Office 2010; The Joint United Nations Programs on HIV/AIDS 2011).

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 of infection, followed by mother-to-child transmission (Federal HIV/AIDS Prevention and Control Office 2006).

2.3 FERTILITY INTENTION AMONG WOMEN LIVING WITH HIV

Sub-Saharan Africa has the highest average fertility rate in the world. In 2009 the average number of births per woman was 5.1 almost as twice as many as in South Asia (2.8) or Latin America and the Caribbean (2.2) (World Bank, 2009). The average contraceptive prevalence (22%) is less than half that of South Asia (53%) and less than a third that of East Asia (77%) (World Bank 2009). As a result of these patterns, the region is growing at a faster rate (2.3%) than other regions of the developing world, including both Asia and Latin America (1.1% each) (United Nations Department of Economics and Social Affairs 2008).

In sub-Saharan Africa (SSA), a region where women of reproductive age account for the majority of the people living with HIV (The Joint United Nations Programs on HIV/AIDS 2010), there also exists a high unmet need for contraception. Unintended pregnancies (unwanted or mistimed) are estimated to account for 14 – 58% of all pregnancies in SSA (Reynolds et al. 2008). Recent evidence suggests an even higher burden of unintended pregnancy among women living with HIV (Homsy et al. 2009).

Ethiopia is a country where agriculture is the major economic activity, around 84% of the country's population lives in rural areas, and families often prefer large numbers of children since they are considered as economic assets. In rural areas, parents also want to have large numbers of children to get assistance in farming activities (Bairagi 2001). Like many countries in sub-Saharan Africa, traditional norms and values in Ethiopia favour high fertility. Having many children is considered as a virtue and an act of respect of God in a number of Ethiopian rural communities (Desta & Seyoum 1998).

With a population of about 83 million, Ethiopia is the second most populous country in Africa. The population is increasing at a rate of about 2.5% per annum. Fertility in Ethiopia has declined modestly over the past decade. Like many other African countries, Ethiopia has so far shown little change in fertility. Between 1990 and 2005, the total fertility rate in Ethiopia declined steadily from 5.5 in 2000 to 4.8 children per woman of reproductive age (Ethiopian Demographic Health Survey 2011).

Apart from the high fertility, the large variation in fertility between rural and urban areas and between the regional states in Ethiopia calls for attention. According to the 2005 Ethiopian Demographic and Health Survey (EDHS), fertility in rural Ethiopia is nearly two and half times greater than in urban centres (6.0 versus 2.4). Among the nine regional states and two city council administrations under the Federal Government of Ethiopia, Oromia Region has the highest fertility rate of about 6.2 children per woman, while Addis Ababa has a below-replacement level of fertility of 1.4 children per woman (Ethiopian Demographic Health Survey 2011).

According to a study conducted in Nyanza Province, Kenya, on the desire to delay or cease childbearing, all but two participants wanted to delay pregnancy for at least two years or have no more children. Of note, the women who desired a child within the next two years were both nulliparous. Of the 16 women who desired a future pregnancy, over half wanted to delay the pregnancy for 4 – 10 years. Several main themes emerged around participants' desire to delay or cease childbearing. The perceived detrimental effects of pregnancy and childbirth on HIV-related poor health and immune

status were frequently expressed concerns. One participant had been counselled that her CD4 count was too low to have a child, another woman who had recently given birth explained (Elizabeth et al. 2012).

Ethiopian women want, on average, about four children, while Ethiopian men want about five children. Women living in rural areas desire more children than women living in urban areas (4.5 versus 3.7). Women with more than secondary education desire fewer children than women with no education (3.3 versus 5.0) (Ethiopian Demographic Health Survey 2011).

There are substantial differences in the TFR among the regions, ranging from 1.5 children per woman in Addis Ababa (below the replacement level of fertility) to 7.1 children per woman in Somali. Fertility levels are higher than the national average in Somali, Oromiya, Benishangul-Gumuz, Affar, and SNNP and lower than the national average in the other six regions. The level of fertility is inversely related to women's educational attainment, decreasing sharply from 5.8 children among women with no education to 1.3 children among women who have more than secondary education. The poorest women, in general, have twice as many children as women who live in the wealthiest households (6.0 versus 2.8 children per woman) (Ethiopian Demographic Health Survey 2011).

2.4 FACTORS INFLUENCING FERTILITY INTENTION

In sub-Saharan Africa decisions related to contraceptive use and the timing and number of births are influenced by men. The ability of women to control their fertility is a precondition to fertility transition. Women require autonomy to make decisions in controlling their fertility. Moreover, differences in the socio-economic and demographic characteristics of couples contribute to differences in reproductive preferences. For instance, the difference in age between a husband and a wife is a determinant of reproductive preference among couples. Family planning programmes will have a

higher probability of success if they focus on couples, but previously most of them focused on women. Scattered evidence demonstrates that involving couples in reproductive health programmes makes a difference (Biruk & Michelle 2007).

To date, studies have shown that HIV infection may affect fertility by influencing women's desire for children. On the other hand, studies of the fertility intentions among HIV-positive individuals have found ambivalence and produced mixed results, while some studies report HIV-positive women as having a strong desire to have children, consistent with the high social value placed on children. The relative strength of these conflicting feelings varies according to individual and contextual factors. For instance unmarried women express more confidence in their ability to stop childbearing than married women, who in many contexts report pressure from husbands to have children (Cooper et al. 2007).

People who do not know their sero-status but suspect they are HIV-positive may modify their desire for children in response to fears about the disease. The limited evidence about this topic has identified a relationship between the perceived risk of contracting HIV and fertility intentions, but the direction and magnitude of this effect remain unclear. Indeed, subjective assessments of HIV risk have been shown to be correlated with increased fertility intentions in some settings (Yeatman 2009), whereas other studies suggest that perceived HIV risk is not associated with the desire for additional children (Moyo & Mbizvo 2004).

For women, the desire for children is determined by social and personal expectations. Another most important demographic attribute is the availability of information on the number of living children, which has manifold implications for almost everybody, especially for women. As in the study conducted in Mumbai, the indications are that about 13% of the respondents did want to have a child in spite of the regular counselling. Some of them expressed a desperate need to have a child especially, if they had no live children. The various reasons given by them include old age security, lineage, being free of the charge of being Infertile, and leaving something of themselves

behind after their death. The main reasons for not desiring to have children by HIV-positives identified by a qualitative study included the feeling that if we, the HIV-positive women, were having such a hard time because of the infection, why would they invite an innocent to share in the suffering, Or both the wife and the child would be infected and there would not be enough money for the treatment of two people. Among those respondents who were having children, 11% of them already had HIV-positive children, and it was observed that 13% of the respondents had had their last child after they had been diagnosed as positive (Ranjans 2006).

The women who desired to have children were more likely to be married or to have a partner (84%) than those who did not (64%). The men who desired children were no more likely to have had an opposite sex partner than were the men who did not desire children. The percentage of men who identified themselves as bisexual was somewhat greater among those who desired more children (23%) than among those who did not (18%). Women who desired children were more likely to have a partner of unknown HIV status (32%) than were women who did not desire children (14%) (Ranjans 2006).

A national survey done in Lesotho revealed that a significant proportion of HIV-positive women wanted to have a child in the future (38.7%). Of these, 17.1% wanted a child within the next two years, which was higher than the proportion of HIV-negative women wanting a child within the next two years (10.8%). The desire of HIV-positive women for children has significant implications for the transmission of HIV to sexual partners and to new-borns (Tim Adir 2007).

According to a study conducted in Nyanza Province, Kenya, on desire to delay or cease childbearing, the participants cited healthcare providers as influences on their reproductive intentions more often than they mentioned family or other community members. Provider counselling contributed to a range of understandings of the risks associated with infectious diseases or HIV transmission in pregnancy, infection possibly depending on the state of the woman's health (Elizabeth et al. 2009).

Researchers have found that for HIV-positive people, reproductive potential, demographic characteristics, ethnicity, marital status, fertility status, and partners' HIV status influenced the desire for a child, whereas the person's own clinical condition in relation to HIV made no or little impact (Heard et al. 2007; Ogilvie et al. 2007). However, a study in the USA has found that women's health plays a role and no objective parameters such as a decrease in CD4 count or a high viral load had a significant influence in the desire to have children (James et al. 2001).

The demographic health survey in Lesotho showed that a higher proportion of married HIV-positive women want a child in future than women who were never married or formerly married. Other variables, including knowledge of MTCT, household wealth and education had no significant bivariate relationship with the desire for children on the part of HIV-positive women. The factors associated with wanting to give birth in the future were similar for HIV-positive and HIV-negative women in Lesotho. The marital status and the number of children still living were the strongest determinants of whether or not a woman wanted to give birth in future. There was a strong inverse relationship between the desire to children in the future and the number of their children still living. HIV-positive women aged 35 and over were significantly less likely to want a child in future compared with those aged 15 - 19 (Tim Adir 2007).

A study conducted in Addis Ababa revealed that among HIV-positive people in ART units; 40.2% (44.7% females, 35.2% males) reported desire for children despite the fact that 63% of the respondents already had one or more child (Tamene & Fantahun 2007). Another study in Uganda found that the overall fertility level among HIV-positive women was generally lower than that of HIV-negative women because they were more likely to be widowed, divorced or co-infected with STI (Lewis et al. 2004).

The study in Addis Ababa indicated that the population of women in the age group 18 - 29 or 30 - 39, being married or in a relationship, with secondary education and above, with no children or one or two children and a partner who wanted children were positively and significantly associated with the desire for children ($p < 0.05$) On the other

hand, the disclosure of a person's sero status to the partner/spouse was associated with less desire for children (Temam W 2006).

Of the respondents in the age group 18 - 29, those who were married or in a relationship and who had no children were more likely to desire children. Moreover, those whose partners desired children were more likely to desire children than those whose partners did not desire children (Temam W 2006).

In contrast, other theories and qualitative reports predict reduced desire for fertility among HIV-positive women due to their fear of transmitting the virus to the future child, or their fear that the process of childbearing will adversely affect their health, or their feelings of insecurity about their own life span, causing them to worry about leaving orphans behind for others to look after (Terceira *et al.* 2003).

2.5 CONTRACEPTION UTILIZATION

The average population growth of most sub-Saharan Africa countries is well above 2.5%, with a doubling time of less than 30 years. Family planning services have become the interventions to slow population growth (Zewdu et al. 2003).

The available literature shows that the relatively high level of fertility that is still being experienced in Africa, especially in sub-Saharan Africa, has chiefly to do with a combination of cultural and socio-economic factors which determine the propensity of people to procreate. In this view, the high fertility rate of the population is attributed to low levels of contraception, cultural values favouring large family size, slow socio-economic development, and a high infant and child mortality rate. The high incidence of fertility reflects the fact that reproduction starts early. The age at first marriage is young, and contraceptives are not being used in a widespread and co-operative manner (Zewdu et al. 2003).

Like other sub-Saharan African countries, Ethiopia is known to have high fertility rate. The total fertility rate is 4.8 children per woman, and there is a low contraceptive prevalence rate of 15% among currently married women of reproductive age. While present-day contraceptive technology and family planning efforts are designed mainly to influence the level of fertility, the impact of such efforts is still low in Ethiopia (Central Statistical Agency 2006).

In relation to the extent of popular knowledge and approval of family planning, many have posited that exposure to the mass media, particularly when it promotes family planning, is important in influencing the fertility-related behaviours of women (Gupta et al. 2003).

Modern contraception was introduced into Ethiopia in 1966 by the Family Guidance Association of Ethiopia (FGAE), which is a non-governmental and non-profit organization established to provide information, counselling and clinical services to families who want to space the birth of their children (Antenanane 1997). Before 1980, family planning services were not provided in government health facilities but by NGOs. In 1980 the Council of Ministers directed that family planning be integrated into the Maternal and Child Healthcare (MCH) programme of the Ministry of Health. This created a more favourable environment to strengthen and expand family planning services in the country (Assefa et al. 2006).

At present family planning services are provided through government and NGO service outlets, including hospitals, health centres, health posts, community-based distribution centres, and social marketing. Although the services have been provided for a prolonged time, the prevalence of contraception has not reached a level at which it will have an impact on fertility. This failure is attributed mainly to the service delivery system, which relies on the network of general health facilities that are available mostly in urban or semi-urban communities. The bulk of the rural population remains without access to family planning services (Assefa et al. 2006). The EDHS conducted in 2005

revealed that contraceptive prevalence was only 15%: 47% in urban areas and 11% in rural areas (Central Statistical Agency & ORC Macro 2006).

Demographic research has shown that socio-economic and cultural factors influence fertility through biological and behavioural mechanisms such as the use of contraception, which has a direct effect on fertility. But contraceptive use, which plays the major role in influencing fertility, is very low in Ethiopia. As of 2005, only 14.7% of married women in the country and 13.6% in Oromia Regional State used any method of contraception (Central Statistical Agency & ORC Macro 2006). As a result of the low contraceptive prevalence, many women of reproductive age who want to stop or postpone child bearing are not able to do so; and hence there is a high unmet need for contraception in Oromia Regional State, estimated at 41.5% in 2005 (Central Statistical Agency & ORC Macro 2006).

In Africa the current level of contraceptive use, as low as it is, is already preventing 22% of the possible HIV-positive births. Here unintended pregnancy is high and its major cause is limited access to family planning with an unmet need of 36% in some countries with high prevalence (The Joint United Nations Programs on HIV/AIDS 2004; World Health Organization Zimbabwe 2004).

Regarding the 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. Most respondents in the Zimbabwean qualitative study believed that HIV is the cause for the increase in demand, as couples seek contraception to limit childbearing, avoid pregnancy, avoid infection, or possibly gain weight if they have lost weight from HIV (The Joint United Nations Programs on HIV/AIDS 2004; World Health Organization Zimbabwe 2004).

According to a study conducted in Kenya on contraceptive experience, the vast majority of participants expressed a need for FP (27/30), though over two thirds were currently using male condoms only or no modern method of contraception. When women were

asked which FP method they would prefer to use, injectable or implantable followed by oral, over half indicated that they would prefer tubal ligation then or in the future. Some women discussed the benefits of condoms as an FP method, either alone or in combination with another method to prevent sexually transmitted infections, while others focused on the pitfalls associated with negotiating condom use.

Recent studies report low contraceptive use rates among HIV-positive women in Kenya, despite the stated desire for no future fertility (Ngure et al. 2009; Anand et al. 2009 & Bii et al. 2008).

It was noted among an urban Nairobi population of HIV-positive women that though 86% did not desire a pregnancy in the next two years, only 44.2% were using a contraceptive method (Mutiso et al. 2008).

The most recent US data indicates that nearly half (49%) of pregnancies are unintended, with unintended pregnancy rates among women who are 18 - 24 years old, poor or cohabitating, at two to three times the national rate (Finer & Zolna 2011). Studies among women living with HIV suggest that unintended pregnancies among HIV-infected women are equally high or higher and may be influenced by similar cultural and societal factors (Massad et al. 2004; Craft et al. 2007 & Squires et al. 2011).

Unintended pregnancy rates of 54% were reported in Canadian women after HIV diagnosis (Loufty et al. 2009) and 62% among HIV-infected women after ART initiation in both South Africa and Rwanda (Kikuchi et al. 2011). Unintended pregnancy is even more prevalent among adolescents with HIV, 83% in a cohort of U.S. adolescents (Koenig et al. 2007) and 81% in adolescents in the UK and Ireland growing up with HIV (Kenny et al. 2012).

2.6 FACTORS AFFECTING CONTRACEPTION USE

Studies have reported that women who do not desire any more children are more likely to report using contraception than women desiring more children. A high level of education, being married, and a current use of ART have also been positively associated with the use of contraception (Andia et al. 2009).

A study in Uganda found that the integration of family planning into HIV and AIDS services appears to offer a lot of benefits. The benefits reported included an increase in family planning uptake by HIV-positive women and a reduction of stigma among HIV clients as opposed to the figures for free-standing contraceptive services (Kirunda et al. 2010). It also led to improved discussion of sex and fertility desires between HIV-positive women and healthcare workers, which were made easier by the fact that the healthcare workers already had an ongoing relationship with their clients, which is not the case in unfamiliar health facilities, where women might fear discrimination (Kirunda et al. 2010).

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter describes the research design and methodology, which includes descriptions of the method of sampling from the target population, data collection and data analysis.

3.2 THE DESIGN OF THE RESEARCH

A study design is the approach followed by a researcher to answer a particular research question. The choice of study design determines the sampling process, and the method of collecting and analysing data (Joubert et al. 2007). In this study the researcher implemented a descriptive survey study design.

Survey research is used to gain insight into the thoughts, ideas, opinions, and attitudes of a population. It is descriptive in nature, so unlike what has to be done in experimental designs, the researcher does not manipulate variables (Polit & Beck 2006). Instead, the survey researcher describes and draws conclusions from frequency counts and other types of analysis. Although it is descriptive research, survey research may serve as a stimulus for more in-depth analytical research (Mertler & Charles 2008).

However, most survey research is conducted with a sample of respondents from the target population. If proper sampling techniques are employed, the researcher can generalize the attitudes and ideas from the sample to the larger population (McMillan & Schumacher 2006).

3.3 THE SETTING OF THE RESEARCH

The research setting is the environment in which the research takes place. It can be a natural or controlled environment. Natural settings are real-life study environments without any changes made for the purpose of the study (Burns & Groove 2001:40). In this study data was collected from the respondents at Adama Hospital Medical College in Adama, Ethiopia, at the ART clinic. The data collection was performed on June 2012.

3.4 THE METHOD OF THE RESEARCH

3.4.1 Population

According to Joubert et al. (2007:94) study population is clearly defined group about which we want gather information and draw conclusions. The group is clearly defined in respect of person, place and time as well as other factors relevant to the study. In this study the study populations were HIV positive women who were attending ANC in Adama Hospital Medical College at the time of the study.

3.4.2 Sampling

Sampling is a procedure to select a small portion of the accessible population. According to Burns and Grove (2005:341), sampling involves selecting a group of people, events, behaviours or elements with which to conduct a study.

3.4.2.1 Site sampling

3.4.2.1.1 Site population:

The study site was selected because it is one of the country's most affected towns by HIV. There is only one government-owned hospital in Adama town.

3.4.2.1.2 Site target population:

The target population was all of the HIV-positive women living in Adama town of Ethiopia.

3.4.2.1.3 **Site sample frame**

The site sample frame was the list of all of the local hospitals, which was obtained from the Adama City Health Bureau. The list included all hospitals, government and non-government, found in the city. There was only one government-owned hospital, Adama Hospital Medical College, which provides ART services free of charge.

3.4.2.1.4 **Accessible sites:**

The site accessible for the study was the Adama Hospital Medical College.

3.4.2.1.5 **Site sampling technique:**

A convenience non-probability sampling technique was implemented. A sample was drawn on the basis of opportunity. The site was selected because it is the only government hospital in Adama town with ART clinic.

3.4.2.1.6 **Site sample size**

There was only one government-owned hospital in Adama providing pre ART and ART services. According to the hospital's registry at the end of December 2011 there were 4000 women who were receiving a service at the ART clinic every month.

3.4.2.2 **Data source sampling**

3.4.2.2.1 **Respondent/participant population:**

The respondent population consisted of women who were attending the ART clinic, at the Adama Hospital Medical College at the time of data collection.

3.4.2.2.2 **Respondent/participant target population:**

The target population was all Women living with HIV/AIDS in Adama, Ethiopia.

3.4.2.2.3 **Respondent/participant sample frame:**

A sampling frame is the set of source materials from which the sample is selected. The sampling frame provides a means of choosing the particular members of the target population that are to be interviewed in the survey (Anthony 2003). In this study the respondent sample frame was the list of the HIV-positive women receiving ART services at the ART clinic of the Adama Hospital Medical College. Since the issue was

sensitive the list of the women was not given to the researcher, it was confidential; but it was made clear that 4000 women were receiving ART services at the clinic every month.

3.4.2.2.4 Respondent/participants accessible population:

The accessible population consisted of women who were attending the ART clinic at the time of the data collection.

3.4.2.2.5 Respondent/participant sampling technique:

The technique used was convenience non-probability sampling.

3.4.2.2.6 Respondent/participant sample size:

The sample size was calculated using the proportion of 40.2% fertility intention which was obtained from a study in Addis Ababa (Temam 2006). What was required was a maximum of 5% marginal error with 95% confidence.

Using these assumptions the sample size was calculated by applying the formula of single population proportion.

$$\begin{aligned} \text{i.e.} \quad n &= \frac{[(Z_{\alpha/2})^2 P (1-P)]}{d^2} \\ &= \frac{(1.96)^2 \times 0.4 \times 0.6}{(0.05)^2} \\ &= 368 \end{aligned}$$

n = the required sample size

P = the assumed proportion of fertility intention

Z = the standard score corresponding to a 95% confidence interval

d = the allowable margin of error

3.5 DATA COLLECTION

A self-developed structured questionnaire was used to collect data. The questionnaire was prepared in English then translated into Amharic (the local language in which the data was collected) and back to English to ensure consistency. The translation and the re-translation were performed by a professional translator. The questionnaire contained mainly close-ended questions with a few open ended questions which were source information about socio-demography, the period of follow-up, the fertility intention, the reasons for the fertility intention, and the utilization of family planning. The questionnaire passed through a pre-test to make sure it measured what it was intended to measure. Babbie (2005:265) states: “no matter how carefully researchers design a data collection instrument such as a questionnaire, there is always the possibility - indeed the certainty - of error.” The surest protection against such errors is to pre-test the questionnaire in full or in part.

The pre-test was conducted on 10% of the study participants prior to the performance of the study itself. During pre-testing the questionnaire was checked for its clarity, simplicity, understandability and coherence. Corrections were made, based on the feedback received. Locally known and comparable terms replaced confusing words and phrases.

3.5.1 Administering the data collection instrument

The questionnaire was completed by data collectors, who were two diploma nurses working at the ART clinic. Two days of training were given to the data collectors about confidentiality, ethics, responders' rights, informed consent, and the objectives of the study, on techniques of reading the questions and on filling in the questionnaire. The training was given by the principal investigator. The principal investigator also supervised the data collection process. Each questionnaire was checked for completeness and consistency.

3.6 THE QUALITY OF THE DATA AND DESIGN

3.6.1 The quality of design of the research

3.6.1.1 Internal validity

Internal validity is the degree to which the results of an observation are correct for the particular group of people being studied. Internal validity can be threatened by all sources of systematic error but can be improved by good design and attention to detail (Bonita et al. 2006).

3.6.1.2 External validity

External validity is the ability to generalize study results to a more universal population. External validity requires external quality control of the measurements and judgements about the degree to which the results of a study can be extrapolated. This does not require that the study sample be representative of a reference population. For example, evidence that the effect of lowering blood cholesterol in men is also relevant to women requires a judgment about the external validity of studies in men. External validity is assisted by study designs that examine clearly-stated hypotheses in well-defined populations. The external validity of a study is supported if similar results are found in studies in other populations (Bonita et al. 2006).

3.6.2 The data collection instrument

3.6.2.1 Reliability

Reliability relates to the consistency or dependability of a measure. Basically, if it is reliable, one can be confident that all the items that make up the measure are consistent with one another and that, if you were to use the measure again with the same individuals, they would be rated similarly to the first rating.

3.6.2.2 Validity

McMillan & Schumacher (2006) state that validity refers to the degree of congruence between the explanations of the phenomena and the realities of the world. There is disagreement about the specific terms to be used. Reflexivity and the extension of findings are other terms that occur in this context. On the topic of enhancing validity, they argue that continuous refinement of the sampling and data collection techniques throughout the data collection process increases the validity.

The researcher chose a study design appropriate to ensuring the validity and reliability of the results of the study, and conducted a pre- test of the questionnaire prior to the conduction of the actual data collection, which involved checking the questionnaire for errors then correcting the errors. This increased the reliability and validity of the study.

The quality of the data was assured by the close follow-up by the principal investigator. The questionnaire was also checked for its completeness and omissions were corrected accordingly.

3.7 DATA MANAGEMENT AND ANALYSIS

Data was entered, cleaned and explored using the EPI info 2000 statistical software. The data was cross-checked and corrected during the data cleaning process. Then it was exported for analysis by the statistical programme SPSS, version 20. Descriptive analysis such as proportions, percentages, frequency distributions and measures of central tendency mean and median were used. A logistic regression model was also employed to control the confounding effect and measure the strength of association. The data analysis was done by a statistician.

3.8 ETHICAL CONSIDERATIONS

Informed consent was obtained from each individual before administering the interview schedule. Respondents were informed about the objective of the study and the options to participate or not to participate in the study (Joubert et al. 2007). The sample of participants in the study was given informed consent forms which described the purpose of the research. After they had been given an oral explanation, they signed the consent form if they were prepared to participate in the study.

The psychological side effects of the study were discussed with the participants who might have felt discomfort in talking about their HIV status to the data collectors. The data collectors gave them proper explanations on every aspect of the data collection.

3.8.1 The institution/site

Ethical Permission: Before starting the data collection, the researcher obtained ethical clearance from the Research Ethics committee of the University of South Africa (see Annexure E), and then sought a support letter from the UNISA regional learning centre to the Oromia region health bureau to conduct the study in the Adama Hospital Medical College (see Annexure F) . A letter permitting the study was obtained from the Oromia Health Bureau (See Annexure G).

Permission to conduct the study was requested and obtained from the hospital's administrative board.

3.8.2 Scientific integrity in relation to the research participants

Confidentiality: The participants were assured that all of the information given by them would be treated in strict confidence. The researcher made sure that the collected raw

data was kept confidential. The names of the participants were not referred to in any part of the study.

Beneficence: This is the ethical obligation to maximize benefits and to minimize harms. Participants in the research were treated well, and the research aimed at producing results beneficial for humankind (CIOMS 2008). The research intended to benefit HIV-positive women living in Adama.

Non-maleficence: Participants in research should not be subject to unjustified or avoidable burdens. Their personal integrity should not be harmed. Misleading publications are unethical (CIOMS 2008). The research did not result in any harm to the participants. The researcher ensured this by supervising the data collection and making sure that no harm was done during the data processing as well as during the publication of the study.

Justice: There is an ethical obligation to treat each person in accordance with what is morally right and proper, and to give each person what is due to him or her. Collegial behaviour should be fair and just (CIOMS 2008). All of the study participants were given equal opportunities to participate and were treated fairly by the data collectors during the process of data collection.

Autonomy: Individuals have the right to choose and thus the right to know about the personal consequences of joining a study (CIOMS 2008). In this study the autonomy of the participants was respected. They were well informed and given the right to make decisions.

3.8.3 Scientific integrity in relation to UNISA

Ethical clearance from the Research Ethics Committee of the University of South Africa was obtained, and then the researcher sought a letter of support from the UNISA regional learning centre to the Oromia region health bureau to conduct the study in the Adama Hospital Medical College.

3.8.4 Protecting the rights of the institution

Once the University's letter of support had been submitted to the Adama Health Bureau, the Bureau granted the request. Then permission to conduct the study on the hospital's premises was requested and obtained from the hospital's administrative board. The name of the hospital was not used in any way that could cause harm to the hospital's reputation. The research findings were communicated to the hospital and the Adama Health Bureau. Permission was obtained from the Health Bureau as well as from the hospital to publish the findings.

3.8.5 The scientific integrity of the research topic/research

Several relevant research publications were consulted. All of the consulted sources were acknowledged and cited accordingly. All of the collected data was analysed using statistical software and the results were published. Before the publication was made it was revised by the Adama Health Bureau and the Adama Hospital Medical College. The purpose of the publication was so that the results could be used in improving the ART and contraception services delivered to women living with HIV in Ethiopia. The collected data were kept confidential.

3.8.6 Domain-specific ethical issues

There are generally many tensions and dilemmas surrounding research involving people living with HIV. To eliminate the tension the participants were included in this research after the data collectors had obtained informed consent from them. The participants were assured that their identity will not be mentioned in any way during the communication of the results. There are three widely recognized principles in bioethics that apply to research ethics: respect for persons, beneficence, and respecting justice. Observing these three principles rigorously eliminated the potential tensions and dilemmas related to the study.

3.9 CONCLUSION

This chapter had described the methods which were used to carry out the study, focusing on the design of the study, its setting, the research population, the method of sampling and the estimation of the sample size, the area of the study, the method of data collection, management and analysis, quality control, and the observance of ethical principles. The next chapter will present and discuss the results of the research.

CHAPTER 4: PRESENTATION AND DISCUSSION OF THE RESULTS OF THE RESEARCH

4.1 INTRODUCTION

This chapter focuses on the presentation and discussion of the results.

The objectives of this study were

- To describe the fertility intentions of women living with HIV/AIDS.
- To describe the extent of the utilization of methods of family planning by women living with HIV/AIDS.

4.2 RESULTS

4.2.1 Biographic data of the participants

Of the 368 eligible clients sampled in the ART treatment clinic during the study period, 362 agreed to participate in the study, giving a response rate of 98.4%.

Regarding the socio-demographic characteristics of the study participants, the age range was 18 - 49 years. Of the respondents 30.4% (n=110) of them were in the age group of 28 – 32, whereas 27.6% of the respondents (n=100) were within 23- 27 years. The median age of the respondents was 28 -32 years.

The majority of the respondents, 71.8% (n=260) were Orthodox Christians by religion. Fourty four point two percent (n=160) of the participants were of Oromo ethnicity and 30.9 % (n=112) were Amhara's. Significant numbers of the respondents 21.5% (n=78) were illiterate.

More than half of them 63.5% (n=230) were married, while 16.3% (n=59) were divorced and 13% (n=47) were widowed. Of the study participants 27.07% (n=98) of them were housewives while 20.9% (n=76) were daily labourers. Regarding their monthly income, the majority of the respondents 30.7% (n=111) did not have a monthly income, whereas 20.7% (n=75) of the respondents' incomes were within the range of 201 - 400 ETH. Birr, and 19.3% (n=70) of the study participants' incomes were between 401 and 600 ETH. Birr (Table 1).

Table 1: Frequency distribution of socio-demographic characteristics

Variables	Frequency Number (%)
Age groups	
18-22	17 (4.7)
23-27	100 (27.6)
28-32	110 (30.4)
33-37	64 (17.7)
38-42	52 (14.4)
43-47	19 (5.2)
Total	362
Religion	
Orthodox	260 (71.8)
Catholic	6 (1.7)
Muslim	29 (10.8)
Protestant	54 (14.9)
Other	3 (0.8)
Total	362
Educational level	
Unable to read and write	92 (25.4)
Able to read and write	38 (10.5)
Primary education	64 (17.7)
Junior education	87 (24.0)
Secondary education	42 (11.6)
Tertiary education	39 (10.8)
Total	362
Ethnicity	
Oromo	160 (44.2)
Amhara	112 (30.9)
Gurage	51 (14.1)
Tigire	33 (9.1)
Other	6 (1.7)
Total	362
Marital status	
Married	230 (63.5)
Single	20 (5.5)
Widowed	47 (13.0)
Divorced	59 (16.3)
Unmarried parent	6 (1.7)
Total	362
Monthly income	
No income	112 (30.9)
Less than 200	29 (8.0)
201 - 400	75 (20.7)
401 - 600	70 (19.3)

601 - 800	40 (11.0)
More than 801	36 (9.9)
Total	362
Occupation	
Student	4 (1.1)
Merchant	43 (11.9)
House-wife	110 (30.4)
Daily labourer	78 (21.5)
Farmer	14 (3.9)
CSW	4 (1.1)
Government employee	57 (15.7)
Private	37 (10.2)
Jobless	15 (4.1)
Total	362

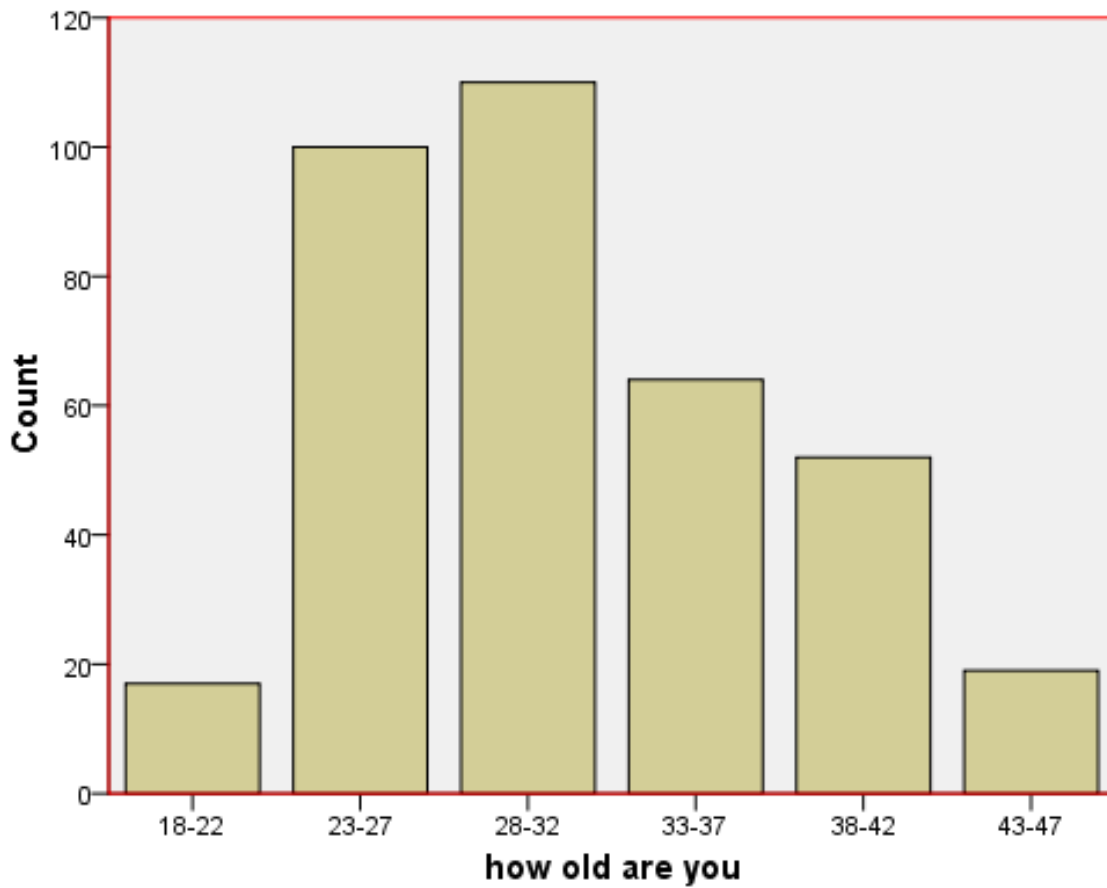


Figure 3: Age group of the study participants

4.2.2 Fertility intention

Of the study participants 88.7% (n=321) stated as previously given birth. Of the women who had previous birth 44.2% (n=142) of them had had 2 - 3 live births, while 38.3% (n=107) had had one live birth in their lives to date 35.5% (n=114) had given birth after learning their HIV status. Of the respondents 70.3% (n=232) had planned their last pregnancy, whereas 29.7% (n=98) of the study participants had had an unplanned last pregnancy (Table 2).

Four percent (n=14) of the study participants were currently pregnant, whereas 96% (n=348) were not pregnant. 46.6% of the study participants (n=158) reported that they had future fertility desires, and 47.2% (n=160) of the study participants had no future fertility intention. Of the study participants who wanted to have children 31.1% (n=42) of them planned to have a child within less than two years, 29.6% (n=40) of the women wanted to have children two years later, and 8.15% (n=11) were uncertain about when to give birth (Table 2).

Of the study participants who wanted to have children, 75.6% (n=102) stated that their reason for doing so was to ensure the continuation of their heredity. Only 1.48% (n=2) of the participants stated that their reason was to hide their HIV status. Of the study participants 29.6% (n=40) preferred to have children after two years.

Table 2: Frequency distributions of fertility intentions

Variables	Frequency Number (%)
Ever given birth	
Yes	321 (88.7)
No	41 (11.3)
Total	362
Live births	
0	4 (1.2)
1	107 (38.3)
2-3	142 (44.2)
4+	68 (21.2)
Total	321
Children	
1	8 (2.5)
2	111 (34.6)
3	91 (28.3)
4+	111 (34.6)
Total	321
Given birth after learning of HIV positive status	
Yes	114 (35.5)
No	207 (64.5)
Total	321
Age of youngest child	
Less than 1 yr	16 (5.3)
1-5 yrs	117 (39.0)
6-10 yrs	96 (32.6)
11-15 yrs	48 (10.0)
16-20 yrs	21 (7.0)
21+ yrs	2 (0.7)
Total	300
Last pregnancy was wanted	
Yes	232 (70.3)
No	98 (29.7)
Total	30
Currently pregnant	
Yes	14 (4.0)
No	348 (96.0)
Total	362
Desire to have children in the future	
Yes	172 (47.5)
No	190 (52.5)
Don't know	-
Total	362

Number of intended children in the future	
None	25 (6.9)
One	33 (9.1)
Two	73 (20.2)
Three	35 (9.7)
More than 3	6 (1.7)
Total	172
Why do you need to give birth	
To hide from people	9 (5.2)
To avoid stigma and discrimination	13 (7.6)
To replace my heredity	118 (68.6)
My partner wants	9 (5.2)
Other	23 (13.4)
Total	172
When would you prefer to have children	
Before a year	27 (15.7)
Within in two year	48 (27.9)
After two year	59 (34.3)
When I feel healthy	17 (9.9)
When my CD4 is high	3 (1.7)
Do not know	12 (7.0)
Other	3 (1.7)
Total	172
What will you do in case you are pregnant	
Will give birth by consulting health provider	268 (74)
Simply give birth	57 (15.7)
Abort	28 (7.7)
Other	9 (2.5)
Total	362

4.2.3 Fertility intention in relation to socio-demographic variables

Of the women aged 23-27 years, 37.7% (n=58) stated to have a fertility intention. Similarly, of the women in the age group of 28-32, 32.7% (n=55) have a fertility intention. Of the study participants 74.4% (n=120) with fertility intentions were Orthodox

in religious affiliation, as again 69.5% (n=132) of the Orthodox study participants who did not have fertility intentions. Of the illiterate participants 25% (n=43) had fertility intentions. Whereas of the married women 70.9% (n=120) had fertility intentions, and 33.1% (n=57) of the women with no income also had fertility intentions.

Table 3: Fertility intentions with the socio-demographic variables

Variables	Fertility intention		OR	P value
	Yes	No		
Age groups				
18 - 22	10 (5.8)	7 (3.7)	1.03 (0.33-3.32)	0.83
23 - 27	58 (33.7)	42 (22.1)	1.00	
28 - 32	55 (32.0)	55 (28.9)	0.72 (0.40-1.30)	0.33
33 - 37	36 (20.9)	28 (14.7)	0.93 (0.47-1.84)	0.95
38 - 42	13 (7.6)	39 (20.5)	0.24 (0.11-0.54)	0.00
43 - 47	-	19 (10.0)	-	
Total	172	190		
Religion				
Orthodox	128 (74.4)	132 (69.5)	1.00	
Catholic	3 (1.7)	3 (1.6)	1.03 (0.16-6.53)	0.96
Muslim	20 (11.6)	19 (10.0)	1.09 (0.53-2.24)	0.94
Protestant	20 (11.6)	34 (17.9)	0.61 (0.32-1.15)	0.13
Other	1 (0.6)	2 (1.1)		
Total	172	190		
Educational level				
Unable to read and write	43 (25.0)	49 (25.8)	1.00	
Able to read and write	13 (7.6)	25 (13.2)	0.59 (0.25-1.39)	0.26
Primary education	29 (16.9)	35 (18.4)	0.94 (0.47-1.88)	0.98
Junior education	45 (26.2)	42 (22.1)	1.22 (0.65-2.29)	0.60
Secondary education	30 (17.4)	12 (6.6)	2.85 (1.22-6.75)	0.01
Tertiary education	12 (7.0)	27 (14.2)	0.51 (0.21-1.20)	0.13
Total	172	190		
Ethnicity				
Oromo	78 (45.3)	82 (43.2)	1.00	
Amhara	41 (23.8)	71 (37.4)	0.61 (0.36-1.02)	0.06
Gurage	35 (20.3)	16 (8.4)	2.30 (1.12-4.74)	0.02
Tigre	15 (8.7)	18 (9.5)	0.88 (0.39-1.98)	0.87
Other	3 (1.7)	3 (1.6)	1.05 (0.16-6.77)	0.72
Total	172	190		
Marital status				
Married	122 (70.9)	108 (56.8)	1.00	
Single	14 (8.1)	6 (3.2)	2.07 (0.71-6.27)	0.22
Widowed	5 (2.9)	42 (22.1)	0.11 (0.04-0.29)	0.00
Divorced	30 (17.4)	29 (15.3)	0.92 (0.50-1.69)	0.87
Unmarried parent	1 (0.6)	5 (2.6)	0.18 (0.01-1.59)	0.17
Total	172	190		
Monthly income				
No income	57 (33.1)	54 (28.4)	1.00	
Less than 200	21 (12.2)	8 (4.2)	2.49 (0.94-6.73)	0.06

201 - 400	38 (22.1)	37 (19.5)	0.97 (0.52-1.82)	0.95
401 - 600	24 (14.0)	46 (24.2)	0.49 (0.25-0.96)	0.03
601 - 800	20 (11.6)	20 (10.5)	0.95 (0.43-2.08)	0.96
More than 801	11 (0.6)	25 (13.2)	0.42 (0.17-0.99)	0.99
Total	172	190		
Occupation				
Student	4 (2.3)	-	-	
Merchant	16 (9.3)	27 (14.2)	0.59 (0.27-1.29)	0.21
Housewife	55 (32.0)	55 (28.9)	1.00	
Daily labourer	39 (22.7)	39 (20.5)	1.00 (0.54-1.86)	0.88
Farmer	3 (1.7)	11 (5.8)	0.27 (0.06-1.14)	0.08
CSW	-	4 (2.1)	-	
Government				
employee	27 (15.7)	30 (15.8)	0.90 (0.45-1.79)	0.87
Private	18 (10.5)	19 (10.0)	0.95 (0.42-2.13)	0.96
Jobless	10 (5.8)	5 (2.6)	2.00 (0.58-7.26)	0.34
Total	172	190		

4.2.4 Contraception use

Of the study participants 172 of them had fertility intention, of these 65.7% (n=113) of the study participants were using contraception before they were diagnosed with HIV. Of the total of 172, 52.5% (n=87) of the participants stated using contraception had been using injectable contraceptives.

Of the total of 172 of the study participants who stated to have fertility intention, 68% (n=117) of reported ever using contraceptives after HIV diagnosis. At the time of the study 58.2% (n=96) of the women who reported using contraceptives had fertility intention whereas 50.8% of the participants (n=93) of the women reported using contraceptives had no fertility intention in the future. Fifty percent of the women (n=48) who reported using contraceptives at the time of the study were using injectable and 34.4% (n=33) were using condoms.

Table 4: Fertility Intention

Variables	Fertility intention		Crude OR	P Value
	Yes	No		
Using FP method before HIV diagnosis				
Yes	113(65.7)	118 (62.1)	0.86(0.54-1.35)	0.54
No	59 (34.3)	72 (37.9)		
Total	172	190		
Types of contraceptive				
Abstinence	7 (4.4)	2 (1.4)Y	3.83 (0.71-27.32)	0.09
Condom	30 (18.8)	11 (7.7)		
Pills	21 (13.1)	44 (30.8)	3.52(1.58-7.97)	0.00
Injectable	87 (52.5)	70 (48.9)	0.38(0.20-0.73)	0.01
Implant	6 (3.8)	-	0.50(0.28-0.91)	0.02
Tubal ligation	9 (5.6)	16 (11.2)	-	-
Total	160	143	0.55(0.21-1.40)	0.24
Ever used FP after HIV positive status known?				
Yes	117(68.0)	104 (54.7)	0.57(0.36-0.89)	0.01
No	55 (32.0)	86 (45.3)		
Total	172	190		
Discuss reproductive health topics with counsellors?				
Yes	133(77.3)	129 (67.9)	0.62(0.38-1.02)	0.05

No	39 (22.7)	61 (32.1)		
Total	172	190		
Types of Topics to discuss				
Clients fertility intention	89 (25.6)	74 (18.5)	0.67(0.39-1.13)	0.14
Current contraceptive use			2.51(1.38-4.56)	0.00
Mother-to-child transmission of HIV	83 (23.9)	104 (25.9)	4.12(2.00-8.62)	0.00
Condom utilization	91 (26.1)	116 (28.9)	2.75(1.48-5.11)	0.00
Total	85 (24.4)	107 (26.7)		
	348	401		
Discussed FP with health providers?				
Yes	140(81.4)	128 (67.4)	0.47(0.28-0.79)	0.00
No	32 (18.6)	62 (92.6)		
Total	172	190		
Methods counselled				
Abstinence	75 (14.2)	86 (15.2)	1.77(1.05-3.01)	0.03
Condom	112(21.3)	119 (21.0)	3.31(1.41-7.92)	0.00
Pills	72 (13.7)	83 (14.6)	1.74(1.03-2.94)	0.03
Inject able	118(22.4)	110 (19.4)	1.14(0.55-2.36)	0.83
Implant	94 (17.8)	99 (17.5)	1.67(0.94-2.99)	0.08
Tubal ligation	56 (10.6)	70 (12.3)	0.55(0.33-0.92)	0.02
Total	527	567		
FP service at the ART clinics				

Yes	44 (25.6)	39 (20.5)	1.33(0.79-2.24)	0.30
No	128(74.4)	151 (79.5)		
Total	172	190		
If yes, kind of FP methods you have been offered				
Abstinence	5 (11.4)	7 (17.9)	0.54(0.13-2.17)	0.50
Condom	36 (81.8)	27 (69.2)	1.00	
Injectable	2 (4.5)	1 (2.6)		
Implant	1 (2.3)	4 (10.3)		
Total	44	39		
Referred to use contraception methods				
Yes	70 (54.7)	72 (47.7)	0.76(0.46-1.24)	0.29
No	58 (45.3)	79 (52.3)		
Total	128	151		
Where were you referred to				
FP clinic in the same facility	70(100)	56 (77.8)	-	-
FP clinic in another service	-	16(22.2)		
Total	70	72		
Using FP method currently				
Yes	96 (58.2)	93 (50.8)	0.74(0.48-1.16)	0.20
No				

Total	69 (41.8) 165	90 (49.2) 183		
If yes, type of FP method				
Abstinence	1 (1.0)	2 (2.2)	0.55(0.02-8.24)	0.92
Condom	33 (34.4)	36 (38.7)	1.00	
Pills	1 (1.0)	11 (11.8)	0.10(0.00-0.82)	0.02
Injectable	48 (50.0)	29 (31.2)	1.84(0.91-3.76)	0.09
Implant	13 (13.5)	13 (14.3)	1.09(0.40-2.95)	0.96
Tubal ligation	-	2 (2.2)	-	
Total	96	93		
Why you chose the current contraceptive				
Health professional's preference	3 (3.2)	1 (1.1)	2.84 (0.26-72.16)	0.66
Because it suits to my health	92 (96.8)	87 (95.6)		
From my friends' experience	-	3 (3.3)	1.00	
Total	95	91	-	
Disclosed HIV status to the healthcare provider?				
Yes	91 (94.8)	89 (95.7)	1.22(0.27-5.63)	0.96
No	5 (5.2)	5 (4.3)		
Total	96	93		

If no, why do you not use FP methods?				
Fear of side-effects	7 (15.6)	4 (8.0)	3.11 (0.68-14.98)	0.17
My partner doesn't agree	2 (4.4)	-	-	-
I have no partner	18 (40.0)	32 (64.0)	-	0.01
I want to give birth	18 (40.0)	8 (16.0)	1.00	
Total	45	44	4.00 (1.31-12.57)	
Do you intend to use contraception methods in future?				
Yes	39 (69.0)	10 (14.7)	16.16 (6.00-44.91)	0.00
No	14 (31.0)	58 (52.3)		
Total	53	68		
When do you want to start using an FP method?				
Now	8 (21.1)	1 (11.1)	4.00 (0.35-102.94)	
Within six month	1 (2.6)	-	-	0.41
Within a year	1 (2.6)	-	-	
After a year	8 (21.1)	1 (11.1)	-	
I don't know	14 (36.8)	7 (77.8)	4.00 (0.35-102.94)	0.41
Total	19	9	1.00	

If yes what type of method do you intend to use				
Abstinence	-	12 (22.6)		
Condom	17 (20.0)	19 (35.8)	0.14 (0.05-0.43)	-
Pills	2 (2.4)	8 (15.1)		0.00
Inject able	50 (58.8)	8 (15.1)	0.04 (0.00-0.26)	0.00
Implant	16 (18.8)	6 (11.3)	1.00	
Total	85	53	0.43 (0.11-1.65)	0.27
Why do you want to use a FP method				
To space birth	92 (62.2)	35 (32.1)	1.00	
To limit the number of children	12 (81)	-	-	-
To stop birth	2 (1.4)	3 (2.8)	0.25(0.03-1.98)	0.28
To avoid birth	38 (25.7)	64 (63.3)	0.21(0.12-0.38)	0.00
Other	4 (2.7)	2 (1.8)	0.76(0.11-6.30)	0.87
Total	148	109		
Where do you prefer to get service				
At ART clinic	107(72.8)	71 (63.4)	1.00	
In government facility FP unit	34 (23.1)	39 (34.8)	0.58(0.32-1.04)	0.06
Government facility other place	4 (2.7)	-	-	
Private clinic	2 (1.4)	2(1.8)	0.66(0.07-6.77)	0.91

Total	147	112		
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4.3 DISCUSSION

4.3.1 Fertility intention

Addressing fertility issues among HIV-positive women is crucial to the prevention of unwanted pregnancies and MTCT, especially with the advances in treatment which have changed views of fertility intention and childbearing for those who have the disease (Stanwood et al 2007). This study has tried to look into the desire for fertility and contraception utilization among HIV-positive women, and the associated factors.

In this study 47.5% (n=172) of the HIV-positive women wanted to have children in the future. This finding is higher than that of the study conducted in Uganda (16%) (Nakayiwa S. et al 2006). Likewise, in a study conducted in South Wollo, 18.3% of the total number of participants still wished to have children. And the study in Brazil produced a lower figure (19.2%), as did the study in Uganda (7%) (Paliva V. et al 2007).

The percentage of the participants who still wished to have children was consistent with the figure produced in a similar study conducted in Addis Ababa, where 44.7% of the respondents expressed the desire for children (Tamene et al 2007).

Women with no income (33.1%), housewives (32%), illiterates (25%), and married women (70.9%) still intended to have children. A study in Zambia had identified income as the most important factor that influenced childbearing decisions (Rutenberg N. et al 2000). This could be due to the fact that HIV-positive women with a better income may feel that they can take better care of their children.

Of the study participants 43.6% (n=75) of the women who intended to have children planned to have children within a period of less than two years, whereas 34.3% (n=59)

of them wanted to have children over a period exceeding two years, and 20.3% (n=35) were not particular about when they would want to have children.

4.3.2 Contraception utilization

In this study of the total of 172 women who have fertility intention 65.7% of the women were using some method of contraception before their HIV diagnosis. Injectables were the most commonly used contraceptives (52.5%) before their HIV diagnosis. After the HIV diagnosis, 52.5% of the women had used contraceptives. At the time of the study 96 of the women were using contraceptives. Fifty percent of them were using injectables and 34.4% of them were using condoms.

CHAPTER 5: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter concludes the study conducted, it presents conclusions, limitations and forwards some recommendations, related with its objective and purpose.

5.2 SUMMARY OF THE RESEARCH FINDINGS

This study showed that a large number of the HIV-positive women who are attending the ART clinic still intend to have a child.

The reproductive decisions in HIV-positive women are affected not only by their HIV status but depend on different factors, especially not having a child previously, and being married or in a relationship.

Large numbers of HIV-positive women with no income, housewives, illiterates and women in the age group of 28-32 years declared their intention to fall pregnant.

The most prevalent family planning method among the HIV-positive women before their HIV diagnosis was injectables. Afterwards the most popular method of contraception was the condom. The results suggest that the counselling about condom use that is offered to HIV positive women yields results, as more women adopt this method of contraception. This is important in view of prevention of HIV infections and re-infections. Based on the research findings in this study the researcher have met the objectives set for the study.

5.3 CONCLUSIONS

In order to offer appropriate services, the reproductive health care services provided for HIV positive women in ART clinics need to acknowledge the desire to have children for these women. The results of the study indicate that their HIV positive status does not remove their desire and intention to have children, as this is influenced by other societal factors than just avoidance of transmitting the virus to their children.

5.4 LIMITATIONS

Sample and Selection bias: The participants in the study were recruited at the ART treatment unit using convenience sampling. Thus the results might lack representativeness, and external validity cannot be achieved.

Time constraint: The study was conducted over a short period of time, which gave the researcher no opportunity to assess the women's intention and use of contraception over a longer period.

5.5 RECOMMENDATIONS

The desire to have children in this group of HIV positive women require that this factor needs to be integrated into counselling content in the services offered in the ART clinic. The desire to have children does not impact only on their being sero-positive, and therefore the need to take consider the risk of HIV transmission to the child but also the difficulty of combining being a parent with the constraints of their illness. However, considering the high value child bearing in Ethiopian society, it may be wise to supply systematic advice against pregnancy but at the same time provide adequate information on practical reproductive options for women infected with HIV. This would assist them in making informed reproductive choices rather than just taking a risk.

The family planning counsellors should promote the consistent and proper utilization of condoms and thus minimize condom use failure to prevent cross-infection and unwanted pregnancies. Other contraceptive methods should also come into the discussion, to provide varied options for the HIV-positive women.

The issue of linking reproductive health with HIV/AIDS interventions deserves attention, and ART clinics can best be integrated with RH counselling and service provision in safeguarding the health and welfare of HIV-positive women and the potential child.

There is a need to devise a family planning counselling mechanism in the ART rooms so these women would have the access to the service in similar setting making it more accessible. Further studies should be conducted, outside of the hospital set-up, and in different parts of the country to come identify views of other women in different settings and community groupings.

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Annexure

Annexure A: Informed Consent Form in English

INFORMED CONSENT FORM

I _____ understand that I have the right to revoke this authorization and withdraw from this interview at any time. Furthermore, I understand that:

The information discussed in this interview is strictly confidential and there will not be any disclosure of names or identity.

The information obtained from this interview is for the sole purpose of research and the development of a programme to assist the HIV positive women regarding reproductive health needs.

The research will involve an interview which will take place in Adama Hospital Medical University College.

In the light of this, I hereby volunteer to participate in the study and grant the researcher/research team permission to contact me for the purpose of collecting data.

PARTICIPANT'S SIGNATURE: _____ DATE: _____

INTERVIEWER'S SIGNATURE: _____ DATE: _____

Annexure B: Questionnaire in English

Part I. Socio-demographic characteristics

Q1 How old are you?

- | | | |
|----------|----------|-----------------|
| 1. 18-22 | 4. 33-37 | 7. 48 and above |
| 2. 23-27 | 5. 38-42 | |
| 3. 28-32 | 6. 43-47 | |

Q2 Religion

1. Orthodox
2. Catholic
3. Muslim
4. Protestant
5. Others specify -----

Q3 Educational level

1. Un able to read and write
2. Able to read and write
3. Primary education
4. Junior education
5. Secondary education
6. Tertiary education
7. Other specify-----

Q4 Ethnicity

1. Oromo
2. Amhara
3. Gurage

4. Tigray
5. Other specify -----

Q5

Marital

status

1. Married
2. Single
3. Widowed

4. Divorced
5. Non married partner
6. No response

Q6 what is your total Monthly income? Eth.Birr

1. No income
2. Less than 200
3. 201- 400
4. 401-600

5. 601-800
6. Greater than 800
7. No response
8. Other (specify)-----

Q7 Occupation

1. Student
2. Merchant
3. House wife
4. Daily labourer
5. Farmer

6. Commercial sex worker
7. Government employee
8. Private employee
9. Other ,specify-----

Part II. Information on Fertility intention

Q8 Have you ever give birth?

1. Yes
2. No

Q9 How many live births have you had?

1. Number of children _____
2. I do not have any live birth
3. Other, specify -----

Q10 If your answer to Q 08 is yes, how many children do you have now?

- | | |
|--------|------------------------|
| 1. One | 3. Three |
| 2. Two | 4. Other specify ----- |

Q11 Did you give birth after you learn your HIV status?

1. Yes
2. No
3. If other specify -----

Q12 What is the age of your last child? -----

Q 13 Did you use family planning during your last pregnancy?

- | | |
|--------|-------|
| 1. Yes | 2. No |
|--------|-------|

Q 14 Was your last pregnancy wanted/timed?

- | | |
|--------|-----------------------|
| 1. Yes | 3. No response |
| 2. No | 4. Other specify----- |

Q15 Are you pregnant now?

- | | | |
|--------|-------|------------------|
| 1. Yes | 2. No | 3. I do not know |
|--------|-------|------------------|

Q16 If the answer for Q15 is no, do you have any desire to have children in the future?

- | | |
|----------------|------------------------|
| 1. Yes | 4. No response |
| 2. No | 5. Other, specify----- |
| 3. Do not know | |

Q17 How many children do you intended to have in the future?

- | | |
|---------|----------|
| 1. None | 3. Two |
| 2. One | 4. Three |

89. Other specify_____

Q18 If the answer is yes for Q15, why do you need to give birth?

- | | |
|---------------------------------------|--|
| 1. To hide from people | 4. To hide my HIV status from my partner |
| 2. To avoid stigma and discrimination | 5. My partner wants |
| 3. To replace my heredity | 6. Other specify, ----- |

Q19 If the answer for Q15 is yes, when you prefer to have children?

- | | |
|------------------------|------------------------|
| 1. Before a year | 5. When my CD4 is high |
| 2. Within two year | 6. DO not know |
| 3. After two year | 7. Other specify ----- |
| 4. When I feel healthy | |

Q20 what will you do if you fall pregnant?

1. I give birth by consulting health providers
2. Simply I give birth
3. Abort
4. Other specify-----

PART III. Information on family planning utilization

Q21 Have you ever used contraceptives before HIV diagnosis?

1. Yes
2. No
3. I cannot remember
4. No response
5. Other, specify -----

Q22 If your answer for Q 21 is yes, what type of contraceptive were you using?

- | | |
|---------------|---------------------------|
| 1. Abstinence | 5. Implant |
| 2. Condom | 6. Tubaligation/vasectomy |
| 3. Pills | 7. Other, specify----- |
| 4. Injectable | |

Q 23 Have you ever used family planning method after you know your HIV status?

- | | |
|--------|------------------------|
| 1. Yes | 3. No response |
| 2. No | 4. Other, specify----- |

Q 24 Have you discussed about reproductive health topics with your Counsellor?

1. Yes
2. No
3. Other specify-----

Q 25 If yes, what reproductive health topics discussed during counselling?

1. Clients fertility intention
2. Current contraceptive use
3. Mother to child transmission of HIV
4. Condom utilization
5. Other specify -----

Q26 Have you discussed about family planning with your health care provider?

- | | | |
|--------|-------|-------------------------|
| 1. Yes | 2. No | 3. If other specify---- |
|--------|-------|-------------------------|

Q 27 If yes to Q26, what type of method have you been Counselling about?

- | | |
|---------------|---------------------------|
| 1. Abstinence | 5. Implant |
| 2. Condom | 6. Tubaligation/vasectomy |
| 3. Pills | 7. Other, specify----- |
| 4. Injectable | |

Q 28 Have you been given any family planning service at the ART clinic?

- | | |
|--------|------------------------|
| 1. Yes | 3. Other, specify_____ |
| 2. No | |

Q 36 If the answer to Q 35 is no, why do not you disclose?

- | | |
|---|--------------------------|
| 1. I don't trust the health care provider | 99. No response |
| 2. I fear stigma and discrimination | 89. Other, specify ----- |
| 3. I do not want the help of the health care provider | |

Q37 If the answer for Q 32 is no, why do not you use family planning method?

- | | |
|-----------------------------|-------------------------|
| 1. Fear of side effects | 4. I want to give birth |
| 2. My partner doesn't agree | 5. I am using condom |
| 3. I have no partner | 6. Other ,specify----- |

Q38 If the answer for Q 32 is no, do you intended to use family planning method in the future?

- | | |
|--------|------------------------|
| 1. Yes | 3. I do not know |
| 2. No | 4. Other, specify----- |

Q39 If yes for Q 38, when do you want to start using the method?

- | | |
|---------------------|---------------------------|
| 1. Now | 4. After a year |
| 2. Within six month | 5. I do not know |
| 3. Within a year | 6. 89. Other specify----- |

Q40 If the answer to Q 38 is yes, what type of method you intended to use?

- | | |
|----------------|--|
| 1. Abstinence | 5. Implant |
| 2. Condom | 6. Tubaligation/ how do women use vasectomy? |
| 3. Pills | 7. Other, specify----- |
| 4. Injectables | |

Q41 Why you want to use family planning method?

- | | |
|---------------------------------|-----------------------|
| 1. To space birth | 4. To avoid birth |
| 2. To limit the number of child | 5. Other specify----- |
| 3. To stop birth | |

Q42 Where do you prefer to get the service?

- | | |
|---------------------------------------|-----------------------|
| 1. At ART clinic | 4. Private clinic |
| 2. In government facility FP unit | 5. FGA/clinic |
| 3. Government facility in other place | 6. Other specify----- |

Annexure C: Informed Consent in Amharic

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Annexure D: Questionnaire in Amharic

የሰው ልማት-የሰው ልማት ስርዓት ስርዓት

Q1. የሰው ልማት ስርዓት?

- 1. 18-22
- 2. 23-27
- 3. 28-32
- 4. 33-37
- 5. 38-42
- 6. 43-47
- 7. 48 በላይ

Q2. የሰው ልማት ስርዓት?

- 1. በጣም አይደለም
- 2. አይደለም
- 3. አይደለም
- 4. በጣም ነው
- 89. የሰው ልማት ስርዓት-----

Q3. የሰው ልማት ስርዓት ስርዓት ስርዓት ስርዓት ስርዓት ስርዓት ስርዓት?

- 1. በጣም አይደለም
- 2. አይደለም
- 3. አይደለም
- 4. በጣም ነው
- 5. በጣም አይደለም
- 6. አይደለም
- 89. የሰው ልማት ስርዓት-----

Q4. የሰው ልማት ስርዓት?

- 1. በጣም አይደለም
- 2. አይደለም
- 3. በጣም ነው
- 4. በጣም ነው
- 89. የሰው ልማት ስርዓት-----

Q5. የሰው ልማት ስርዓት ስርዓት ስርዓት ስርዓት ስርዓት ስርዓት?

- 1. በጣም አይደለም
- 2. አይደለም
- 3. በጣም ነው
- 4. በጣም ነው
- 5. በጣም አይደለም/ በጣም ነው
- 99. የሰው ልማት ስርዓት

Q6. የሰው ልማት ስርዓት ስርዓት ስርዓት ስርዓት ስርዓት ስርዓት ስርዓት?

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Q7. □□□□ □□□ □□□□ □□□ □□□□ □□□□□?

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Q8. □□□□ □□□□?

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Q9. □□□□□ □□ □□□ □□□ □□□□□ □□□□□?

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Q10. □8[□] □□□ □□□□□ □□ □□□□□□□ □□ □□□ □□□ □□□□?

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Q11. □□□ □□ □ □□□□□□ □□□ □□□ □□ □□□□□?

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Q12. □□□□□ □□□□ □□□ □□□ □□?-----

Q13. □□□□□□□ □□□□□□ □□ □□□□□ □□□ □□□□ □□□?

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Q14. □□□□□□ □□□□□□ □□□□□□/□□□□ □□□?

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Q15. □□□ □□□□ □□□?

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Q16. □ 15[□] □□□ □□□□□□ □□ □□□□ □□□□ □□ □□□□□□ □□□ □□□□?

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Q17. □□□□ □□ □□□ □□□ □□□ □□□□□□□ □□□□?

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Q18. □16□□ □□□ □□□□□ □□ □□□□ □□□ □□□□ □□□?

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Q19. □16□□ □□□ □□□□□ □□ □□□□ □□□ □□ □□□□□ □□□□□?

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Q26. □□□ □□□□□□ □□□□ □□ □□ □□□□□□ □□□□□□ □□□□?

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Q27. □26□ □□□ □□□□ □□ □□□□ □□□□ □□□□□□ □□ □□□□□□ □□□□ □□□ □□□?

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Q28. □ □ □□ □ □ □□□□ □□□□□□ □□□ □□□□□□ □□□□□□?

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Q29. □28□ □□□ □□□□□ □□ □□□□□□ □□□□ □□□□□□ □□ □□□□□□?

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Q30. 28 个 数 的 和 是 1000， 这 些 数 中 最 大 的 数 是 几 ？

- 1. 100
- 2. 10

Q31. 30 个 数 的 和 是 1000， 这 些 数 中 最 大 的 数 是 几 ？

- 1. 1000
- 2. 100
- 3. 10

89. 个 数 的 和 是 1000， 这 些 数 中 最 大 的 数 是 几 ？

Q32. 个 数 的 和 是 1000， 这 些 数 中 最 大 的 数 是 几 ？

- 1. 100
- 99. 100
- 2. 10

Q33. 32 个 数 的 和 是 1000， 这 些 数 中 最 大 的 数 是 几 ？

- 1. 1000 (1000 个 1)
- 2. 1000
- 3. 1000 个 1 (1000)
- 4. 1000 个 1 (1000)
- 5. 1000 个 1 (1000)
- 6. 1000 个 1 (1000)

89. 个 数 的 和 是 1000， 这 些 数 中 最 大 的 数 是 几 ？

Q34. 32 个 数 的 和 是 1000， 这 些 数 中 最 大 的 数 是 几 ？

- 1. 100 个 1000
- 2. 1000 个 1000
- 3. 1000 个 100

89. 个 数 的 和 是 1000， 这 些 数 中 最 大 的 数 是 几 ？

Q35. 个 数 的 和 是 1000， 这 些 数 中 最 大 的 数 是 几 ？

- 1. 100
- 2. 10

89. □□ □□ □□□□-----

Q36. □35□□ □□□ □□□□ □□ □□□□ □□□□□□ □□□ □□ □ □□□ □□□□ □□□□□□ □□□□□□□□/□□?

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Q37. □32□□ □□□ □□□□ □□ □□□□ □□□□□□ □□□ □□□□□□□□ □□□□ □□?

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Q38. □32□□ □□□ □□□□ □□ □□□□ □□□□ □□□□ □□□ □□□□□ □□□□□□?

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- 2. □□

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Q39. □38□□ □□□ □□□□□ □□ □□□□□□ □□□□ □□□□□□?

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Q40. □38□□ □□□ □□□□□ □□ □□□□□□ □□□□ □□ □□□□□ □□□□□□?

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Annexure E: Ethical Clearance from UNISA



Approved

DECISION OF COMMITTEE

Date of meeting: 16 Mar
Project title: Fertility Int
CHAIRPERSON: HEALTH STUDIE
Researcher: Bogale Yen
Degree: Masters in
Supervisor: Dr K M
Qualification: Doctor
Joint Supervisor: -

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ETHIC

PLEASE QOOR TBI

DR MM MOLEKI
ACTING ACADEMIC CHAIRMAN



Annexure F: UNISA Support Letter to Oromia Health Bureau to Conduct the Research

UNISA | 
university
of south africa

18 May, 2012

UNISA-ET/KA/ST/29/18-05-12

ADAMA HOSPITAL MEDICAL COLLEGE

ADAMA

Dear Madam/Sir,

This is to confirm that Ms. Yenealem Reta Bogale (student number 46509607) is a Master of Public Health student at the University of South Africa (UNISA). Currently, she is at the stage of data collection on her Master's research. This is therefore to kindly ask you to please assist the student in any way you can. Attached, please find the copy of the Ethical Clearance she secured from the Department of Health Studies, UNISA.

Sincerely,



Tsige GebreMeskel Aberra

DD – Facilitation of Learning

UNISA REGIONAL LEARNING CENTRE	
PO BOX 13836 ADDIS ABABA ETHIOPIA	
TEL	+251-114-350141
	+251-114-350078
FAX	+251-114-351243
MOBILE	+251-912-191483



University of South Africa
Regional Learning Centre
PO Box 13836 ADDIS ABABA - Ethiopia
Telephone: +251 114 35 0141 / +251 114 35 0078
Facsimile: +251 114 35 1243/3444
Mobile: +251 912 19 1483
www.unisa.ac.za

Annexure G: Letter of Permission from Oromia Health Bureau to Conduct the Research



BIIROO EEGUMSA FAYYAA
OROMIYAA

OROMIA HEALTH BUREAU
የኦሮሚያ ጤና ጥበቃ ቢሮ

Lakk/Ref. No. BEfo/HSTPH/11-8/2004
Guyyaa /Date 22/9/2004

Hoospitaala Kollcejji Saaynisii Fayyaa Adaamaatiif
Adaamaa

Dhimmi: **Xalayaa deeggarsaa ilaala**

Akkuma beekamu Biiron keenya ogeeyyii, dhaabbilee akkasumas namoota qorannoo gaggessuuf piropoozaala dhiyeffatan piropoozaala isaanii madaaluun akkanumas iddoo biraatti ilaalchisanii fudhatama argatee (approved) dhiyaateef, piropoozaala isaanii ilaaludhaan waraqaa deeggarsaa ni-kenna. Haaluma kanaan mata-duree " **Fertility intention and use of contraception among women living with HIV in Adama Hospital medical college, Adama, Oromia, Ethiopia**" jedhurratti **Aadde Yence'alam Rattaa Boggaalaa** Hoospitaala keessan keessatti hojjachuuf piropoozaalii isaanii Koree "Health Research Ethicakl Review Committee" **Unarsiitii Aafrikaa Kibbaatiin (UNISA)** mirkanessisanii dhiyeffataniiru. Haaluma kanaan Biiroo keenyaa piropoozaala kana ilaalun qorannoon kun akka hojiirra oolu murteessee jira. Waan kana ta'eef hojii qorannoo kanarratti deeggarsa barbaachisaa ta'e akka gootaniif jechaa, **Aadde Yence'alam Rattaa Boggaalaa** wayitii qorannoon kun qaaceffamee xumurame fiiriisaa kooppii tokko Biiroo Eegumsa Fayyaa Oromiyaatiif akka galii godhu garagalchaa xalayaa kanaatiin isaan beeksifna.

Anis, Aadde Yence'alam Rattaa Boggaalaa wayitii qorannoon kun qaaceffamee xumurame fiiriisaa kooppii tokko Biiroo Eegumsa Fayyaa Oromiyaatiif akka galii godhu mallattoo kiyyaan mirkanessa.

Nagaa wajjin

Mallattoo 

Maqaa Yence'alam Reta

Guyyaa 22/09/2004

Lakk. Bilbilaa 09112973794

G/G

W/E/F/Magaala Adaamaatiif

Adaamaa

Aadde Yence'alam Rattaa Boggaalaa tiif

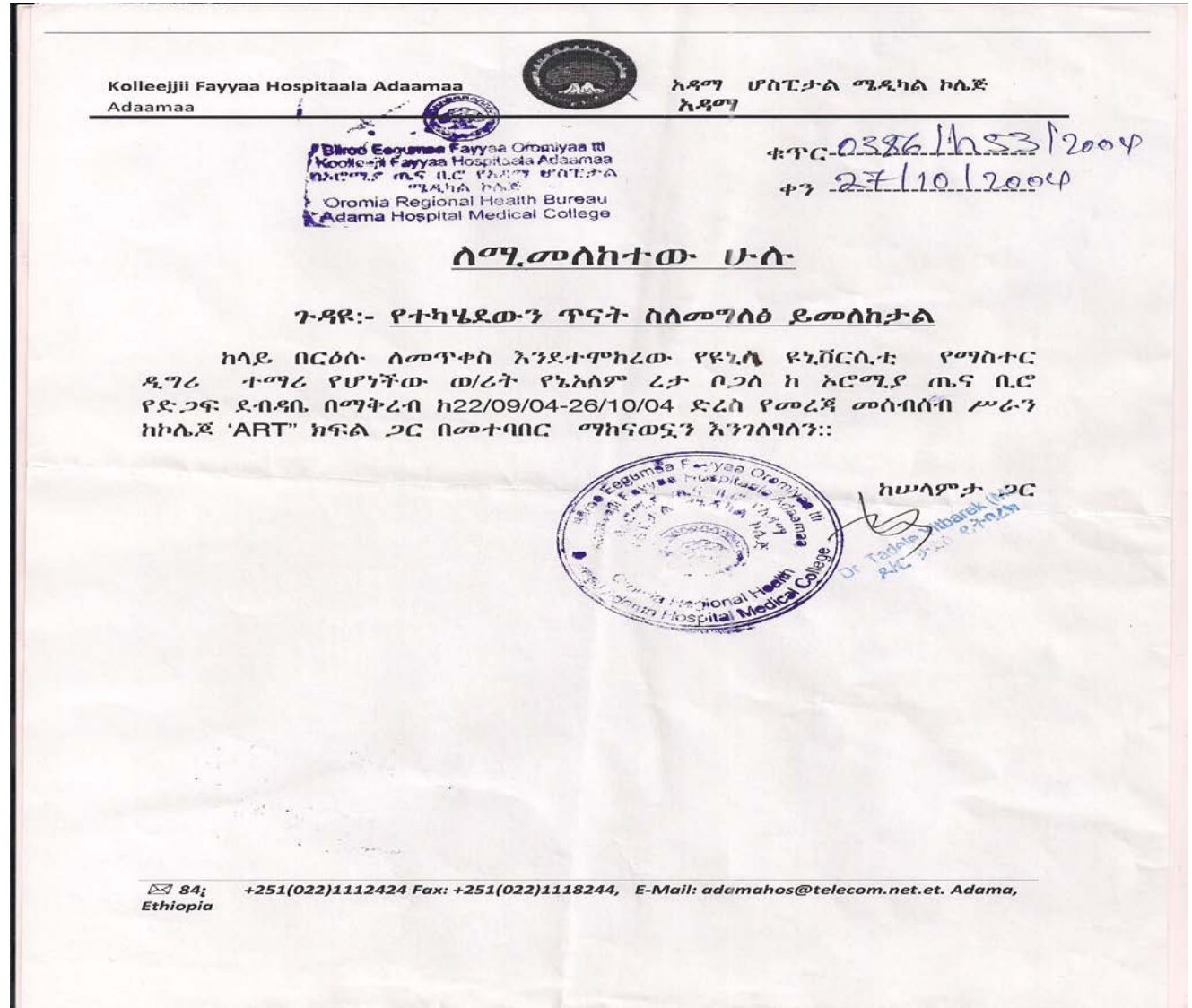
Bakka jiranitti


Tujumaa Guutaa
AHHH/Balaa Tasa Fayyaa Hawaasaa
Qu'annoo fi Qorannoo
I/G/ A Adeemsa xiqqaa Q/Qorannoo



Tessoo: Tel: +251-11-371-72-77, Fax: +251-11-371-72-27 P.O.Box.24341 E-mail: ohbhead@telecom.net.et
Address: ADDIS ABABA/FINFINNE-ETHIOPIA

Annexure H: Letter of Accreditation for Conducting The Research In Adama Hospital Medical College



Koleejjii Fayyaa Hospitaala Adaamaa
Adaamaa



አዳማ ሆስፒታል ሜዲካል ኮሌጅ
አዳማ

Biroo Eegumse Fayyaa Oromiyaa ti
Koleejjii Fayyaa Hospitaala Adaamaa
ኮሌጅ ሜዲካል ኮሌጅ ሆስፒታል
አዳማ ኮሌጅ
Oromia Regional Health Bureau
Adama Hospital Medical College

ቁጥር 0386/ከ53/2004
ቀን 27/10/2004

ለሚመለከተው ሁሉ

ጉዳይ:- የተካሄደውን ጥናት ስለመግለፅ ይመለከታል

ከላይ በርዕሱ ለመጥቀስ እንደተሞከረው የዩኒቨርሲቲ የማስተር ዲግሪ ተማሪ የሆነችው ወ/ሪት የኔአሎም ረታ ቦጋለ ከ ኦሮሚያ ጤና ቢሮ የድጋፍ ደብዳቤ በማቅረብ ከ22/09/04-26/10/04 ድረስ የመረጃ መሰብሰብ ሥራን ከኮሌጁ 'ART' ክፍል ጋር በመተባበር ማከናወኗን እንገልጻለን።



ከሠላምታ ጋር
Dr. Tadesse W. Berek (ዶ/ር ጥቅም ገብረገብ)

Annexure I: The Editor's Certificate

TO WHOM IT MAY CONCERN

10 June 2013

I hereby certify that I have edited the language of a Master of Public Health dissertation entitled 'Fertility Intention and the Use of Contraception among Women Living with HIV in Adama Hospital Medical College, Ethiopia', by Ms YR Bogale.

I am Professor Alan Brimer, DLitt (UPE), Professor Emeritus of UKZN.

Yours faithfully,

Alan Brimer

A handwritten signature in blue ink that reads "A. Brimer". The signature is written in a cursive style with a large initial "A" and a smaller "B" for "Brimer".

FERTILITY INTENTION AND THE USE OF CONTRACEPTION AMONG WOMEN
LIVING WITH HIV IN ADAMA HOSPITAL MEDICAL COLLEGE, ETHIOPIA.

STUDENT NUMBER: 4650-960-7

STUDENT: MISS YR BOGALE

DEGREE: MASTER OF PUBLIC HEALTH