COLLEGE OF MEDICINE AND HEALTH SCIENCE

DEPARTEMNT OF NURSING

ASSESSMENT OF FERTILITY DESIRE AMONG PEOPLE LIVING WITH HIV/ AIDS WHO ATTEND ANTI RETROVIRAL THERAPY CLINIC OF SELECTED HOSPITAL, GURAGE ZONE, ETHIOPIA

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A RESEARCH PROJECT SUBMITTED TO WOLKITE UNIVERSITY COLLEGE OF MEDICINE AND HEALTH SCIENCE DEPARTMENT OF NURSING, IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE BACHELOR OF SCIENCE DEGREE IN NURSING

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WOLKITE, ETHIOPIA

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ABSTRACT

Introduction: The desire to give birth is the intention that both men and women will give birth to more offspring, despite being diagnosed with human immune virus. However, the introduction of antiretroviral therapy has extended the lives of People Living with HIV /AIDS, allowing them to consider having children. The People Living with HIV/AIDS may want to get pregnant and want to start a family. It is imperative to understand that how these intentions and desires differ depending on an individual's, social, demographic and health related knowledge.

Objective: To assess fertility desire among people living with HIV/AIDS who attend anti-retroviral therapy clinic: the case of selected hospitals in Gurage zone.

Method: Institutional based cross-sectional study was employed from May 26/ 2023 up to June 26/ 2023 in selected hospital. Convenient sampling technique was used to select participants of the study. Data was collected using structured interviewer administered questionnaire.

Results: The study revealed that the fertility desire of PLWHA in the study area was 72.8%. On the other hand, about 49.0% of the respondents have poor knowledge about reproductive health knowledge related to fertility desire.

Conclusions and Recommendations: from these results it can be inferred that the finding of this study has an implication for the health care provider to consider the effects of fertility desire as well as knowledge about reproductive health while discussing the reproductive option, family planning service, and safer conception; providing adequate information about PMTCT of HIV; and assisting them in making informed reproductive decision to minimize the risk of MTCT of HIV and unplanned pregnancy. Therefore, it is recommended that health care providers better to arrange ways to enhance the understanding of fertility desire as well as to acquaint knowledge about reproductive health related issues among not only in women but also among men living with HIV.

Key words: Fertility desire, Prevalence, PLWHA, ART, Gurage Zone, Ethiopian.

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ABBREVIATIONS AND ACRONYMS

AIDS:	Acquired immune Deficiency Syndrome
ART:	Anti-Retroviral Therapy
HIV:	Human Immune Deficiency Viral
MTCT:	Mother- To- Child Transmission
PLWHA:	People Living With HIV/AIDS
PMTCT:	Prevent Mother to Child Transmission
SSA:	Sub Saharan Africa
SNNPR:	South Nation Nationality People Region
UNAIDS:	United Nation Program On HIV/AIDS
WKUSTH:	Wolkite University Specialized and Teaching Hospital

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Human immune deficiency virus (HIV)/ Acquired immune deficiency syndrome (AIDS) is the major health, social and political problem in the worldwide which has taken a distressing effect In many societies. It ranks fourth among the leading cause of death worldwide and first in the Sub-Saharan Africa [1]. Since the introduction of antiretroviral therapy (ART), the life expectancy and quality of life of people living with HIV/AIDS has raised so with this HIV infected individuals are now facing decisions and considerations that they previously did not encounter. One such consideration is their fertility desires. ART has leading to increased survival in people living with HIV, and subsequently to individual and societal gains worldwide. HIV-infected individuals have a fertility desire that cannot be ignored. providing fertile HIV infected women with the possibility of preserving their fertility and a safer option for conception is empowering given the stigma and isolation that they may already encounter as a result of their HIV status, particularly in cultures where reproduction defines one's value in society [2]. HIV prevalence among women of childbearing age (15-49) was 0.9%, with those who are economically productive and sexually active and who are in the 25-49 age range being the most impacted [3].

In Ethiopia, for example, the prevalence of HIV/AIDS among women of reproductive age (1.9%) is higher than men (1.0%) in the same age [4] Thus, interventions to meet the reproductive health needs, and specifically the needs relating to a desire to have children of this population group need to be prioritized as many HIV-positive women continue to want to have babies despite knowledge of their HIV status [5].

The desire for children among women can put them in danger when it comes to HIV/AIDS prevention measures. Over 90% of HIV infections in young children worldwide are brought on via mother-to-child (MTCT) transmission. HIV/AIDS transmission rates range from 15% to 45%

in the absence of any suitable intervention. Effective intervention during the stages of pregnancy, labor, delivery, and breastfeeding can lower this transmission rate to under 5%. [6].

HIV/AIDS is a major issue in the worldwide, and Ethiopia is one of the countries most affected by the virus. According to the Joint United Nations Programmer on HIV/AIDS (UNAIDS), an estimated 1.1 million people were living with HIV/AIDS in Ethiopia in 2019 [7].

Some Studies shown that PLWHA have lower fertility desires and rates compared to the general population due to the stigma and discrimination they face, the fear of giving the virus to their husbands or babies, and the health risks associated with pregnancy and childbirth [8]. However, recent studies suggest that with the availability of ART, many PLWHA have a strong desire to have children [9, 10].

Due to improvements of symptoms, and the change in quality of life, being a human, PLWHA regain their normal sexual desire and activities [11]. The desire of HIV infected women to have children in the future has an implication of transmission of HIV to their sexual partner and newborn and the desire of HIV infected women to conceive has been topic of recent research. ART adds a new dimension to this situation, challenging PLWHA, their partner and their care providers to address the impact of ART on their fertility, sexual behavior and reproductive decision. Which means ART restores health and fertility on PLWHA and drastically reduces MTCT of HIV.As major efforts are under way to expand access to this life saving treatment in SSA, there are limited longitudinal data the desire to have children, and what factor influence these conditions in resource limited setting like Ethiopia [12].

In Ethiopia, there is limited research on the fertility desires of PLWHA, particularly in the Gurage zone. The Gurage zone is located in the Southern Nations, Nationalities, and Peoples' Region of Ethiopia, and has a high prevalence of HIV/AIDS [13]. Understanding the fertility desires and decision-making processes of PLWHA in this region is crucial for developing appropriate reproductive health programs and policies for this population.

1.2. Statement of the Problem

The desire of PLWHA to have children in the future has the consequence of HIV transmission to their sexual partner and neonates, which may result in a rise in HIV infection in the paediatric age group. Despite significant progress in HIV prevention and treatment over the years, the latest

global data on HIV from 2021 reveals that the epidemic remains a major public health challenge. An estimated 38.4 million people were living with HIV in 2021, with 1.5 million new infections and 650,000 deaths from AIDS-related illnesses. However, there is also some positive news, as 28.7 million people will access antiretroviral therapy, a crucial medication for managing HIV, in 2021 [14].

Studies conducted in thirteen European countries showed that the prevalence of fertility desire among PLHIV ranged from 12.1% to 49%. Studies in Nigeria showed that the prevalence of fertility desire among PLHIV ranged from 47.5% to 75.8%. Similarly, studies in Tanzania, Nairobi, Malawi, and Uganda also reported a prevalence of fertility desire among PLWHA ranging from 17% to 59% [15] and the prevalence of fertility desire in Ethiopia is 42.21% [18].

In sub-Saharan Africa, addressing the reproductive rates of PLWHIV is becoming more and more crucial because of the high HIV positive rate, high fertility rate, and limited coverage of modern contraceptives. For women who are HIV-positive and their unborn children, pregnancy can present significant hazards. If they intend to have children, women with HIV should be aware of these dangers. According to a number of studies, the rate of transmission from mother to child ranges from 17% in Uganda to 63% in Nigeria [3, 4] among people living with HIV in different situations.

Despite the importance of fertility and childbearing in PLWHA, little is known about the desire for fertility. In resource-limited settings like Ethiopia, the majority of studies done in Ethiopia were focused on women, but the desire to have children in the future is also an issue for men. So the main purpose of this study is to assess fertility desire among PLWHA on follow-up care at a selected hospital ART clinic.

1.3. Significant of the Study

Procreation is the basic human instinct, and obviously, the initiation of ART has led to great improvements in the health status, quality of life, and life expectancy of PLWHA. Being humans, PLWHA regain their normal sexual desire activity. But little is known about the extent of fertility desire and what factors influence their condition in a resource-limited setting like

Ethiopia. The desire of HIV-infected patients to have children in the future has implications for the transmission of HIV to the partner and newborn.

Obviously, initiation of ART improves the health status and quality of life of this patient, but little is known about whether initiation of ART affects fertility desire, pregnancy rate, and family planning use among patients in HIV care and treatment programmers in resource-limited settings. So this study was conducted to assess fertility desire in those patients. The primary beneficiaries of this research were HIV-positive people who addressed their fertility issues. In addition, the study's findings provided information on fertility desire among PLWHA at a selected hospital and follow-up care at an ART clinic. A better and evidence-based understanding of fertility is needed to promote and protect the rights of people living with HIV to make informed decisions about reproduction and to have access to appropriate sexual and reproductive health services. And it was given to other researchers as a reference. It also helps governmental and non-governmental organizations working on HIV/AIDS understand and plan for fertility issues in HIV-positive people in line with the national plan and program.

CHAPTER TWO

2. LITERATURE REVIEW

2.1. Introduction

This chapter discusses the previous literature study on the assessment of fertility desire among PLWHA on ART clinic therefore, this chapter reviews various information on fertility desire among PLWHA on ART clinics as explained by different scholars in books, magazines, research report and website.

2.2. Fertility Desire

The fact that many HIV infected adult desire and expect to have children has important implications for the prevention of vertical and heterosexual transmission of HIV. The optimization of ART was led great improvement in both the quality of life and life expectancy of PLWHA. This Normalization has encouraged many HIV positive people to include perspectives in planning of their life that has previously seen as being impossible to fulfill, planning a family is often among those perspectives [7].

Studies in different areas have shown that significant proportion of PLWHA wish to be parents. A study done in thirteen European countries showed the prevalence of the desire for fertility was 43% [15]. Other studies conducted in Spain and Brazil revealed that the prevalence of fertility desire among people on ART was 49% [18] and 25.9% [19], respectively. Studies conducted in Asian countries including Georgia, Nepal, India, China and Indonesia showed the prevalence of fertility desire among PLHIV ranged from 12.1–50.8% [5, 20, 21].

A cross-sectional study by V. Paiva et al, in Brazil among 739 from those 533 women and 206 men attending ART clinic was conducted to describe attitudes toward parenting and to identify factors associated with the desire to have children among PLWHA. In contrast to previous studies conducted in developed countries, the study had shown that the desire to have children was more frequent among men than women by 50.1% of men than that of 19.2% of women. Having no children, living with 1-2 children, Male gender, younger age, and being in a heterosexual partnership were independently associated with desire to have children [22].

As more human beings get admission to antiretroviral therapy (ART) and live healthier and longer lives with human immunodeficiency virus (HIV) in sub-Saharan Africa, their choice of destiny to be pregnant is increasing [21]. Studies done in Nigeria showed that the prevalence of fertility desire among PLHIV ranged from 47.5 to 75.8% [23, 24, 25]. Other studies conducted in Tanzania, Nairobi, Malawi, and Uganda say that the prevalence of fertility desire among PLWHA was 17, 34, 51, and 59%, respectively [26, 27, 28, 29].

A cross-sectional study was conducted by among 280 PLWHA attending the antiretroviral therapy (ART) clinic in Teku Hospital, Nepal, from the total participant, 12.1% desired to have a child. Among those having this desire, 44.1% had not decided when to have a child. Reasons for desiring a child were having no children (44.1%), wanting to have a child of different sex than the previous one (29.4%), followed by wanting to have another child (26.5%) [20].

A cross section study done in Nigeria among 366 PLWHA shows that a Fertility desires of 27%of women and 17% of man interested to have more than two children in the nearest future; 28% of women and 15% of men reported that their partners had similar future fertility intention. Most (73%) respondents intending to have children desired male children [30].

A mixed methods study (survey [n = 513] and in-depth interviews [n = 41]) with adults living with HIV/AIDS living in Nairobi slums was conducted in 2010show that fertility desires are complex and ambivalent, reflecting tensions between family and societal pressures to have children versus pressures for HIV (re-)infection prevention. More than a third (34%) of men and women living with HIV expressed future fertility desires; however, this is significantly lower than in the general population. Factors independently associated with desiring a child among people living with HIV/AIDS were age, sex, number of surviving children, social support and household wealth of the respondent [29].

An institution-based cross-sectional study was conducted among 407 PLWHIV the University of Gondar comprehensive and specialized hospital from August 1 to 30, 2021. A systematically random sampling technique was used to select the study subject so the overall prevalence of fertility desire among PLWHIV was44.87%. Of these, 42.29% desired fertility because they thought that they could have an HIV-negative child due to ART [11].

A cross-sectional survey was conducted among HIV positive individual in public health hospital of Addis Ababa city from 1 October to30 November 2021 GC shows the 400 participants

interviewed, 220 (55%) of the respondents have fertility desire in the future, 86 (12.5%) planned within 1 year to get pregnant. Of the respondents, 70 (17.5%) have a desire for one child, and 148 (37%) have a desire for two and more children. The majority of respondents, 224 (56.0%), had from one to three children. However, 133 (33.3%) had no children at all. Of them, 65 (16.3%) do not have adequate income to add another [31] and other study done in Addis Ababa among 444 PLWHA Nearly half of the study subjects (46.2%), female 101(49.3%) and men104 (50.7%) desired to have children [32].

Fertility desire with age within 18-29 and 30-39 years were 4 and 3.9 times more likely have fertility desire as compared to age 40 years respectively. A cross sectional study was conducted in Fitche Hospital, Ethiopia from February 21_to April 20 of 2013 to assess prevalence fertility desire of HIV positive PLWHIV is 39.1% [33].

A non-experimental facility based cross sectional study design was used in Wolaita zone, and the data was collected from all men and women attending care and treatment in ART clinics in selected health facilities giving ART service from January to February 2014, A total of 410 Patients were included in the study from those 254(62%) of clients were females. 43% (176) desire to bear child and of these 34 % were not using any modern FP method. The most commonly reported reasons for child bearing desire were desire to replace themselves 65.9 % followed by desiring a child from their partner 17.1%. Among respondents do not desire to bear child, 45.6 % were males and 55.4 % were females [34]. There is no study done on fertility desire among PLWHA in Gurage Zone as well as in Attat hospital and also WUSTH so far.

2.3. HIV and ART characteristics

According to systematic and meta-analysis showed that PLHIV on ART to have a higher prevalence of the desire for reproduction than their ART-naive counterparts. The reason for this could be the advent of ART, it has been possible for PLHIV to give birth to healthy children, due to an enhanced quality of life, longer life spans and reduced MTCT [35].

The study conducted in Nigeria showed that respondents with unsuppressed viral loads were 4.11 times with less fertility desire compared to those with suppressed viral load. The possible explanation for this is those of the respondents with suppressed viral load may have considered

their health status as very good following the use of ARVs and this may also explain the increased odds of having fertility desire[36]. On the other hand, the quantitative and qualitative study in Ethiopia revealed that PLHIV duration since HIV-diagnosis less than or equal to ≤1 years was 5 more likely to have fertility desire as compared to those who more than 5 year. It also indicated that PLHIV partners discordant were two times more likely to have fertility desire compared to their counterparts [37].

Another institution-based cross-sectional study in Amhara Region referral hospitals showed that respondents with 1 year and below HIV diagnosis duration were 4.02 times and 2–4 years of HIV diagnosis duration were 9.8 times more likely to have future fertility. The possible reason for this was PLHIV enrolled in ART for a more extended period might have gone through widespread health education that might have influenced their intentions, unlike those that have just registered in ART [38].

A cross sectional study done in 12 health centers of Tigray region showed that women who disclosed their HIV status to their husband/sexual partner had higher odds of having fertility desire. HIV disclosure to a woman's sexual partner has also been associated with her having increased fertility desire. Another study done in Ethiopia in depth interview showed that having knowledge about PMTCT has positive influence towards their fertility desire as compared to those who were not aware of PMTCT [37, 39].

2.4. Reproductive Characteristics

A cross-sectional study conducted in CHUD Borgou in 2019 among PLHIV revealed that women who had sexual partners had more likely fertility desire as compared to women who had no sexual partners [40]. According to institution based cross sectional study in Amhara region revealed that women who have participating with their sexual partner had almost four times higher odds of fertility desire compared to their counterparts [38]. According to the study conducted in Jimma University, women who have not used any family planning are more likely to have fertility desire than those who used. This might be they have not attained their desired family size and unmet need of family planning service. It also showed that women who had sexual partners had higher odds of fertility desire as compared to women who had no sexual

partners. The possible explanation for this was having sexual partners may play a role in preconception planning behaviors [41].

A cross sectional study conducted in Hawassa public health facilities showed that the odds of fertility desire among those who practiced sex for the last six months were three times those who didn't practice sex in the last six months. It also showed that odds of fertility desire among those who discussed reproductive health with ART providers were 3.1 times higher than those who didn’t discussed it [42].

CHAPTER THREE

3. OBJECTIVES

3.1. General Objective

The general objective of this study was to assess fertility desire among PLWHA in childbearing age on follow-up visits to selected hospitals in the Anti-Retroviral Therapy (ART) Clinic, Gurage Zone, SNNPR, Ethiopia, in 2023.

3.2. Specific Objectives

- To assess the level of fertility desire among people living with HIV/AIDS by exploring their intentions regarding childbearing and their fertility decisions in the ART clinic of Gurage Zone.

CHAPTER FOUR

4. METHOD AND MATERIAL

4.1. Study Area

In Gurage Zone, there are 7 known hospitals; from those, this study was conducted in Attat Hospital and WKUSTH. Attat Hospital is about 187 kilometres southwest of Addis Ababa along the Jimma Road in the southern region of Ethiopia. The hospital has been operational since 1969. The hospital provides services to both inpatients and outpatients. It has 65 beds; in addition, there are 48 beds in the maternity waiting area, 13 beds in the nutrition rehabilitation unit, 3 labor beds, and 2 delivery beds that are often used as overflow beds.

WKUSTH is found in the southern region, south-west Ethiopia. It is located around 167 kilometers from Addis Ababa, the capital city of Ethiopia. This hospital serves the community as well as the university for the purpose of providing education for students of medicine and health sciences.

The hospital has around 63 male and 61 female nurses, 9 male and 19 female midwives, and 9 male and 3 female health officers. 17 male and 19 female laboratories, 13 male and 14 female pharmacists, 5 male anesthesiologists, 2 male and 1 female radiologists, and 2 male environmental scientists At this hospital, the ART clinic was first established on May 24, 2018. This clinic has one GP and one nurse. And also, it is a place where PLWHA get a comprehensive HIV/AIDS care service.

4.2. Study Period

The study was conducted from May 26/2023 up to July 11/2023.

4.3. Study Design

An institutional based cross-sectional study was conducted

4.4. Population

4.4.1. Source Population

All PLWHA those who are on ART follow up care at WKUSTH and Attat Hospital.

4.4.2. Study Population

Adult PLWHA who visited WKUSTH and Attata Hospital ART clinic found during the study period.

4.5. Inclusion Criteria

People those were, HIV Positive and found on reproductive age

4.6. Exclusion Criteria

- Individual who was unable to hear and communicate
- People who have mental disorder

4.7. Sample Size and sampling Technique

The sample size was determined by using a single proportion formula with the assumption of fertility intention among HIV-positive women p = 34.91% [43], d = 5% of marginal error, and 95% confidence level and data was collected using conventional sampling technique.

$$n_o = \left(\frac{z_{\frac{\alpha}{2}}^2 p(1-p)}{d^2}\right) = \left(\frac{(1.96)^2(0.349)(.651)}{(0.05)^2}\right) = \frac{.8728076784}{.0025} = 349.12307136 \cong 349$$

But since the total population of the study subjects was N = 610, the total patients in the two hospitals which is less than 10,000, we use the correction factor formula to get the sample size of the study as:

$$n = \frac{n_o}{1 + \left(\frac{n_o}{N}\right)} = \frac{349}{1 + \frac{349}{610}} = \frac{349}{\frac{610 + 349}{610}} = \frac{212{,}890}{959} = 221.99165 \cong 222$$

Which is the required sample size; however, this sample is against the actual situation of the patients who have follow-up in the two hospitals since the patients came to the ART clinic according to their schedule. For instance, in WKUSTH, during the study period, only 30 patients were supposed to come. Regarding Attat Hospital, the number of patients scheduled to come during the study period was 58, meaning a total of 88 patients were available in one month.

Since the number of participants was small, the student researchers were obliged to add fifteen days to reach the sample size of 100. Therefore, the sample size of the study was 100.

4.8 Sampling Procedures

Sample size was allocated based on the ART client population size in each hospital. All eligible people were included in the study consecutively when they for ART follow up. It was proportionally allocated to each sex 36% male and 64% female.

Sample size for each hospital was based on the number of patients that scheduled, so from WKUSTH 35 respondents and 65 respondents from Attat hospital was selected. The study participants were included until reaching the required sample size.

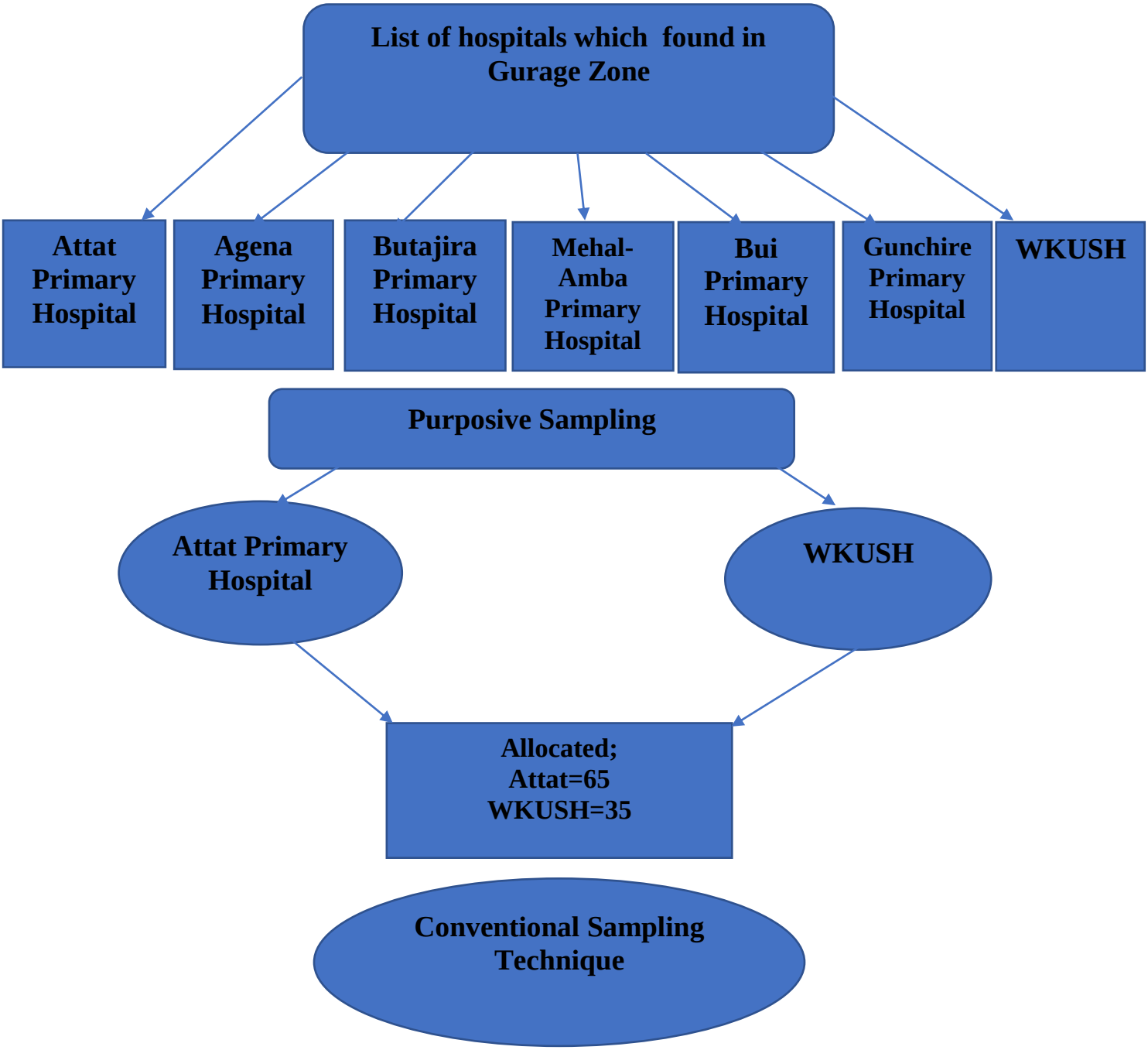

Figure 1 Diagrammatic presentation of sampling procedure and technique on fertility desire among PLWHA.

4.9. Study Variables

Dependent variable**:** Fertility desire.

4.10. Operational Definition

Desire for child/children – PLWHA on follow up care who need or would like to have children in the future.

PLWHA on follow up care – people who had at least one visit to the selected ARV treatment care for receiving ARV treatment

4.11. Data Collection Instrument

The data collection instrument for this study was a structured interview questionnaire, which was administered by interviewers in either Amharic or English based on the participant's preference. The questionnaire consisted of three sections, namely socio-demographic characteristics, reproductive health-related knowledge, and fertility desire [44].

The questionnaire was pretested before the actual data collection to ensure its clarity, relevance, and comprehensiveness. The pretesting was done at Wolkite Health Centre with a small sample of participants who are similar to the target population to identify any potential problems with the questionnaire, such as confusing or ambiguous questions, and to refine the questionnaire based on the feedback received from the participants.

The structured interview questionnaire was administered by researchers with PLWHA. The interviewees were asked to follow a standardized protocol to ensure that the questions were asked consistently across all participants. The interviews will take place in private rooms within the ART clinics to ensure confidentiality and minimize interruptions.

4.12. Data Collection Technique

Conduct one-on-one interviews with individuals living with HIV/AIDS, focusing on their fertility desires.

4.13. Data Quality Assurance

In order to improve validity, all items and questions in the questionnaire were logically related to the variables measured and to the overall research aims. In addition, the instrument was designed to measure all components of the variables and also use an existing instrument that had already been tested in other studies. Standardization of the measuring instrument will help to improve the validity of the study. The questionnaire was reviewed by the advisor, which is the initial stage of testing the validity and reliability of the measuring instruments. To ensure the reliability of the instruments before the actual data collection, a pilot test was conducted.

4.14. Data Processing and Analysis

The data collected through the questionnaire was checked for completeness and consistency. Obviously, the raw data has no meaning by itself unless it is arranged and analyzed properly. First, the quantitative data was cleaned, coded, entered into SPSS, and analyzed. The analysis was carried out using the statistical package for social science (SPSS) version 25. The analysis was done using descriptive statistics such as frequency counts, percentages, and tables to describe socio-demographic characteristics, fertility desire, and reproductive health-related knowledge.

4.15. Ethical Considerations

Before the data collection process, ethical approval was obtained from the Ethical Review Committee of Wolkite University, College of Medicine and Health Sciences. Permission was also obtained from the concerned bodies of Attat Hospital and WKUSTH. Verbal consent was taken from each respondent for the confidentiality of their response after being approved by the Research and Ethical Review Committee of Wolkite University. Study participants were informed regarding the aim of the study. They are also informed and given both verbal and written consent.

4.16 Dissemination of Result

The result of this study will be submitted to Wolkite University's Department of Nursing as well as Attat and WUSTH to be used as a reference for future researchers and be accessible for

utilization in hard copy. It provides information related to health professionals efforts to overcome fertility desire problems.

CHAPTER FIVE

5. RESULTS

In this study, a total of 100 participants responded making the response rate of 100%.

5.1. Socio demographic characteristics

The majority (64.0%) of the participants were female, and the mean age of the respondents was 32.5 with a standard deviation of 2.37. Of all the respondents, more than two-thirds (68.0%) were in the age group of 30 and above; 34 (33.7%) of the respondents were Muslims; and more than one-third (39.0%) were above grade 12. Nearly half of the respondents (48.0%) were married, 27.0% were merchants, and 74.0% had a monthly income of 5001 and above Ethiopian birr per month (Table 5.1).

Table 5.1: distribution of Socio demographic characteristics of PLWHA at ATTAT and WKU hospital ART clinic, Wolkite from May 26/2023 up to June 26/2023

No	Variable	Category	Frequency	Percent
1	Sex	Male	36	36.0
		Female	64	64.0
2	Age	18 – 29	32	32.0
		30 – 39	41	41.0
		40 and above	27	27.0
3	Education status	unable to read and write	13	13.0
		read and write	24	24.0
		1 - 8 grade	8	8.0
		9 - 10 grade	10	10.0
		11-12 grade	6	6.0
		above grade 12	39	39.0
4	Marital Status	Single	34	34.0
		Married	48	48.0
		Divorced	11	11.0
		Widowed	7	7.0
5	Occupation	government employee	20	20.0
		Merchant	27	27.0
		Farmer	11	11.0
		daily laborer	9	9.0
		Student	18	18.0
		house wife	12	12.0
		Other	3	3.0
6	Religion	Muslim	34	34.0
		Orthodox	34	34.0
		Protestant	21	21.0
		Catholic	11	11.0
7	Family income in ETB	10001 and above	16	16.0
		Birr 5001 – 10000	58	58.0
		Birr 3001 – 5000	20	20.0
		≤ 3000 Birr	6	6.0

5.2. History about HIV Status of Patients

About 83 participants were diagnosed with HIV before 2013; almost two-thirds of the respondents (67) did not know their CD4 count; among those respondents who knew their CD4 count, 20 (60.6%) had below 350 cells/l. As to ART follow-up, all the respondents (100%) were on ART. Besides, the majority of them (83) started their ART before 2013. On the other hand, more than half of the respondents (56) disclosed their serostatus to their partners or families. Moreover, of those who replied yes to question #6, the great majority of the respondents (89.3%) were reactive. In addition, among those reactive to HIV, 40 (90.0%) were on ART; furthermore, for those who replied yes to question #8, 40 (88.9%) started their ART before 2013 (Table 5.2).

Table 5.2: History about HIV Status of PLWHA at ATTAT and WKU hospital ART clinic, Wolkite from May 26/2023 up to June 26/2023

No	Question	Category	Frequency	Percent
1	When did you diagnosis HIV?	From 2013 - 2015	17	17.0
		Before 2013	83	83.0
2	Patient CD4 count	Yes	33	33.0
		No	67	67.0
3	If yes to question # 2, how many?	If greater than 350	13	39.4
		If less than 350	20	60.6
		Yes	100	100.0
4	If yes for question # 4 when have you started the ART?	From 2013 – 2015	17	17.0
		Before 2013	83	83.0
5	Do you know sero-status of your spouse?	Yes	56	56.0
		No	44	44.0
6	If yes for question # 6, what is it?	Reactive	50	89.3
		non-reactive	6	10.7
7	If reactive to question # 7, is he or she on ART?	Yes	45	90.0
		No	5	10.0
8	If yes to question #8, when he or she start ART?	From 2013 – 2015	5	11.1

		Before 2013	40	88.9

5.3. Fertility desire among people living with HIV/AIDS

The level of fertility desire among people living with HIV/AIDS was assessed in the ART clinic in Gurage Zone. Accordingly, more than two third of the respondents are motivated to have children in the near future; majority of the respondents are not concerned highly about the potential health risks to their self and their future children if they become pregnant; majority of the respondents felt confident in my ability to raise children, since they are living with HIV; majority of the respondents pay much attention for their fertility desire; they have been provided with accurate information about the options for safe conception and pregnancy planning; majority of the respondents were not worried about the potential impact of having children on my HIV treatment and overall health; majority of the respondents were not worried about the social stigma associated with being a parent with HIV; More than half of the respondents have not considered adoption or other alternative options for parenthood. More than half of the respondents have experienced discrimination or negative attitudes from others regarding their fertility desire, and nearly two-thirds of the respondents have no shortage of information and support in order to decide to have or not to have children. The mean score (M) and standard deviation (SD) are: M = 3.59, SD =.916; M = 3.57, SD =.902; M = 3.68, SD =.737; M = 3.94, SD =.897; M = 3.62, SD =.850; M = 3.70, SD =.943; M = 3.70, SD =.905; M = 3.47, SD =.937; M = 3.51, SD =.893; and M = 3.62, SD =.814, respectively.

In general, the grand mean and standard deviation of the whole responses for fertility desire were M = 3.64 with SD =.282, indicating a 72.8% level of fertility desire among PLWHA in the study area (Table 5.3).

Table 5.3: Perception of respondents on Fertility desire among people living with HIV/AIDS at ATTAT and WKU hospital ART clinic, Wolkite from May 26/2023 up to June 26/2023

Item	SD	DA	N	A	SA	M	SD
I feel ready and motivated to have children in the near future.	-	26	2	59	13	3.59	.916
I am concerned about the potential health risks to myself and my future children if I become pregnant.	-	22	5	67	6	3.57	.902
I feel confident in my ability to raise children, since I am living with HIV.	-	12	12	72	4	3.68	.737
I have discussed my fertility desire with my partner or spouse.	-	10	13	50	27	3.94	.897
I have been provided with accurate information about the options for safe conception and pregnancy planning.	-	16	14	62	8	3.62	.850
I am not concerned about the potential impact of having children on my HIV treatment and overall health.	-	18	4	68	10	3.70	.943
I do not worry about the social stigma associated with being a parent with HIV.	-	16	12	58	14	3.70	.905
I have not considered adoption or other alternative options for parenthood.	-	20	24	45	11	3.47	.937
I have no experienced discrimination or negative attitudes from others regarding my fertility desire.	-	16	28	45	11	3.51	.893
I feel well-informed and supported in my decision to have or not to have children.	-	11	26	53	10	3.62	.814
Grand Mean	-	167	140	579	114	3.64	.282
Total percentage							72.8%

SD strongly disagree A agree

DA disagree SA strongly agree

N neutral

5.4. Reproductive health-related Knowledge related to fertility desire among people living with HIV/AIDS

In this section, the reproductive health-related knowledge related to fertility desire among people living with HIV/AIDS in the Selected Hospitals ART Clinic of Gurage Zone was assessed. Accordingly, more than of the respondents have good knowledge about the use of contraception to prevent unintended pregnancy with M = 2.97 and SD = .717; however, majority of the respondents do not have adequate knowledge about the different types of contraceptive methods with M = 2.32 and SD = .787; but more than half of the respondents have good knowledge to identify affordable and reliable contraceptive methods with M = 2.91 and SD = .618; unlike this majority of the respondents have poor knowledge about the risk of HIV transmission to my future children; about the importance of counseling on the risks and benefits of having children while living with HIV; about the risk of mother-to-child transmission of HIV; about the risks and benefits of having children while living with HIV; and about safe conception and pregnancy planning with M = 2.36 and SD = .638; M = 2.30 and SD = .584; M = 2.29 and SD = .893; M = 2.31 and SD = .858; M = 2.38 and SD = .953 respectively.

In general, the grand mean and the standard deviation of the eight items were 2.48 and.217, respectively, indicating 49.0% of the respondents have poor knowledge about reproductive health related to fertility desire.

Table 5.4: Respondents Reproductive Health – related Knowledge at ATTAT and WKU Hospital ART clinic, Wolkite from May 26/2023 up to June 26/2023

Item	SD	DA	N	A	SA	M	SD
I have adequate knowledge about the use of contraception to prevent unintended pregnancy.	15	23	15	44	3	2.97	.717
	%	%	%	%	%		
I have adequate knowledge about different contraceptive methods.	5	70	13	12	-	2.32	.787
	%	%	%	%	%		
I have adequate knowledge about affordable and reliable contraceptive methods.	16	24	16	41	3	2.91	.618
	%	%	%	%	%		
I have adequate knowledge about the risk of HIV transmission to my future children.	22	43	14	19	2	2.36	.638
	%	%	%	%	%		
I have adequate knowledge about the importance of counseling on the risks and benefits of having children while living with HIV.	15	49	20	13	3	2.30	.584
	%	%	%	%	%		
I have adequate knowledge about the risk of mother-to-child transmission of HIV.	19	53	12	12	4	2.29	.893
	%	%	%	%	%		
My family has adequate knowledge about the risks and benefits of having children while living with HIV.	16	56	11	15	2	2.31	.858
	%	%	%	%	%		
I have knowledge about safe conception and pregnancy planning.	17	53	10	15	5	2.38	.953
		%	%	%	%		
Grand Mean	125	371	111	171	22	2.48	.217
Total percentage							49.0%

6. Discussion

The availability of ART and the prevention of mother-to-child transmission are great reproductive health issues for people living with HIV. This study assessed the level of fertility desire among people living with HIV/AIDS by exploring their intentions regarding childbearing and their fertility decisions, as well as reproductive health-related knowledge among people living with HIV/AIDS in the Selected Hospitals ART Clinic of Gurage Zone.

This study revealed that all the respondents (100%) were on ART, but the majority of them started before 2013. On the other hand, more than half of the respondents disclosed their serostatus to their partners or families. Moreover, a great majority of the respondents were reactive. In addition, among those reactive to HIV, 90.0% were on ART. Regarding sero status and reactive status, the finding of this result is supported by the finding of [48] that conducted a cross-sectional study on fertility desire and associated factors among people living with HIV at the University of Gondar specialised hospital, Ethiopia, and found out that two-thirds (66.7%) of the participants disclosed their HIV status to their partners or families, and about 79.2% of the partners HIV status was found to be reactive. In general, from the above results, it can be said that most of the respondents are on ART follow-up, the majority of them do not know their CD4 counts, and the majority of the respondents were diagnosed and started ART follow-up before 2013.

Regards to fertility desire among people living with HIV/AIDS and their intentions regarding childbearing and their fertility decisions, the results of the study revealed that more than two third of the respondents are motivated to have children in the near future; majority of the respondents were not in fear of having children in the future; majority of the respondents are in a position to raise children, despite they are living with HIV; majority of the respondents pay much attention for their fertility desire; majority of the respondents have no encountered with the problem of accurate information about the options for safe conception and pregnancy planning; majority of the respondents were not worry about the potential impact of having children on my HIV treatment and overall health; majority of the respondents were not worry about the social stigma associated with being a parent with HIV; more than half of the respondents are confident enough to raise their children by their own capacity; more than half of the respondents have not

experienced discrimination or negative attitudes from others regarding their fertility desire; and nearly two third of the respondents have no shortage of information and support in order to decide to have or not to have children. In general, from these items responses, the result revealed that the fertility desire of PLWHA in the study area was 72.8%. In this regard, the finding of this study in the prevalence of fertility is greater than the study conducted in Gondar [49], which found the overall prevalence of fertility desire among PLWHIV was 44.87%, and it is also greater than the finding of [50], who conducted a study in West Shoa Zone, Oromia Regional State, Ethiopia, and found the prevalence of fertility desire at 58.8% and knowledge of PMTCT in the study area, and also greater than the study conducted in Uganda (59%) [51]. It was also higher than in studies performed in the Wolaita Zone (43%), [52]. But the higher proportion of uneducated individuals in the study conducted with a higher rate of fertility intention (92.3%) was also reported in the Oromia region [53]. A study in the Harari region indicated that 52.9% of women had fertility desires [54].

As to the reproductive Health-related Knowledge among people living with HIV/AIDS in the Selected Hospitals ART Clinic of Gurage Zone, the results of the analysis revealed that more than of the respondents have good knowledge about the use of contraception to prevent unintended pregnancy; majority of the respondents do not have adequate knowledge about the different types of contraceptive methods; more than half of the respondents are to some extent in a position to identify affordable and reliable contraceptive methods; poor knowledge of majority of the respondents about the risk of HIV transmission to my future children; poor knowledge of majority of the respondents about the importance of counseling on the risks and benefits of having children of people living with HIV; majority of the respondents have no adequate knowledge about the risk of mother-to-child transmission of HIV; majority of the respondents have no adequate knowledge about the risks and benefits of having children while living with HIV; and poor knowledge of majority of the respondents about safe conception and pregnancy planning. In general, the poor knowledge of the respondents (M = 2.48 with SD =.217) indicates that about 49.0% of the respondents have poor knowledge about reproductive health knowledge related to fertility desire, implying that to some extent, reproductive health-related knowledge is a very important factor in fertility desire for people living with HIV/AIDS. Neglecting this factor might cause health-related problems as well as affect the person's life and that of his or her children. The finding of this study is greater than the finding of [50] that was conducted in West

Shoa Zone, Oromia Regional State, Ethiopia, and found 30.7% of knowledge about PMTCT in the study area.

7. Limitation of the study

The patient's checkups were scheduled, so we didn't get the targeted sample size.

8. Conclusions and Recommendations

The study revealed that the fertility desire of PLWHA in the study area was 72.8%. On the other hand, about 49.0% of the respondents have poor knowledge about reproductive health related to fertility desire. Therefore, from these results, it can be inferred that the finding of this study has an implication for the health care provider to consider the effects of fertility desire as well as knowledge about reproductive health while discussing the reproductive option, family planning service, and safer conception; providing adequate information about PMTCT of HIV; and assisting them in making informed reproductive decisions to minimize the risk of MTCT of HIV and unplanned pregnancy. Therefore, it is recommended that health care providers better arrange ways to enhance the understanding of fertility desire as well as to acquaint themselves with knowledge about reproductive health-related issues not only among women but also among men living with HIV.in addition Who work with HIV positive peoples in HIV care and treatment units can play a crucial role to provide accurate, nonjudgmental reproductive health information and appropriate counseling that includes safer sex practices and methods to decrease the risk of HIV transmission.

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ANNEX

DATA COLLECTION INSTRUMENTS

Questionnaire for the data collection on the assessment of fertility desire in PLWHA on ART at Attat hospital and WKUSTH ART clinic

Verbal consent form before conducting the interview

Greetings;

Hello, how are you?

My name is _____ I am currently a nursing student at Wolkite University who is now going to conduct survey. I would like to interview you few questions about the fertility desire. The objectives of the study are to assess fertility desire among PLWHA at ART clinic, which will be important to improve the issue above the fertility desires and related counseling and services. Your cooperation for the interview is very helpful in identifying the problem related to the issue. Your name will not be written in the form and I assure you that all information you give will be kept strictly confidential. Your participation is voluntary and you are not obliged to answer any question you don't with to answer. If you are not comfortable with interview, please feel free to stop it any time you like.

Do I have your permission?

If yes, continue to the next

If No, skip to other participants

Interviews Name _____

Signature _____

Data of interview _____

Part I: Socio demographic characteristics and general information

(Make a "✓" mark on the space provided)

1.1 Age. a. 18-29. b. 30-39. c. >40

1.2Sex = a. Male b. Female

1.3Marital status

a. Single b. Divorced c. Divorced d. Widowed

1.4 Educational status

a. Illiterate b. Read & write c. < 8 grade

d. 8-10 grade e. 11-12 grade f. +12 grade

1.5 Occupation

a. Government employee
b. Merchant
c. Farmer
d. Daily laborer
e. Student
f. House wife
j. Other (specify) _____

1.6 Religion

a. Muslim
b. Orthodox
c. Protestant
d. Other (specify) _____

1.7 Family income per month (in birr)

a. < 150
b. 150-300
c. 301-400
d. > 401

1.8 When are you diagnoses to have HIV?

a. < 1 yr. b. 2-3 yr. c. > 3 yr.

1.9 Do you know your CD4 count?

a. Yes b. No

1.10 If yes to Q 1.9 How many?

a. < 200 b. 200-350 c. > 350

1.11 Are you on ART?

a. Yes b. No

1.12 If yes to q 1.11 when have you started?

a. < 1 yr. b. 2-3 yr. c. > 3 yr.

1.13 Do you know sero-status of your spouse?

a. Yes b. No

1.14 If yes to Q 1.13 what is it?

a. Reactive b. Non-reactive

1.15 If reactive to Q 1.14, is he/she on ART?

a. Yes b. No

1.16 If yes to Q 1.15 , when he/she started on ART?

a. < 1 yr. b. 2-3 yr. c. > 3 yr

Part II Fertility desire and knowledge about MTCT of HIV (Make" ✓"mark on the space provided)

Questions					
Choose a number that best expresses you understanding about the statement, 1= Strongly Agree, 2=Agree, 3= Neural, 4=Disagree, 5=Strongly Disagree	1	2	3	4	5
Fertility Desire					
I feel ready and motivated to have children in the near future.					
I do not have concern about the potential health risks to myself and my future children if I become pregnant.					
I feel confident in my ability to raise children, since I am living with HIV.					
I have discussed my fertility desire with my partner or spouse.					
I have been provided with accurate information about the options for safe conception and pregnancy planning.					
I am not concerned about the potential impact of having children on my HIV treatment and overall health.					
I do not worry about the social stigma associated with being a parent with HIV.					
I have not considered adoption or other alternative options for parenthood.					
I have no experienced discrimination or negative attitudes from others regarding my fertility desire.					
I feel well-informed and supported in my decision to have or not to have children.					
Reproductive Health-related Knowledge related to fertility desire					
I have adequate knowledge about the use of contraception to prevent unintended pregnancy.					
I have adequate knowledge about different contraceptive methods.					

I have adequate knowledge about affordable and reliable contraceptive methods.					
I have adequate knowledge about the risk of HIV transmission to my future children.					
I have adequate knowledge about the importance of counseling on the risks and benefits of having children while living with HIV.					
I have adequate knowledge about the risk of mother-to-child transmission of HIV.					
My family has adequate knowledge about the risks and benefits of having children while living with HIV.					
I have knowledge about safe conception and pregnancy planning.					