ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

Factors associated with late disease stage presentation at diagnosis of HIV infection in South Wollo Zone, Amhara Region, Ethiopia.

By: Yassin Mohammed (BSc)

A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF ADDIS ABABA UNIVERSITY FOR THE PARTIAL FULFILMENT OF THE REQUIREMENT OF THE DEGREE OF MASTERS IN PUBLIC HEALTH

Advisor: Alemayehu Mekonnen (MD, MPH)

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ACRONYMS

AIDS	Acquired Immuno Deficiency Syndrome
AOR	Adjusted Odds Ratio
ART	Antiretroviral Therapy
COR	Crude Odds Ratio
CU-ICAP	Columbia University's International Center for AIDS Care and Treatment Programs
FHAPCO	Federal HIV/AIDS Prevention and Control Office
FMOH	Federal Ministry of Health
HIV	Human Immuno Deficiency Virus
KAB	Knowledge, Attitude and Behavior
PITC	Provider- Initiated HIV Testing and Counselling
SPSS	Statistical Package for Social Sciences
TB	Tuberculosis
UNICEF	United Nations Children's Fund
VCT	Voluntary HIV Counseling and Testing
WHO	World Health Organization

ABSTRACT

Background*: Late diagnosis results in delayed treatment, higher medical costs and an increased risk of mortality. However many HIV-infected patients in Africa are often diagnosed at very advanced stages of the disease. This study aims to narrow the information gap present in Ethiopia related to late testing.*

Objective: *To identify factors involved with late presentation for HIV diagnosis within a free HIV program at public health facilities in south Wollo Zone.*

Method: *The study used quantitative study method in the form of facility based cross-sectional survey. The study was conducted at public health facilities which provide HIV care in south Wollo Zone from December 2010 to May 2011. According to single population proportion formula with an additional of 15% non-response rate, the total sample size was 437. To reach this amount of sample size within the data collection time, HIV diagnosed patients who were on ART care and had a CD4 cell count with in three months of their first HIV diagnosis were taken as study subjects. Data on socio-demographic, socio-economic, KAB towards HIV testing and HIV/AIDS, VCT factors, health system related and other factors were collected using pre-tested interviewer guided structured questionnaire. The collected data were entered using EPIINFO 3.5.1 and analyzed using SPSS 16. The impact of the variables on the likelihood of late testing was analyzed using binary logistic regression.*

Results: *Of 437 subjects, 270 (61.8%) were defined as late testers. Males were twice as likely to present late as compared to females ($p=0.005$). Testing for health related reasons showed a significant positive association ($p<0.001$). Drug users were positively associated with late testing. Having more than six sexual partners in life time was significantly associated with lower risks to presenting late. Testing with medical consultation was associated with higher risks of late presentation. Testing during pregnancy follow up lowers the risk of late testing.*

Conclusion: *The study identifies HIV infected population groups at a higher risk of late HIV testing. The risk factors identified to be associated with late testing should be utilized in formulating targeted public health interventions in order to improve early HIV diagnosis.*

Recommendation: *Many integrated efforts should be done to reduce the proportion of late comers for HIV diagnosis. Prospective studies assessing the impact of PITC in various medical settings should be conducted.*

1. BACKGROUND

HIV/AIDS remains a very serious medical concern and continues to be a major global health priority. In 2008, the number of people living with HIV world wide was estimated to be 33.4 million [31.1 million-35.8 million][1]. Among these, 31.3 million [29.2million-33.7 million] were adults, 2.7million [2.4 million-3.0 million] were newly infected people in the year 2008. AIDS-related illnesses remain one of the leading causes of death globally and are projected to continue as a significant global cause of premature mortality in the coming decades[2]. Globally, 1.7 million [1.4 million-2.1 million] adult AIDS related deaths were registered in the year 2008[1].

Sub-Saharan Africa remains the region most heavily affected by HIV worldwide, accounting for over two thirds (67%) of all people living with HIV and for nearly three quarters (72%) of AIDS-related deaths in 2008 [3]. An estimated 1.9 million [1.6 million–2.2 million] people were newly infected with HIV in sub-Saharan Africa in 2008, bringing to 22.4 million [20.8 million–24.1 million] the number of people living with HIV.

The prevalence of HIV among adult population in Ethiopia for 2007 was estimated at 2.1 % (977,394PLHIV) which has a severe impact on the overall health situation in the country[4]. Due to the effects of the HIV pandemic, life expectancy at birth has dropped by seven years and the number of children orphaned due to AIDS was estimated to be 898,350[5].Since the reporting of Ethiopia's first HIV and AIDS cases, its HIV epidemic has evolved into a generalized epidemic, and AIDS is now the leading cause of morbidity and mortality among adults in Ethiopia[6]. In 2007, adult annual AIDS deaths were estimated to be 71,902 and it was projected that 28,073 deaths would be documented by 2010[4].The adult prevalence of HIV in Amhara Region, according to FHAPCO single point estimate was estimated to be 2.7% which is higher than most of the regions in the country.

HIV counseling and testing (HCT) is a key strategic entry point to prevention, treatment, care and support services. This is critically important for individuals and couples to learn about their HIV status and make informed decisions about their future[7].

Immunodeficiency is considered to be advanced with any CD4-cell count below 200/mcl[8]. Early diagnosis of human immunodeficiency virus (HIV) infection has great clinical and public health impact[9]. Early HIV diagnosis and timely administration of antiretroviral therapy can result in not only the reduction of morbidities and mortalities in HIV-infected patients, but also decrease of patients' viral load and risk of HIV transmission in public health aspects[10]. However, excess disease and death continue to plague the HIV infected population[11]. This residual burden is likely multi factorial, but much of it can be attributed to late HIV diagnosis[12].

It appears that little is known of late HIV diagnosis in Ethiopia, a knowledge gap that needs to be addressed. Here, identification of factors associated with late HIV-diagnosis concomitantly with perceived barriers to testing in South Wollo Zone has been explored.

1. LITERATURE REVIEW

2.1 Definition

Late diagnosis of HIV-infection is defined as diagnosis of HIV in a stage, where immunodeficiency is advanced or clinical progression has already occurred or is imminent, or a long period without knowledge of infection and thus without access to care and counseling.

2.2 Prevalence of late diagnosis

According to a study in Gabon, among 401 patients regularly attending internal medicine department in Libreville, 150 patients were interviewed and their median CD4 cell count was found to be 242cells/µL[13]. Forty five percent of the patients had a CD4 count ofbelow200cells/µL which indicates they were late at diagnosis of the infection[13].

In Europe, overall incidence of late presentation of HIV was reported to be 15% to 38% of all HIV cases[14]. When the denominator is the number of AIDS cases, the overall incidence is higher; up to 53%. Around half the French population has had at least one HIV test[15]. But, despite this high level of testing, 40% of people already have AIDS or CD4 cell counts below 200 when the HIV infection was first detected; of the estimated 7000 people newly diagnosed with HIV in France in 2004, 3000 may have advanced disease. In Switzerland, one cohort study reported that 596 (31%) and 201 (10%) of patients had a CD4 cell count of <200 and <50 cells/µL, respectively at the time of their first diagnosis[16]. In UK 34%,in Italy 29%,in Australia 26.7%,in Bulgaria 20%,in Germany 30% and in Spain 38% of the HIV infected population had a CD4 count of <200 at their first HIV diagnosis[14]. And when the denominator is taken as AIDS cases; as high as 53% in Italy, and 50% in Switzerland were reported. In South Korea, one study showed that 37.3% of the study participants were included in the late diagnosis group[17].

In San Francisco among persons diagnosed with AIDS between 2001 and 2002, 39 %(381) were late testers[18], and in Venezuela 41% of patients present for diagnosis at a later disease-stage[19].

2.3 Factors associated with late disease stage presentation at diagnosis of HIV infection

2.3.1 Common and varying characteristics of late diagnosis

Across a variety of studies abroad, the common characteristics of late diagnosis included migrant status, being older, being heterosexual, living in low HIV prevalence areas, and being male; and varying risk factors included fear, stigma, lack of knowledge about health services or risk of infection can all influence an individual's choice to seek or not seek HIV diagnosis[14]. The factors influencing why many Africans delay HIV diagnosis included fear (of dying, of disclosure), stigma, cultural beliefs, social experience, and scepticism surrounding ART[20]. According to a study in Gabon, the major factors that contribute to the delay in HIV diagnosis are denial of the risk of HIV infection by the patient, denial of the possibility of HIV infection by the doctor, asymptomatic period and unspecific symptoms, lack of diagnostic facilities and treatment centers, lack of financial resources to treat the diseases and/or consult the appropriate clinician, stigma from family and society, unawareness of risk for HIV infection, fear and hopelessness, and resorting to faith healers or traditional medicine[13]. Feeling of non-vulnerability to HIV infection also showed an association with late testing in Burkinafaso[21].
A study in France showed the factors associated with diagnosis delay were male sex, infection through heterosexual contacts, originating from sub-Saharan Africa, age older than 35 years, high education and use of alternative medicine in men who have sex with men, and having no income.[22]

2.3.2 Socio-demographic factors

Older age (≥ 40 years) and being male were associated with late presentation for HIV-testing [13, 14, 19, 20, 23-27]. According to studies in Gabon, Venezuela and Spain, lower socio-economic status, having children and lower education level showed a significant positive association with late presentation [13, 19, 25]. Living as couples could make people to feel at no risk for HIV infection[13]. A cross sectional survey of determinants of late disease stage presentation at diagnosis of HIV infection in Venezuela showed that alcohol consumption, drug abuse or condom use were not associated with late diagnosis of HIV[19]. African immigrants in

the UK and France presented at a more advanced stage of disease [28-30]. Black Africans, black Caribbean and Hispanics in the UK and the US were also more likely to be tested because of symptoms or as hospital in-patients [28, 29, 31-33]. According to a study conducted in Australia, among the late diagnosed patients for which information on exposure history was available; around one third were people from high-prevalence countries in sub-Saharan Africa or South East Asia and a further quarter were attributed to heterosexual contact with a partner from a high-prevalence country[12]. An increasing number of such diagnoses was associated with heterosexual contact in a high prevalence country or heterosexual contact with a partner from a high prevalence country[34]. Incidence of AIDS-defining illnesses such as tuberculosis and Cryptococcus was significantly higher among people with HIV/AIDS born in Africa and Asia[35].

2.3.3 Knowledge and risk perception towards HIV and AIDS

Individuals who had never heard of HIV were more likely to be late at diagnosis than those who had (50% vs. 39%)[19]. Africans in the UK may be less likely to present for HIV testing because they do not feel that they are at risk of acquiring HIV[32]. Among the immigrants in UK, one study showed that only 41% of Africans are likely to have an HIV test because of perceived risk compared to 72% of non-Africans. Those that do suspect they are at risk are more likely to wait up to 12 months before getting HIV tests than non-Africans. “Better not to know” is another reason reported by some patients who were aware of their risk[22].

2.3.4 Health system related and cultural factors

Delay in making the diagnosis is sometimes attributable to the health system. Some physicians are reluctant to make and/or announce the diagnosis of a fatal and stigmatized infection or do not consider this diagnosis as plausible [24]. It is estimated that 80% of the population in developing countries visit traditional health practitioners and use traditional treatments. Studies showed use of alternative medicine was statistically associated with a longer diagnostic delay[13]. Although traditional and/or faith healing can provide psychosocial support adapted to the cultural context of the patient, their use can be detrimental by delaying HIV-infection diagnosis[22]. In a study in the United States, 40% of the patients attending conventional medical clinics had recourse to

alternative and/or complementary medicine, with the inappropriate expectation of a cure in 10% of them[36]. In a French study, resorting to alternative medicine was also found to delay HIV diagnosis in men having sex with men[22, 27]. Fear is another factor influencing why many Africans do not seek HIV testing[20]. Two-thirds of Africans in one study reported fear of dying as a major concern[23]. Stigma plays a major role in people delaying testing, notably because HIV/AIDS is still perceived, in light of the African experience of the disease, as a death sentence[23, 37, 38].

3. OBJECTIVES

3.1General objective

To determine the magnitude of late disease stage presentation at diagnosis of HIV infection, and associated risk factors including knowledge, attitude and behavior towards HIV/AIDS and HIV testing among HIV patients in public health facilities of South Wollo zone.

3.2 Specific objectives

1. To determine the magnitude of late disease stage presentation at diagnosis of HIV infection among HIV/AIDS patients in public health facilities of South Wollo Zone.
2. To identify determinants associated with late disease stage presentation at diagnosis of HIV infection among HIV/AIDS patients in public health facilities of South Wollo Zone.
3. To assess knowledge, attitude and behavior of HIV/AIDS patients in public health facilities of South Wollo Zone.

4. METHODS

4.1 Study area and period

The study was conducted in selected public health facilities among those which provide HIV testing and HIV care services in south Wollo Zone from December 2010 to May 2011. South Wollo Zone is one of the 11 zones of the Amhara Regional State subdivided administratively in to 21 Woredas (19 rural Woredas and 2-city administrations).The capital of the zone is Dessie Town, which is situated 400 km and 480km away from the National and regional capitals Addis Ababa and Bahirdar respectively.

According to the national population and housing census of Ethiopia, the projected population of the zone for 2007/2008 was estimated to be 3,036,532. There were 3 public hospitals, 39 health centers, and 270 functioning health posts at the time of the survey.

According to the FHAPCO single point estimate for prevalence of HIV/AIDS in Amhara Region, the Adult HIV prevalence for 2007 was estimated to be 2.7%[4].

The total number of patients who were on ART treatment in Dessie Referral Hospital, Dessie Health Center, and Boru Meda Hospital were 8,279, 2,375, and 1,885 respectively. In Kombolcha and Haik Health centers 3000 and 1000 patients respectively were on ART treatment.

4.2 Study design

The study used quantitative study method in the form of facility based cross-sectional survey.

4.3 Population

Source population**:** Source population was all patients diagnosed with HIV.

Study population**:** Study population was all HIV/AIDS patients who were on ART care at the targeted health facilities.

4.4 Inclusion and exclusion criteria

Inclusion criteria**:**

- ❖ Those who started ART care with in three months of their first positive HIV test, and aged 18 and above years old were included.

Exclusion criteria:

- ❖ Seriously sick individuals were excluded.

Dependent Variable

- Late disease stage presentation at HIV diagnosis.

Independent Variables

- ❖ Demographic, Socio-Economic and Behavioral Variables
  - ➢ Sex, age, religion, marital status, ethnicity
  - ➢ Occupation type, level of education, residence
  - ➢ Income, drug and alcohol use, life time casual partners
  - ➢ Steady partner, time with steady partner, contact with commercial sex workers
- ❖ Variables of Knowledge Attributes
  - ➢ HIV transmission knowledge, HIV test awareness, treatment awareness.
- ❖ HIV testing related variables and barriers
  - ➢ reasons of test, type of tests used, place of test offered
  - ➢ Confidentiality testing site, fear of stigma, logistic constraints
  - ➢ having no signs or symptoms, not wanting to know HIV status

- Variables of Perception of Risk
  - felt at risk of HIV infection, health seeking behavior when felt at risk
- Health system related variables:
  - Trust in the health workers, trust in the quality of the service
  - Estimated time taken from home to nearest health facility with the service

4.5 Sample size determination and sampling procedure

Sample Size

The required sample size for the study was determined using single-population proportion formula with the following assumption.

$$N=z\ (\alpha/_2)^2\ pq/d^2$$

Where $z\ (\alpha/_2)^2 = 1.96$, the value of z in the SND that corresponds to the α level of 0.05.

P=expected proportion of late presenters for HIV diagnoses at the targeted health facilities was 0.45, taken from a similar previous study[13]; and q=1-p

d=0.05, precision/margin of error.

Thus, applying the formula, a sample size of 380 was calculated. Adding 15% for non response rate the final sample size was 437.

4.6 Sampling technique

First, health facilities that render ART care services in South Wollo zone were identified. Secondly, based on case load obtained from the register of these facilities during the previous three months prior to the survey, five health facilities which had larger number of cases were selected purposively; two hospitals (Dessie Referral and Boru Meda) and three health centers (Kombolcha, Dessie and Haik). Thirdly, the calculated sample was proportionally allocated, based on the case load of each health facility. Finally, based on the inclusion criteria, all patients

who started ART care within three months of their first positive HIV test were included in the study until the allocated sample size was attained.

Data collection procedure

The data for the study was collected using pre-tested interviewer guided structured questionnaire which contain Socio-demographic variables, KAB towards HIV testing and HIV/AIDS, VCT factors, and health system related factors. The patients' first CD4 count was collected through record review. The questionnaire was prepared in English and was translated to Amharic and it was checked for its consistency through back translation to English by different individuals. The instrument was adopted from different literatures developed for similar purpose by different authors and tools designed by various organizations.

4.7 Data quality management

To keep the quality of the data, the questionnaire was translated to Amharic and was checked for its consistency through back translation to English by different individuals. And it was tested on 5% of the total sample in a non-study area before the actual data collection process was launched. Accordingly, amendment was made to ensure accuracy and consistency. Four degree level nurses were recruited as supervisors and were assigned in each health facility to monitor the day to day data collection activity together with the principal investigator. Intensive training was given for data collectors and supervisors by the principal investigator. Furthermore, the principal investigator and supervisors gave feedback and correction on daily basis for the data collectors. Before they were re-deployed to the field, completeness, accuracy, and clarity of the collected data was checked carefully. Any error, ambiguity and incompleteness encountered were addressed on the following day before starting the next day activities.

Data collectors

Five diploma level nurses were recruited as data collectors and were assigned in each health facility. And other four degree level nurses were recruited as supervisors and were assigned at each health facility to monitor the day to day data collection activity together with the principal investigator. Three days training to data collectors and supervisors on the objectives of the study and how to interview, how to fill the questionnaire and handle questions asked by clients during interviewing was given by the principal investigator. After selecting the health facilities in which

the study was conducted, the recruited nurses at each targeted facility were assigned as data collectors. The clients were interviewed by the assigned nurse in the facility.

4.8 Operational definition

Late HIV diagnosis/ Late disease stage presentation/Late testing: Diagnosis when immunodeficiency is advanced (CD4<200 cells/µl).

Drug users: Hashish/ Shisha/ Cocaine users.

4.9 Data analysis procedure

The collected data was entered using EPIINFO 3.5.1 and analyzed using SPSS 16. It was checked for its completeness, cleaned and analyzed accordingly. Frequencies were used to describe variables. Odds ratio and chi- square test were used to examine risk and association between dependent and independent variables. A 95% CI and p-value of <0.05 was considered for statistical significance. To assess the effects of each independent variable on the outcome variables, multivariable logistic analysis was carried out.

4.10 Ethical Consideration

Ethical clearance was obtained from IRB of Medical Faculty, Addis Ababa University. Letter of permission was obtained from South Wollo Zonal Health Department and respective health facilities. Verbal consent from study participants was obtained and anonymity and confidential of responses were respected. During the data collection, privacy of the respondents was assured. Participation in this study was based on voluntarily basis. The decision of the respondents not to participate in the study and their right to interrupt the study at any time they wanted was respected. The objective of the study was clearly explained in the consent form. Individual identifiers like names and other personal information were not included in the questionnaire.

4.11 Dissemination of Results

The result of the study will be presented to School of Public Health, College of health sciences, AAU as part of MPH thesis and it will be disseminated to AAU School of public health, Amhara Regional Health Bureau, zonal and district health offices, and to the targeted health facilities. Further attempt will be made to publish it on national or international scientific journals.

5. RESULTS

5.1 Socio-demographic and socio-economic characteristics

A total of 437 interviewed HIV/AIDS patients were included in the analysis. Two-hundred seventy individuals (61.8%) were late testers. Mean age was 32 (± 8years), with the majority (93.6%) of individuals between 18 and 45 years old and a female/male ratio of nearly 2:1. Out of the respondents, 189 (43.2%) were married and living together, 79(18.1%) were divorced, 76 (17.4%) were widowed, 59 (13.5%) were single, and 34(7.8%) were married but not living together. Two hundred sixty five (60.6%) of the study population was Muslim, 148 (33.9%) Orthodox Christian, 15(3.4%) Catholic Christian, and 9(2.1%) were protestant Christians. Majority (95%) of the study population was Amhara and 22 (5%) were others by ethnicity.

Out of the respondents, 111(25.4%) were daily laborers, 96(22.0%) were house wives, 83(19.0%) were farmers, 73(16.7%) were merchants, 44(10.1%) were government employees, 13(3.0%) were students, 11(2.5%) were house maids and 6(1.4%) were commercial sex workers. Regarding educational status, 107(24.5%) of the respondents was unable to read and write, 38 (8.7%) were informally educated, and 292(66.8%) were involved in modern type of education. Among the respondents, 327 (74.8%) lived in urban and 110 (25.2%) lived in rural area. Two-hundred fifty eight (59.0%) of the respondents lived in rented houses and 179 (41.0%) lived in their own houses (Table1).

Table1. Socio-demographic and socio-economic characteristics of study participants in South Wollo Zone, Amhara region, 2011.

Variable	Frequency (n=437)	Percent
Age group		
18-31	242	55.4
32-45	167	38.2
46-59	24	5.5
≥ 60	4	0.9
Mean age ± SD	32±8	
Sex		
Male	153	35.0
Female	284	65.0
Religion		
Orthodox	148	33.9
Muslim	265	60.6
Catholic	15	3.4
Protestant	9	2.1
Ethnicity		
Amhara	415	95.0
Others	22	5.0
Marital status		
Single	59	13.5
Married/living together	189	43.2
Married/ not living together	34	7.8
Divorced	79	18.1
Widowed	76	17.4
Educational status		
Can not read and write	107	24.5
Read and write/ informal	38	8.7
Read and write/ formal	292	66.8
Occupation		
House wife	96	22.0
Merchant	73	16.7
Daily laborer	111	25.4
Student	13	3.0
Government employed	44	10.1
Farmer	83	19.0
House maid	11	2.5
Commercial sex worker	6	1.4
Area of residence		
Urban	327	74.8
Rural	110	25.2
Ownership residence		
Owning	179	41.0
Renting	258	59.0

5.2 Knowledge, barriers to testing and risk perception towards HIV/AIDS and HIV testing

Among the respondents, 197(45.1%) thought HIV/AIDS as a curable disease, 192(43.9%) didn't and 48(11.0%) had no idea. Majority of the interviewees, 431 (98.6%) thought HIV/AIDS as a transmissible disease. Overall knowledge of the interviewees on the mode of transmission and preventive measures of HIV/AIDS was considered as good since they responded two or more of the choices they were given. Four-hundred twenty nine (98.2%) of the respondents knew about the modes of transmission of HIV/AIDS. Of the interviewees, 242(55.4%) knew contact with contaminated blood, 416(95.2%) unprotected sexual intercourse, 371 (84.9%) unsterilized sharp instrument sharing, 191(43.7%) mother to child as a mode of transmission of HIV/AIDS. Four-hundred twenty (96.1%) of the respondents thought HIV/AIDS can be prevented. Majority of the interviewees (78.3%) hadn't felt at risk of HIV infection before diagnosis. Only 21.7 % of the interviewees had felt the risk. The main reasons mentioned for this risk perception were having had unprotected sex (n=66), having had many sexual partners (n= 16), having had an unfaithful partner (n= 17) and having had an HIV positive partner (n=7).

The majority of interviewed people (325/437) knew the existence of HIV test and it was for free. The main sources of information were the media and health workers. Most of the respondents (84.4%) knew the benefits of HIV testing. Three-hundred eighty three (87.6%) of the interviewees knew where to get HIV testing, and 260(59.5%) said hospital, 345(78.9%) health center, 37(8.5%) health post and 93(21.3%) mobile VCT as places HIV testing can be offered. Two-hundred eighty nine (66.1%) of the interviewees didn't believe being seen at health facilities for HIV testing was all right. Most (83.4%) of the respondents believed health workers keep confidential of their clients. Three-hundred twenty three (74.1%) of the interviewees believed their confidential can be kept by their families. Regarding fear of stigma and discrimination, 219(50.1%) didn't fear any stigma and discrimination by being tested HIV positive. When the respondents asked how they felt abut HIV/AIDS after the advent of ART drugs, 212(48.5%) said it was less serious than it used to be, 325(74.4%) said it was more important for people to know their HIV status, and 73(16.7%) said it was a controllable disease (Table2).

Table2. Knowledge, risk perception and barriers to HIV testing among study population of South Wollo Zone, Amhara region, 2011.

Variable	Frequency (n=437)	Percent
HIV/AIDS can be cured		
Yes	197	45.1
No	192	43.9
Don't know	48	11.0
HIV/AIDS is transmissible		
Yes	431	98.6
No	1	0.2
Don't know	5	1.1
Mode of HIV- transmission		
Contact with contaminated blood	242	55.4
Unprotected sexual intercourse	416	95.2
Unsterilized sharp instrument sharing	371	84.9
Mother to child transmission	191	43.7
HIV/AIDS is preventable		
Yes	420	96.1
No	7	1.6
Don't know	10	2.3

HIV/AIDS Prevention mechanisms		
Sexual abstinence	259	59.3
Remain faithful	262	60.0
Consistent use of condoms	365	83.5
Avoiding common share of sharp instruments	292	66.8
Perceived risk of HIV infection		
Yes	95	21.7
No	342	78.3
Reasons to felt risk		
Having unprotected sexual intercourse	371	84.9
Having many sexual partners	16	3.7
Having an unfaithful partner	17	3.9
Having an HIV positive partner	7	1.6
Awareness of HIV test		
Not aware of existence	62	14.2
Aware of existence, but not aware it was for free	50	11.4
Aware of existence and that it was for free	325	74.4
Source of information		
Family	45	10.3
Friends	92	21.1
School teacher	23	5.3
Health workers	255	58.4
Mass media	232	53.1
Don't know	5	1.1
Knowledge- benefit of HIV testing		
Yes	369	84.4
No	68	15.6

Table2. Continued…		
Knowledge- HIV testing areas		
Yes	369	84.4
No	68	15.6
Knowledge-Testing sites		
Hospital	260	59.5
Health center	345	78.9
Health post	37	8.5
Mobile VCT	93	21.3
Belief –being seen at health facilities alright		
Yes	148	33.9
No	289	66.1
Belief- Health workers keep confidentiality		
Yes	373	85.4
No	64	14.6
Belief- families keep confidentiality		
Yes	323	74.1
No	114	25.9
Fear of stigma and discrimination		
Yes	219	50.1
No	218	49.9
Attitude towards HIV/AIDS after the advent of ART drugs		
HIV is less serious than it used to be	212	48.5
It is important for people to know their HIV status	325	74.4
HIV/AIDS is a controllable disease	73	16.7

5.3 HIV testing history

Among the interviewed patients, 187 (42.8%) had health complaints at the time of their HIV diagnosis. And their health problems were fever persist for 1 month (n=77), oral candidiasis (n=28), unexplained weight loss (n=42), diarrhea (n=20), Pruritic popular eruption (n=57) and herpes zoster (n=36). Voluntary screening campaign (n=141), risk perception (n=266), medical consultation (n=73), pregnancy follow up (n=25), and availability of ART (n=7) were their reasons to undergone HIV testing. Only 8.7% of the respondents had history of HIV test refusal. Regarding first HIV testing site, 232 (53.1%) indicated health center and 155 (35.5%) indicated hospital as their first testing site. The reasons for preferring the indicated sites were, near to home (53.3%), attractive environment (37.3%), good technical competence (11.2%), treat with respect and dignity (5.3%), confidential (13.3%) and privacy secured (6.4%). The HIV status of spouse /sexual partner of the respondents were positive (37.5%), negative (13.3%), no partner or spouse (11.4%), and unknown (37.8%). Four-hundred eighteen (95.7%) and 97.5% of the respondents had been given pre-test counseling and post-test counseling at the time of their diagnosis respectively. The distance between home and VCT site took less than thirty minutes for 45.5% of the respondents, thirty minutes up to two hours for 30.7% of the respondents and more than two hours in 23.8% of the respondents (Table3).

Table3.Factors related to HIV testing history among respondents of South Wollo Zone, Amhara region, 2011.

Variables	Frequency (n=437)	Percent
Having health complaints		
Yes	187	42.8
No	250	57.2
HIV/AIDS related symptoms		
Oral candidiasis	28	6.4
Fever persist for one month	77	17.6
Unexplained weight loss	42	9.6
Diarrhea persist for one month	20	4.0
Pruritic popular eruption	57	13.0
Herpes zoster	36	8.2
Reasons for testing		
Voluntary screening campaign	30	6.9
Feeling at risk	141	32.3
Having sickness/symptoms	266	60.9
With medical consultations	73	16.7
During pregnancy follow up	25	5.7
Availability of ART	7	1.6
First testing site		
Hospital	155	35.5
Health center	232	53.1
Non-health care settings	15	3.4
Mobile VCT site	35	8.0
Reasons for preferring the site		
Near to home	233	53.3
Attractive environment	163	37.3
Good technical competence	49	11.2
Treat with respect and dignity	23	5.3
Confidential	58	13.3
Privacy secured	28	6.4
Having had history of HIV test refusal		
Yes	38	8.7
No	399	91.3
HIV status of sexual partner/spouse		
Positive	164	37.5
Negative	58	13.3
No partner/ spouse	50	11.4
Do not know	165	37.8
Distance from home to VCT site		
<30 minutes	199	45.5
30minutes-2hours	134	30.7
>2 hours	104	23.8

5.4 Behavioral factors

Majority of the interviewees, 92.4% (n=404) were not drug users. Among the 7.6% (n=33) drug users, 97.0% (n=32) of them used Shisha, and only one person used hashish. Regarding chat chewing, 278(63.6%) of the respondents never chewed, 12(2.7%) tried once or twice, 122(27.9%) chewed occasionally and 25(5.7%) chewed daily. Of the interviewees, 67.3% (n=294) never drunk alcohol, 26.5% (n=116) were social drinkers, and 6.2% (n=27) were heavy alcohol users. Three-hundred eighty five (88.1%) of the respondents never smoked cigarettes, 7(1.6%) tried once or twice, 21(4.8%) smoked occasionally, and 24(5.5%) smoked cigarettes daily. Of the respondents, 240(54.9%) had one sexual partner, 46(10.5) had two, 41(9.4%) had more than three, and 110(25.2%) hadn't had any sexual partner at the time of their HIV diagnosis. Two-hundred ninety (66.4%) of the respondents had one sexual partner, 86(19.7%) had four up to six, 38(8.7%) had above six sexual partners in their life time. Among male respondents, 67 of them had history of sex with commercial sex workers. Of the interviewees, 233(53.4%) had steady partner. Fifty (11.4%) of the study subjects had a duration of less than two years, 80(18.3%) between two years and ten years, and 204(46.7%) more than ten years with a steady partner (Table4).

Table4. Behavioral factors among study population of South Wollo Zone, Amhara region, 2011.

Variable	Frequency (n=437)	Percent
Drug usage		
Yes	33	7.6
No	404	92.4
Type of drugs		
Shisha	9	2.1
Hashish	1	0.2
Chat chewing		
Never chewed	278	63.6
Once or twice	12	2.7
Occasionally	122	27.9
Daily	25	5.7
Alcohol consumption		
Heavy	27	6.2
Moderate	116	26.5
None	294	67.3
Cigarette smoking		
Never smoked	385	88.1
Once or twice	7	1.6
Occasionally	21	4.8
Daily	24	5.5

Table4 Continued…		
Sexual partners/at diagnosis		
One	240	54.9
Two	46	10.5
≥3	41	9.4
None	110	25.2
Life time sexual partners		
≤3	290	66.4
4-6	86	19.7
≥6	38	8.7
Having sex with commercial sex workers		
Yes	67	15.3
No	98	22.4
Having steady partner		
Yes	233	53.4
No	204	46.7
Time with steady partner (in months)		
<24	50	11.4
24-120	80	18.3
>120	108	24.7

5.5 Health system related variables

Above half (n=272) of the respondents said they had health problems during the year prior to their HIV diagnosis. Of the interviewees, 58.3% (n=254) indicated that they had visited other health facilities for health problems before the time of their diagnosis. Almost all of the respondents, except one, indicated had good experience with the service provided in the health care delivery system. When the interviewees directly asked how much had they trusted health workers to put their health above all other concerns, 78.5% (n=343) said completely, 19.2% (n=84) said limited, and 2.3% (n=10) said no trust at all. 50.1% (n=219) of the interviewees lived in a distance took less than 30 minutes from the nearest health facility (Table5).

Table5. Health system related factors among study population of South Wollo Zone, Amhara region, 2011.

Variable	Frequency (n=437)	Percent
Health problems prior to HIV diagnosis		
Yes	272	62.2
No	165	37.8
Other health facility visit for problems prior to diagnosis		
Yes	254	41.9
No	183	58.3
Previous experience with health care delivery system		
Good	426	97.5
Bad	11	2.5
Trust in health workers		
Completely	343	78.5
Limited	84	19.2
No trust	10	2.3
Distance from home to the nearest health facility		
<30 minutes	219	50.1
30minutes-2 hours	127	29.1
> 2 hours	91	20.8

5.6 Risk factors for late HIV diagnosis

Socio-demographic and socio-economic factors didn't show statistically significant differences, except for sex which indicated that men were 1.6 times (95%CI: 1.04-2.39) the odds of late HIV diagnosis compared to women.

Late presentation was negatively associated with felt at risk of HIV infection. Those who had felt at risk of HIV infection were more likely to be early at diagnosis than those who didn't [OR, 0.62; 95%CI, 0.39-0.95]. Having unprotected sex to consider themselves to be at risk for HIV infection decreased the likelihood of late presentation [OR, 0.53; 95%CI, 0.31-0.89]. Having heard about HIV from health workers was positively associated with late presentation while no association was found for awareness of HIV test. Fear for stigma and discrimination, and other barriers to HIV testing didn't show an association with late HIV testing.

Almost all of the reasons for testing showed association with late HIV diagnosis. Testing for health related reasons increased the likelihood of being late three times ($p<0.001$), those who indicated voluntary screening campaign for their testing had come early [OR, O.39; 95%CI, 0.18-0.82].Testing due to perceived risk showed negative association with late HIV diagnosis [OR, 0.62; 95%CI, 0.41-0.93]. Among the HIV related symptoms, fever persists for one month and unexplained weight loss showed association. Those who had fever persist for one month diagnosed late [OR, 2.13; 95%CI, 1.22-3.73], and those who had unexplained weight loss were positively associated with late HIV diagnosis [OR, 2.11; 95%CI, 1.01-4.42], while no association was found for the rest of the symptoms.

Drug usage increased the likelihood of being late [OR, 2.4; 95%CI, 1.03-5.75]. Heavy alcohol drinkers had diagnosed late [OR, 2.78; 95%CI, 1.03-7.57]. Those who had one sexual partner at the time of their diagnosis came earlier [OR, 0.61, 95%CI, 0.38-0.99]. Late diagnosis had a negative association with having above six sexual partners in life time [OR, 0.28; 95%CI, 0.09-0.91].

Late HIV diagnosis was associated with having had health problems prior to diagnosis. Those who had health problems prior to their HIV diagnosis came late for HIV testing [OR, 2.27; 95%CI, 1.52-3.38]. Visiting other health facilities for other health problems before the time of

diagnosis showed positive association with late HIV diagnosis [OR, 1.95; 95%CI, 1.32-2.89]. Among the interviewees, those who had limited trust on health workers came early [OR, 0.25; 95%CI, 0.06-0.99]. Previous experience with health care delivery system and distance from health facility didn't show an association with late HIV diagnosis (Table6).

Table6. Comparison of odds of variables among late presenters and early presenters to HIV testing in South Wollo Zone, Amhara region, 2011.

Variables	Late presentation to HIV diagnosis		COR (95%CI)
	Yes	No	
Age group			
18-31	145	97	0.49 (0.05-4.86)
32-45	107	60	0.59 (0.06-5.84)
46-59	15	9	0.56 (0.05-6.18)
≥60	3	1	1
Sex			
Male	105	48	**1.58 (1.04-2.39)**
Female	165	119	1
Perceived risk of HIV infection			
Yes	50	45	**0.62 (0.39-0.98)**
No	220	122	1
Reasons to felt risk			
Having unprotected sex	32	34	**0.53 (0.31-0.89)**
Having many sexual partners	10	6	1.03 (0.37-2.89)
Having an unfaithful partner	11	6	1.14 (0.41-3.14)
Having an HIV positive partner	4	3	1
Source of information			
Family	33	12	1.80 (0.90-3.59)
Friends	50	42	0.68 (0.43-1.08)
School teacher	17	6	1.80 (0.70-4.67)
Health workers	169	86	**1.58 (1.07-2.33)**
Media	141	91	0.91 (0.62-1.34)
Don't know	2	3	1
Fear for stigma and discrimination			
Yes	134	85	0.95 (0.65-1.40)
No	136	82	1
Having health complaints			
Yes	132	53	**2.05 (1.37-3.08)**
No	137	113	1
HIV/AIDS related symptoms			
Oral candidiasis	21	7	0.52 (0.22-1.25)
Fever persist for one month	58	19	**2.13 (1.22-3.73)**
Unexplained weight loss	32	10	**2.11 (1.01-4.42)**
Diarrhea persist for one month	13	7	0.87 (0.34-2.21)
Pruritic popular eruption	41	16	0.59 (0.32-1.09)
Herpes zoster			1
Reasons for testing			
Voluntary screening campaign	12	18	**0.39 (0.18-0.82)**
Feeling at risk	76	65	**0.62 (0.41-0.93)**
Having sickness/symptoms	194	72	**3.37 (2.25-5.05)**
With medical consultations	54	19	**1.95 (1.11-3.42)**
During pregnancy follow up	7	18	**0.22 (0.09-0.54)**
Availability of ART	5	2	1

Table6 Continued…			
Drug usage			
Yes	26	7	**2.44 (1.03-5.75)**
No	244	160	1
Alcohol consumption			
Heavy	22	5	**2.79 (1.03-7.57)**
Moderate	68	48	0.90 (0.58-1.39)
None	180	114	1
Sexual partners/at diagnosis			
1	141	99	**0.61 (0.38-0.99)**
2	28	18	0.67 (0.33-1.37)
≥ 3	24	17	0.61 (0.29-1.27)
None	77	33	1
Sexual partners/ in life time			
≤ 3	181	109	0.39 (0.13-1.19)
4-6	47	39	0.31 (0.24-1.11)
>6	25	13	**0.28 (0.09-0.91)**
None	17	6	1
Health problems prior to HIV diagnosis			
Yes	188	84	**2.27 (1.52-3.38)**
No	82	83	1
Other health facility visit for problems prior to HIV diagnosis			
Yes	174	80	**1.95 (1.32-2.89)**
No	96	86	1
Trust in health workers			
Completely	216	127	0.91 (0.56-1.48)
Limited	51	33	**0.25 (0.06-0.99)**
No trust	3	7	1

5.7 Predicting factors of late HIV diagnosis

In the final logistic regression model, male gender showed a significant positive association for HIV testing [AOR, 2.12; 95% CI, 1.25- 3.59].Testing for health related reasons increased the likelihood of being late three times ($p<0.001$). Testing with medical consultation showed a significant positive association with late diagnosis [AOR, 2.33; 95%CI, 1.17- 4.61]. Drug users had almost four times the odds of presenting late compared to non users. Those who had more than six sexual partners in their life time were diagnosed early [AOR, 0.22; 95%CI, 0.05- 0.88]. And testing during pregnancy follow up decreases the likelihood of having had a CD4 cell count of <200cells/µl at diagnosis [AOR, 0.29; 95%CI, 0.09-0.94] (Table7).

Table7. Predicting factors of late HIV diagnosis among study population in South Wollo Zone, Amhara region, 2011.

Variable	Late HIV diagnosis		COR (95%CI)	AOR (95%CI)
	Yes	No		
Sex				
Male	105	48	1.58 (1.04- 2.39)	**2.12 (1.25- 3.59)**
Female	165	119	1	1
Reasons for testing				
Voluntary screening campaign	12	18	0.39 (0.18- 0.82)	0.80 (0.30- 2.13)
Felt at risk of HIV infection	76	65	0.62 (0.41- 0.93)	1.27 (0.71- 2.25)
Having sickness/ symptoms	194	72	3.37 (2.25- 5.05)	**3.22 (1.80- 5.79)**
With medical consultation	54	19	1.95 (1.11- 3.42)	**2.33 (1.17- 4.61)**
During pregnancy follow up	7	18	0.22 (0.09- 0.54)	**0.29 (0.09- 0.94)**
Availability of ART	5	2	1	1
Drug usage				
Yes	26	7	2.44 (1.03- 5.75)	**3.86 (1.44- 10.36)**
No	244	160	1	1
Sexual partners/ life time				
Three and below	181	109	0.14 (0.33- 3.72)	0.13 (0.20- 2.54)
Four up to six	47	39	0.39 (0.13- 1.19)	0.44 (0.12- 1.66)
Six and above	25	13	0.28 (0.09- 0.91)	**0.22 (0.05- 0.88)**
None	17	6	1	1

6. DISCUSSION

Although Ethiopia has a National Human Immunodeficiency Virus (HIV) program offering free diagnosis and treatment, 61.8% of HIV patients in South Wollo zone, Amhara region present late for diagnosis with an initial CD4 counts below 200cells/µl.

Since it is difficult to determine the moment of infection, CD4 cell count <200cells/µl at diagnosis or with in three months of diagnosis have been used to define late testing. The case definition was chosen because all of the interviewed patients had an initial CD4 cell count up to at least three months after HIV diagnosis. This definition was used in many studies [11, 13-15, 17, 22, 25] across world wide.

The proportion of late diagnosis found in this study is higher compared with reports of other countries that use the same definition for late diagnosis. According to a review study in Europe called Late diagnosis of HIV in Europe: definitional and public health challenges, the overall incidence of late presentation of HIV diagnosis has been reported between 15% to 38% in studies that use a CD4 count below 200 cells/µl[14]. In Gabon 45% of the patients had a CD4 cell count below 200 cells/µl[13], 31% in Texas[39], 37.3% in South Korea[17], 40% in Venezuela [19], 49% in NC, USA [40].

This large figure (61.8%) may be attributed to low perceived risk of HIV infection in the area (21.7%), because a study in UK showed that Africans living in the UK were less likely (41%Vs 72%) to receive HIV testing because they don't feel that they are at risk of acquiring HIV[41]. Further more, Perceived risk of HIV infection was associated with late testing in the bivariable analysis in this study; thereby, those who had felt at risk of HIV infection had been diagnosed earlier (p=0.039).The ready availability of effective anti-retroviral medications and their free access may also play a role by providing a sense of security, thereby reducing the urgency with which they seek HIV testing[24].

It appears that little is known of late diagnosis in Ethiopia, a knowledge gap that needs to be addressed. Using a cross-sectional survey, this study has identified factors involved with late presentation for HIV diagnosis in South Wollo Zone, Amhara region, Ethiopia.

In accordance with other studies examining HIV-testing behavior and late presentation, it has been found that male sex [12-14, 16-19, 22, 30, 36], testing for medical reasons [23, 24, 35, 38],

perceived risk of HIV-infection due to having had many sexual partners prior to HIV testing [14, 19, 20, 22, 25, 32, 34, 36] showed an association with late diagnosis, and testing during pregnancy follow up decreases the likelihood of women presenting late to diagnosis [12, 16, 22].

Delayed diagnosis has been related with age in most studies. While some find older age influencing late presentation [8, 11, 25, 38], others find younger individuals more at risk of a late diagnosis[15, 23]. However, this study was unable to find a correlation between age and HIV testing.

In this study, men had almost double as likely to present late as women. This pattern was found in a large western study, which report that men were more likely to present late, in the UK[41], France[22], Spain[14], Italy[20], the united states [39] and Venezuela [19]. And in contrast with a study in Sweden which showed males were less likely to present late[16]. The lower proportion of females being late presenters can be attributed to a higher uptake of voluntary counseling and testing services by the females as part of routine health care services during pregnancy.

Testing due to illness was strongly associated with late testing [OR, 3.22; 95%CI, 1.80- 5.80]. This finding was in line with a study in South Korea[17] that indicated the proportion of individuals with a late diagnosis was higher in individuals tested due to health related reasons, in Durham, USA, the same pattern was found[40]. According to a study in Australia[12] testing was usually motivated by a serious health crisis. The majority (65%) of late testers in US tested because of illness [39]. Another study in US also described that most patients were diagnosed after they had developed symptoms of HIV disease, but by then their immune system had already experienced permanent damage[27]. Similarly, 73 % of late testers in this study population were tested due to illness. Most diseases, such as TB compromise the immune system. This could be the reason for the sick patients for having had CD4 count of below 200 cell/µl at the time of their diagnosis. Testing with medical consultation was also independently associated with late testing. This finding strengthens the above finding, testing due to illness.

Drug users were positively associated with late diagnosis (p=0.007). This is similar to the findings in France [22], UK [28] and Switzerland [16] which indicated that intravenous drug users (IDU) were more likely to be late presenters. And in contrast with the findings in San Francisco [18]which showed late testing was less likely among IDU. This may be due to the fact

that intoxication decreases the intellectual ability of a person, as a result that their habit of utilization of health facilities might be less.

Having had more than six sexual partners in life time prior to HIV diagnosis in this study independently showed a negative association with late testing. This can be interpreted by using perceived risk of HIV infection. When the interviewees directly asked whether they had felt at risk of HIV infection before their first HIV diagnosis, those who said yes was associated with late testing in the bivariable analysis even though it failed to show an association in the final model. So, those who had many sexual partners felt themselves at risk of HIV infection more than those who had lower number of sexual partners. This may be the reason for the less likelihood to present late for HIV diagnosis of the one who had had many sexual partners.

Testing during pregnancy follow up independently associated with late testing. Those tested during their ANC follow up were less likely to have a CD4 cell count less than 200 cells/µl. This indicated antenatal testing was routinely offered in the area.

This study has also a limitation. This limitation refers to recall bias as most questions related to the time before or at diagnosis. However, it was tried to minimize these by proper training of interviewers and by ascertaining that the interviewees' answers referred to the appropriate time before or at diagnosis.

7. CONCLUSION

This study shows that even in the frame of free HIV control programs, efforts must still be directed to offer PITC as part of routine prevention activities by health professionals and on the availability of the services offered by the HIV program. Moreover, one of the policy statements in the guideline for HIV counseling and testing in Ethiopia said PICT shall be promoted as part of standard clinical management and care in all health facilities[7]. But, only 47% of clients who come to health facilities were counseled and tested in 2008[42]. Although Ethiopia offers free diagnosis and treatment as part of its National HIV program, an important proportion of individuals present late for HIV diagnosis in South Wollo Zone, Amhara region. Male, being tested due to illness, being tested with medical consultation and drug usage were the factors involved with late HIV diagnosis in this study. This study has given indications for areas of interest that should be explored further using more in-depth qualitative studies in order to determine what role the different components play in HIV testing behaviors. Moreover, the identification of specific factors associated with delay in HIV diagnosis; men, testing because of illness, testing with medical consultation and drug usage will be useful in the development of targeted public health interventions in increasing the likelihood of early diagnosis, and therefore, of the prognosis of people living with HIV/AIDS in South Wollo Zone and elsewhere.

8. RECOMMENDATION

- The prevalence of late testing found in this study is too large compared to many other countries including Gabon. This indicates many integrated efforts should be done to reduce this figure.
- Prospective studies assessing the impact of PITC in various medical settings should be conducted.

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ANNEXES

ANNEX I- QUESTIONNAIRE –ENGLISH VERSION

ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

STRUCTURED QUESTIONNAIRE FOR INTERVIEW

INTRODUCTION AND INFORMED CONSENT FORM FOR THE CLIENT

Hello, my name is _____ and I am from the research team of college of health sciences and school of public health, Addis Ababa University. This is a study to be conducted with objective of identifying factors associated with late disease stage presentation at diagnosis of HIV infection among people newly diagnosed with HIV in selected Public Health Facilities of South Wollo Zone. As the study is directly related to newly diagnosed HIV patients, you are one of the individuals who are selected to participate in this study and provide the information required from you. The information enables the government and other stakeholders to develop programs to improve HIV testing. Be sure that your name will not be recorded and any other identifying information will be kept confidential in the study. Your participation is on voluntary basis and you have the right not to participate fully or partially. Your decision about not to participate is respected and will not affect the health care you would normally receive. You may stop the interview at any time. Do you have any questions on what we talked about so far?

Now, do you agree to participate in the survey?

Yes ☐ No ☐ if no, respect the decision and thank her/him .if yes continue the interview.

Questionnaire code Number_____

Interviewer's name _____ signature _____ date_____

Supervisor's name _____ signature _____ date_____

Date of interview____/_____/_____

Instruction: Encircle the response of the respondents for multiple choice questions and for short answers write on the space provided

Section I : Socio -demographic and Socio-economic Information			
SN	**Questions**	**Responses Category**	**Skip to**
Q101	Sex of the respondent	1. Male 2. Female	
Q102	Age of the respondent	_____years old	
Q103	Religion	1. Orthodox 2. Muslim 3. Catholic 4. Protestant 5. Other (specify)_____	
Q104	Ethnicity	1. Amhara 2. Afar 3. Tigre 4. Oromo 5. Other specify _____	
Q105	Marital status	1. Single 2. Married and living together 3. Married but not living together 4. Divorced 5. Widowed	
Q106	Are you pregnant? (For female respondents only)	1. yes 2. No	
Q107	How many children do you have?	_____	
Q108	What is your educational status?	1. Cannot Read and write 2. Read and write (informal) 3. Literate	→ Q110
Q109	What is the highest level of education you have achieved? (fill the grade)	_____	

Q110	What is your occupation?	1. Housewife 2. Private employed 3. Daily laborer 4. Student 5. Government employed 6. Farmer 7. Housemaid 8. Other (specify) _____	
Q111	Place of residence?	1. Urban 2. Rural	
Q112	How much is the annual income of your household? (fill in amount)	1. No income 2. Cash (in Birr)_____ 3. Maize_____ 4. Teff_____ 5. Wheat_____ 6. Others (specify)_____ _____ 88. I don't know	
Q113	How many persons are living in your household?	_____	
Q114	With whom do you live with?	1. Living alone 2. Family 3. Husband /Wife 4. Others specify _____	
Q115	Do you own the house you reside?	1. Yes 2. No	
Q116	What would be the most likely source of your HIV infection?	1. sexual intercourse 2. contact with Contaminated blood 3. Blood transfusion 4. Sharing of sharpen objects 5. Other _____ 88. I don't know	

Q117	Is transportation available from your area of residence to health facility?	1. Yes → Q.201 2. No	
Q118	What are the reasons for which transportation is not available to the health facility?	1.Roads are often in poor condition or non-existent 2. It is expensive 3.Transportation is unavailable 4. Other specify_____ _____	

SECTION II : KNOWLEDGE, BELIEF,ATTITUDES AND RISK PERCEPTION TOWARDS HIV/AIDS AND HIV TESTING

Q201	Do you think HIV/AIDS is curable?	1.Yes 2. No 88. I don't know	
Q202	Do you think HIV/ AIDS is transmissible disease?	1.Yes 2. No 88. I do not know → Q204	
Q203	Do you know the mode of transmission of HIV/AIDs?	1. Yes 2. No → Q204	
Q204	If yes to Q203, what are they?(More than one possible answers)	1. Contaminated blood 2. Unprotected sexual intercourse 3. Unsterilized sharp instrument sharing 4. Mother to child 5. Other _____	
Q205	Do you think HIV/AIDS is preventable disease?	1.Yes 2. No 88. I do not know → Q207	
Q206	If yes to Q205, what are they? (More than one possible answer)	1. Sexual abstinence 2. Remain faithful 3. Consistent use of condoms 4. Avoiding common share of sharp instruments 5. Others specify _____	

Q207	Did you consider yourself to be at risk for HIV?	1. Yes 2. No →	Q209
Q208	What were the reasons to consider your self to be at risk of HIV infection?	1. Having unprotected sex 2. Having many sexual partners 3. Having an unfaithful partner 4. Having an HIV-positive partner 5. Other specify_____ ……	
Q209	Are you aware of HIV test which is for free?	1.Not aware of existence 2.Aware of existence, but not aware it was free 3.Aware of existence and that it was for free	
Q210	Are you aware of HIV care which is for free?	1.Not aware of existence → 2.Aware of existence, but not aware it was for free 3.Aware of existence and that it was for free	Q212
Q211	From whom or where, have you got the information about HIV test and HIV care? (More than one answer is possible)	1. Family 2. Friends 3. School teacher 4. Health workers/institution 5. Mass media (Radio, TV…) 7. Other specify _____ 88. I don't know	
Q212	Did you know the benefits of HIV testing?	1. Yes 2. No	

Q213	Once you have heard about HIV care, are you aware of the benefit of the medical care?	1. Yes 2. No → Q.215	
Q214	What are the benefits of HIV care? (More than one answer is possible)	1. Reduced illness/ill health 2. Regained health 3. Increased levels of energy 4. Larger involvement in work activities again. 5. Others specify _____	
Q215	Did you know where to get HIV testing?	1. Yes 2. No	
Q216	If yes, where is it? (More than one answer is possible)	1. Hospital 2. Health centre 3. Health post 4. Mobile VCT site 5. Others(specify)_____	
Q217	Did you believe the information you have had about HIV/AIDS was adequate before diagnosed with HIV?	1. Yes 2. No 88. I do not know	
Q218	Did you believe being seen at the hospital for HIV testing was all right?	1. Yes 2. No	
Q219	Did you believe the information you have had about HIV testing was adequate before diagnosed with HIV?	1. Yes 2. No	
Q220	Did you believe health workers keep confidential of their clients?	1. Yes 2. No 88. I do not know	
Q221	Did you think your families keep confidentiality?	1. Yes 2. No	
Q. 222	Did you fear any stigma and discrimination by being tested HIV Positive?	1. Yes 2. No	

Q. 223	**How do you feel about HIV/AIDS after the advent of ART drugs?** 1. Now that ART is available, HIV is less serious than it used to be. 2. Now that ART is available, it is more important for people to know their HIV status. 3. Now that ART is available, HIV/AIDS is a controllable disease.		
SECTIONIII : VOLUNTARY HIV COUNSELLING AND TESTING FACTORS			
Q301	Do you have any complaints regarding your health?	1.Yes 2.No → Q303	
Q302	Which of the following are your problems?	1. Oral candidiasis 2. Fever persist for 1 month 3. Unexplained weight loss 4. Diarrhoea persist for 1month 5. Pruritic popular eruption 6. Herpes zoster 7. Other specify_____	
Q303	Did you undergo the HIV testing based on your request or were you requested to have the test?	1. Based on my request 2. I was requested	
Q304	What was your reason for being tested? (More than one answer is possible)	1. Voluntary screening campaign 2. Feeling at risk 3. Having sickness/ symptoms 4. With medical consultations 5. During pregnancy follow up 6. The test was done without consent 7. Availability of ART 8. Others (specify) _____	
Q305	Have you ever refused HIV testing?	1. Yes 2. No → Q307	

Q306	If yes, what were some of the reasons you think for refusal of voluntary HIV counseling and testing?	1.Inability to deal with stress of being positive 2 Fear of rejection by the community 3. Uncertainty about partner 4. Non respect of confidentiality 5 .Other(specify) _____ 88.I don't know	
Q307	Where did you go for testing for the first time?	1. Hospital 2. Health center 3.Non-health care settings (Prison, blood donation center, etc) 4.Mobile VCT site 5. Others(specify) _____	
Q308	Why did you prefer to be tested in the selected testing site?	1. Near to home 2. Attractive environment 3. Good technical competence 4. Treat with respect and dignity 5. Confidential 6. Privacy secured 7. Other (specify) _____	
Q309	Did you have HIV testing before your first positive HIV diagnosis?	1. Yes 2. No →	Q311
Q310	If yes, for how many times did you have HIV testing?	_____	
Q311	How many negative HIV test results did you have before you tested positive for the first time?	_____	

Q312	What is the HIV status of your spouse/sexual partner?	1.Positive 2.Negative 3.No partner/ spouse 99. unknown	
Q313	Did you receive pretest counseling at the moment of your HIV diagnosis?	1. Yes 2. No 88.I don't know	
Q314	Did you receive post-test counseling at the moment of your HIV diagnosis?	1. Yes 2. No 88. I don't know	
Q315	Are you satisfied with the HIV counseling you received at the moment of your HIV diagnosis?	1. Yes 2. No 88. I don't know	
Q316	Were you happy by your counselor at the moment of your HIV diagnosis?	1. Yes 2. No 88. I don't know	
Q317	Which method of testing did you get?	1.VCT 2.PIHCT 3.Other (specify) _____ 88. I don't know	
Q318	Have you talked with your partner or other person before having HIV counseling and testing?	1. Yes 2. No	
Q319	After you got your first positive HIV test result, how long was it until you come here for HIV care?	_____	
Q320	How much time does it take from home to the VCT center?	1. Less than 30 minute 2. 30 min-2 hours 3. > 2 hours	
Q321	Do you have HIV positive members in the household? How many are they?	1. No HIV + members 2._____	
Q322	Did your HIV positive member of the household start HIV care before you come here?	1. Yes 2. No	

SECTION IV: BEHAVIOURAL FACTORS			
Q401	Have you ever used drugs? (Drugs for medical purposes or treatment of an illness not considered)	1. Yes 2. No	
Q402	Have you ever chewed chat?	1. I have never chewed 2. I have tried chat once or twice 3. Occasionally 4. I chew chat daily	
Q403	Which of the following if any, have you tried?	1. Shisha/Gaya 2. Hashish 3. Cocaine 4. Others specify_____	
Q404	Have you ever drunk alcohol like Tella, Areki, Tej, Beer etc?	1. I have never drunk 2. I have tried alcohol once or twice 3. I drink alcohol occasionally 4. I drink alcohol daily	
Q405	What was your alcohol consumption in the previous year before you come here?	1. Heavy 2. Moderate 99. None	
Q406	Have you ever smoked cigarettes?	1. I have never smoked 2. I have tried cigarettes once or twice 3. I smoke cigarettes occasionally 4. I smoke cigarettes daily	
Q407	How many sexual partners do you have?	1. One 3. Two 4.Three & above 99. none	
Q408	How many sexual partners have you had in your lifetime?	1. ≤3 2. 4–6 3. ≥6 99. none	
Q409	Have you had sexual intercourse with commercial sex workers?	1. Yes 2. No	

Q410	Have you had steady partner?	1. Yes 2. No →	Q500
Q411	How long have you been with your steady partner ?(months)	1. <24 2. 25–120 3. >120	
SECTION V: HEALTH CARE SETTING VARIABLES			
Q501	Did you have health problems during the year prior to your HIV diagnosis?	1. Yes 2. No	
Q502	Did you see a health worker for your health problem during the year prior to your HIV diagnosis?	1. Yes 2. No	
Q503	Have you ever visited any health facility for other health problem prior to the current health problem to receive medical care?	1.Yes 2.No →	Q505
Q504	What was your prior experience with the health care delivery system related to the previous services provided?	1.Good → 2.Bad	Q506
Q505	What were the reasons related to bad experiences of health care delivery system?	1. Did not believe in health facilities. 2. Treatment did not do any thing 3. Costly 4. Conditions worsen in the health facilities. 5. Other specify_____	
Q506	How much did you trust the health workers to offer you high quality HIV testing?	1. High Trust /Completely 2. Limited 3. No trust/Not at all	
Q507	How much did you trust the health workers to put your health above all other concerns?	1. High Trust /Completely 2. Limited 3. No Trust /Not at all	
Q508	How much time does it take from your house to the nearest health facility?	1. Less than 30 minutes 2. 30min-2 hours 3. > 2 hours	

This is the end of the interview. Thank you very much!!

Data to be collected from record

Initial CD4 count _____

Duration between first positive HIV test and initial CD4count_____

Annex II – Questionnaire (Amharic Version)

የአሚኮ ማጠይቅ ቅፅ

አዲስ አበባ ዩኒቨርስቲ

የጠፍ ሳይንሶች ኮሌጅ

የሕረትሰብ ጠፍ ት/ቤት

የመግቢያ እና የፈቃደኝነት ማጠየቂያ ቅፅ

ጠፍ ይስጥልኝ፡፡ ስሜ..... ይባላል፡፡ ከአዲስ አበባ ዩኒቨርስቲ የጠፍ ሳይንሶች ኮሌጅ የሕረተሰብ ጠፍ ት/ቤት የጥናት ቡድን ነው የመጣሁት፡፡ የዚህ ጥናት አላማ ከቫይረሱ ጋር የሚኖሩ ሰዎች ብዙውን ጊዜ ቫይረሱ በደማቸው ወስጥ መኖሩን የሚወቁት እጅግ ዘግይተው በመሆኑ ለብዙ ችግሮች ይዳረጋሉ፡፡ ሥለሆነም ይህ እንዳይሆን ዘንድ ቀደም ብለው ምርመራውን እንዳያደርጉ እንቅፋት የሆኑባቸውን ነገሮች በመመቅ ችግሮቹ እልባት ያገኙ ዘንድ ለሚሳከታቸው አካላት ማሳወቅ ነው፡፡ ስለሆነም በዚህ የጠፍ ተቋም የሚሳኩ ቫይረሱ በደማቸው ወስጥ እንደሚኝ በቅርቡ በባለሙያዎች የተረጋገጠ ህመማን እናነጋግራለን፡፡ እርስዎም ጥናቱ ከሚሳከታቸው እና ይህንን አስመልክቶ ለሚደረገው ቃለ ማጠይቅ መጀመ ይሰጡ ዘንድ ከሚከበቁ ሰዎች አንዱ ነዎት፡፡ በዚህ ጥናት ላይ የሚያደርጉት ተሳትፎ መሉ በመሉ በእርስዎ ፈቃደኝነት ላይ የተመሳረተ ነው፡፡ የዚህ ጥናት ተሳታፊ ለመሆን ፍላጎቱ ባይኖርዎት ፍላጎትዎት የተከበረ ይሆናል፡፡ እንዲሁም ይህ ምርጫዎት ከጠፍ ተቋሙ በሚገኙት ሜዥቸውም አይነት አገልግለት ላይ አሉታዊ ተጽእኖ እንደሚፈጥር እርግጠኛ ይሁኑ፡፡ በአሻዎት ጊዜ ቃለ ማጠይቁን ማቆምም ይችላሉ፡፡ በዚህ ጥናት ላይ ፈጽሞ ስምዎት አያስፈልግም፡፡ እንዲሁም እርስዎን የሚመለከቱ ሚስጥራዊ ጉዳዮች የተጠበቁ ይሆናሉ፡፡ እርስዎ ለነዚህ ማጠይቆች የሚሰጧቸው መላሾች ለዚህ ጥናት ስኬት ብቻ ሳይሆን እጅግ አስፈላጊ የሆኑ ሚጃዎችን ለመንግስት እና ለሚመለከታቸው አካላት በሙለቅ እነኝህ አካላት ለችግሩ መፍትሄ ይፈልጉ ዘንድ ከፍተኛ ሜ የሚጭውቱ መሆኑን ልገልጽልዎት እወዳለሁ፡፡

ከላይ በተገለጸልዎት መሰረት በዚህ ጥናት ለመሳተፍ ፈቃደኛ ነዎት?

አዎ ☐ አይደለሁም ☐

የማጠይቁ መላያ ቁጥር _____

ቃለማጠይቁ የተካሄደበት ቀን _____

የተጠየቂው ስም _____ ፊርማ _____

የተቆጣጣሪው ስም _____ ፊርማ _____

መመሪያ፡ – የተጠየቂዎቹን ምላሽ ከተሰጡት አማራጮች ወስጥ አከብበ /ቢ እንዲሁም ለአጭር ሚልሶች በተሰጠው ክፍት ቦታ ላይ ፃፍ/ፊ

ክፍል አንድ ሥነ ሕዝባዊ ፣ ሚህበራዊና ኢኮኖሚያዊ ሚጃዎች			
ተ.ቁ	**ማጠይቅ**	**ሚልስ**	**ወደ ጥያቄ .....ይሻገሩ**
ጥ.101	የተጠየቂው ፆታ	1. ወንድ 2. ሴት	
ጥ.102	የተጠየቂው እድሜ	_____	
ጥ.103	የተጠየቂው ሀይማኖት	1. ኦርቶዶክስ 2. ኢስላም 3. ካቶሊክ 4. ፕሮቴስታንት 5. ሌላ _____	
ጥ.104	የተጠየቂው ብሄር	1. አሚራ 2. አፋር 3. ትግሬ 4. ኦሮሞ 5. ሌላ _____	
ጥ.105	የተጠየቂው የጋብቻ ሀኔታ	1. ያላገባ/ች 2. ያገባ/ች እና አንድ ላይ በመኖር ላይ ያሉ 3. ያገባ/ች ነገር ግን አንድ ላይ የሚኖሩ 4. የተፋታ/ች 5. ባለቤቱ/ቷ የሞተችበት/ባት	
ጥ.106	ነፍሰ – ጡኖት? (ለሴት ተጠየቂ ብቻ)	1. አዎ 2. አይደለሀም	
ጥ.107	ስንት ልጆች አሉት?	_____	
ጥ.108	የትምህርት ደረጃዎት?	1. ማንበብና መፃፍ የሚችል 2. መነረተ – ትምህርት 3. የተሚ →	ጥ.110
ጥ.109	የደረሰብት የትምህርት ደረጃ?	_____	

ጥ.110	ስራዎት?	1. የቤት እመቤት 2. የግል ተቀጣሪ 3. ወዛደር 4. ተማሪ 5. የመንግስት ሰራተኛ 6. ገበሬ 7. የቤት ሰራተኛ 8. ሌላ _____	
ጥ.111	የመኖሪያ ስፍራ?	1. ከተማ 2. ገጠር	
ጥ.112	የቤተሰቡ አመታዊ ገቢ ምን ያህል ነው?	1. ምንም ገቢ የለንም 2. በጥሬ ገንዘብ ብር _____ 3. በበቆሎ (ኩንታል)_____ 4. በጤፍ (ኩንታል)_____ 5. በስንዴ (ኩንታል)_____ 6. ሌላ _____ 88. አላወቀውም	
ጥ.113	ስንት ቤተሰቦችን ያስተዳድራሉ?	_____	
ጥ.114	የሚኖሩት ከማን ጋር ነው?	1. ብቻዬን 2. ከዘመድ ጋር 3. ከባል/ከሚስት ጋር 4. ሌላ _____	
ጥ.115	የሚኖሩበት ቤት የራስዎት ነው?	1. አዎ 2. አይደለም	
ጥ.116	ኤች አይቪ/ኤድስ የያዘኝ በምንድነው ብለው ያስባሉ?	1. በግብረስጋ ግንኙነት 2. በቫይረሱ ከተበከለ ደም ጋር ንክኪ ስለነበረኝ 3. የደም ልገሳ በተደረገልኝ ወቅት 4. ስለታማ ነገሮችን በጋራ በማጠቃሜ 5. ሌላ _____ 88. አላወቅም	
ጥ.117	ወደ ጠፍ ተቋሙ መሄጃ የትራንስፖርት አገልግሎት ይገኛል ?	1. አዎ ይገኛል ⟶ 2. አይገኝም	ጥ.201
ጥ.118	የሚገኝ ከሆነ ምክንያቶቹ ምንድን ናቸው?	1. መንገድ ባለመኖሩ ወይንም መንገዶቹ በማለላሸታቸው 2. ትራንስፖርት ውድ በመሆኑ 3. የትራንስፖርት አገልግሎት ባለመኖሩ 4. ሌላ _____	

ክፍል ሀለት ስለ ኤች አይቪ/ ኤድስ እና የኤች አይቪ የምርመራ አገልግሎት ያላቸውን ግንዛቤ ፣አመለካከት እንዲሁም ተጋላጭነት አስመልክቶ የተዘጋጁ ጥያቄዎች			
ጥ.201	ኤች አይቪ/ ኤድስ ይድናል ብለው ያስባሉ?	1. አዎ 2. አይደለም 88. አላወቅም	
ጥ.202	ኤች አይቪ/ ኤድስ ተላላፊ ነው ብለው ያስባሉ?	1. አዎ 2. አላስብም 88. አላወቅም	ጥ.205
ጥ.203	የኤች አይቪ/ ኤድስ ቀመሎላለፊያ መንገዶችን ያውቃሉ?	1. አዎ 2. አላወቅም	ጥ.205
ጥ.204	ለጥያቄ 203 አዎ ካሉ መተላለፊያ መንገዶቹ ይዘርዝሩ	1. በቫይረሱ በተበከለ ደም 2. ልቅ በሆነ የግብረ ስጋ ግንኙነት 3. ስለታም ነገሮችን በጋራ በመጠቀም 4. ከእናት ወደ ልጅ 5. ሌላ _____	
ጥ.205	ኤች አይቪ/ኤድስን መከላከል ይቻላል ብለው ያስባሉ?	1. አዎ 2. አላስብም 88. አላወቅም	ጥ.207
ጥ.206	ለ ጥያቄ 205 መልስዎት አዎ ከሆነ መከላከያ መንገዶቹን ይጥቀሱልኝ?	1. መታቀብ 2. መወሰን 3. ኮንዶምን በአግባቡ በመጠቀም 4. ስለታማ ነገሮተን በጋራ በአለመጠቀም 5. ሌላ _____	
ጥ.207	ለ ኤች አይቪ/ኤድስ ተጋላጭ ነኝ ብለው ያስቡ ነበር?	1. አዎ 2. አላስብም ነበር	ጥ.209
ጥ.208	ለኤች አይቪ/ኤድስ ተጋላጭ ነኝ ብለው እንዲያስቡ ያደረገዎት ምክንያቶች ምን	1. ልቅ የሆነ የግበረ ስጋ ግንኙነት ፈፅሜ ስለነበር 2. ብዙ የሴት/ የወንድ ጓደኞች ስለነበሩኝ	

	ነበሩ ?	3. ባለቤቴን ስለማእምና ት/ነው 4. ባለቤቴ ከቫይረሱ ጋር ስለምትኖር/ሜኖር	
ጥ.209	ስለ ኤች አይቪ ምርመራ ያውቃሉ፣ በነፃ መሆኑንስ?	1. በጭራሽ አላወቅም 2. መኖሩን አውቃለሁ ነገር ግን በነፃ መሆኑን አላወቅም ነበር 3. መኖሩንም ሆነ በነፃ መሆኑን አወቅ ነበር	
ጥ.210	ለኤች አይቪ/ኤድስ ህመሙን በነፃ ስለሚፈረግ የሕክምና ክትትልስ ያወቁ ነበር?	1. በጭራሽ አላወቅም ⟶ 2. መኖሩን አውቃለሁ ነገር ግን በነፃ መሆኑን አላወቅም ነበር 3. መኖሩንም ሆነ በነፃ መሆኑን አወቅ ነበር	ጥ.212
ጥ.211	መረጃዎቹን ከየት ነው ያገኙአቸው?	1. ከቤተሰብ 2. ከጎደኞቼ 3. ከመምህሬ 4. ከጠፍ ባለሞያዎች 5. ከብዙሀን መገናኛ ዘይዎች /ሬድዮ፣ቲቪ ወዘተ 6. ሌላ _____ 88. አላወቅም	
ጥ.212	የኤች አይቪ ምርመራ የሞረግ ጥቅሞችን ያወቁ ነበር?	1. አዎ 88. አላወቅም ነበር	
ጥ.213	የኤች አይቪ ኤድስ ህክምና ክትትል የሞረግ ጥቅሞችንስ ያወቁ ነበር?	1. አዎ 88. አላወቅም ነበር ⟶	ጥ.215
ጥ.214	ጥቅሞችን የሞያወቁ ከሆነ በዘረዝሩልኝ	1. ህመምን ይቀንሳል 2. ጠፍ እንዲመላስ ያደርጋል 3. አቅምን ይጨምራል 4. ከእንደገና ወደ ስራ ለመመለስ ይረዳል 5. ሌላ _____	
ጥ.215	የኤች አይቪ ምረመራ አገልግሎት የት መገኘት እንደሞቹሉ ያወቁ ነበር?	1. አዎ 2. አላወቅም ነበር	
ጥ.216	ለጥያቄ 215 አዎ ከሆነ መልስዎት አገልግሎቱን የት መገኘት እንደሞቹል ቢጠቅሱልኝ ?	1. ሆስፒታል 2. ጠፍ ጣቢያ 3. ጠፍ ኪላ 4. የተንቀሳቃሽ የምርመራ አገልግሎት 5. ሌላ _____	
ጥ.217	ቫይረሱ በደምዎት ወስጥ እንደሞር ከመመቆ በፊት ስለ ኤች አይቪ ኤድስ የነበሮት መረጃ በቂ ነው ብለው ያምኑ ነበር?	1. አዎ 2. አላምንም 88. አላወቅም	
ጥ.218	ኤች አይቪ ምርመራ ለሞድረግ በጠፍ ተቋማት ወስጥ መታየት ችግር አለው ብለው ያስቡ ነበር?	1. አዎ 2. አላስብም ነበር	

ጥ.219	ቫይረሱ በደሞት ወስጥ እንደሚኖር ካማወቆት በፊት ስለ ኤች አይቪ የምርመራ አገልግሎተ በቂ ዕወቀት ነበረኝ ብለው ያስቡ ነበር?	1. አዎ 2. አላስብም ነበር	
ጥ.220	የጤና ባለሞያዎች የበሽተኞችን ሚስጥር ይጠብቃሉ ብለው ያስቡ ነበር?	1. አዎ 2. አላስብም	
ጥ.221	ቤተሰቦት ሚስጥሮትን እንደሚጠበቅሎት ያስቡ ነበር?	1. አዎ 2. አላስብም ነበር	
ጥ.222	ተመርምሬ ቫይረሱ በደሜ ወስጥ ቢገኝ አድሎና መገለል ይደርስብኛል ብለው ይፈሩ ነበር?	1. አዎ 2. አልፈራም ነበር	
ጥ.223	ከፀረ ኤች አይቪ መድሀኒት መምጣት በኋላ ስለ ኤች አይቪ ኤድስ ያሎት አመለካከት ምን ይመስላል	1. አሁን የፀረ ኤች አይቪ ኤድስ መድሀኒቶች ስላሉ ኤች አይቪ/ኤድስ የድሮወን ያህል አስፈሪ አይደለም 2. አሁን የፀረ ኤች አይቪ መድሀኒቶች ስላሉ ሰወች እራሳቸወን ማወቃቸው እጅግ አስፈላጊ ነው 3. አሁን የፀረ ኤች አይቪ /ኤድስ መድሀኒቶች በመኖራቸው ኤች.አይቪ ኤድስ በቁጥጥር ስር ወሏል	
ክፍል ሶስት በፈቃደኝነት ላይ የተመሰረተ የኤች አይቪ የምክርና የምርመራ አገልግሎትን የሚመለከቱ ጥያቄዎች			
ጥ.301	የሚስመዎት የህመም ስሜቶች አሉ?	1. አዎ 2. የሉም ⟶	ጥ.303
ጥ.302	ካሉ ከሚከተሉት ወስጥ የትኞቹ ናቸው ?	1. ምላሴ ከወትሮው በተለየ መልኩ ነጭ ሆኗል 2. ከአንድ ወር የበለጠው ትኩሳት አለኝ 3. የተጋነነ የክብደት መቀነስ 4. ከአንድ ወር የበለጠ ተቅማጥ 5. እከክ 6. የልጅ ጥላ 7. ሌላ ___________	

ጥ.303	የኤች አይቪ ምርመራ ያደረጉት በራስዎት ተነሳሽነት ነው?	1. አዎ 2. አይደለም	
ጥ.304	የመመርመሪያ ምክንይት ምን ነበር? (ከአንድ በላይ መልስ ይቻላል)	1. አካባቢያችን ድረስ አገልግሎቱን ሊሰጡ ባለሙያዎች ስለሞኩ 2. እራሴን በማበራዛሬ 3. በመታመሜ 4. በባለሙያ አገልግሎቱን እንዳገኝ በመመከሬ 5. የእርግዝና ክትትል ሳደርግ 6. ያለፍቃዴ በተደረገልኝ ምርመራ 7. የፀረ ኤች አይቪ መዳህኒቶች መሞር 8. ሌላ	
ጥ.305	የኤች አይቪ ምርመራ እንዲያደርጉ በባለሙያ ተጠይቀው ሳይቀበሉ ቀርተው ያውቃሉ?	1. አዎ 2. አላወቅም ⟶	ጥ.307
ጥ.306	አዎ ካሉ ላለመቀበልዎት ምክንያቶት ምን ነበር?	1. ቫይረሱ በደሜ ወስጥ ቢገኝ ጫቅቱን አልችለውም ብዬ ስለፈራሁ 2. በህብረተሰቡ መገለል ይደርስብኛል ብዬ ስለፈራሁ 3. ባለቤቴን እጠራጠራት/ው ስለነበር 4. ቫይረሱ በደሜ ወስጥ ቢገኝ ሚስጥሩ ይወጣል ብዬ ስለፈራሁ 5. ሌላ 88.አላወቅም	
ጥ.307	ለመጀመሪያ ጊዜ ምርመራ ያደረጉት የት ነው?	1. በሆስፒታል 2. በጠፍ ጣቢያ 3. ከጠፍ ተቋማት ውጭ (በእስር ቤት፣ በደም መለገሻ ሜከላት ወዘተ) 4. በተንቀሳቃሽ የምርመራ አገልግሎት 5. ሌላ	
ጥ.308	ለምን በጠቀሱት ቦታ መመርመርን ፈለጉ?	1. ቅርብ በመሆኑ 2. አመቺ በመሆኑ 3. በባለሙያዎቹ ብቃት ስለምተማመን 4. ባለሙያዎቹ ለታካሚዎቹ ባላቸው አቀራረብ 5. ሚስጥሬ ይጠበቃል ብዬ በማሰቤ 6. ገለልተኛ ስፍራ ላይ በመገኘቱ 7. ሌላ _____	
ጥ.309	ቫይረሱ በደምዎት ወስጥ መገኘቱን ካረጋገጠበት ምርመራ በፊት የኤች አይቪ ምርመራ አድርገው ያውቃሉ?	1. አዎ 2. አላወቅም ⟶	ጥ.311

ጥ.310	አዎ ካሉ ስንት ጊዜ ተሞክሮው ያወቃሉ?	_____	
ጥ.311	ስንት ነፃ የኤች አይቪ ውጠቶች ነበርዎት?	_____	
ጥ.312	የባለቤትዎት /የሴት /የወንድ ጓደኛዎት የኤች አይቪ ውጠት ምንድን ነው?	1. ቫይረሱ በደሚ/ሙውስጥ የሚኝ 2. ነፃ 3. ባለቤት/ጓደኛ የለኝም 99. አላወቅም	
ጥ.313	የኤች አይቪ ምርመራ ባደረጉበት ወቅት የቅድመ ምርመራ የምክር አገልግሎት ተሰጥቶዎታል?	1. አዎ 2. አልተሰጠኝም 88. አላስታውስም	
ጥ.314	የኤች አይቪ ምርመራ ባደረጉበት ወቅት የድህረ ምርመራ የምክር አገልግሎት አግኝተዋል?	1. አዎ 2. አላገኘሁም 88. አላስታውስም	
ጥ.315	ምርመራውን ባደረጉበት ወቅት በተሰጥዎት የምክር አገልግሎት ረክተዋል?	1. አዎ 2. አልረካሁም 88. አላስታውስም	
ጥ.316	የምክር አገልግሎቱን በሰጡዎት ባለሞያ ደስተኛ ነበሩ?	1. አዎ 2. አልነበርኩም 88. አላስታውስም	
ጥ.317	የትኛውን የምርመራ አገልግሎት ነበር ያገኙት?	1. በራስ ተነሳሽነት የተደረገ ምርመራ 2. በባለሞያ ምክር 3. ሌላ 88. አላስታውስም	
ጥ.318	የኤች አይቪ ምርመራ ከሞድረግዎት በፊት ከባለቤትዎት ወይም ከሌላ ሰው ጋር ተወያይተወበት ነበር?	1. አዎ 2. አልተወያየሁም	
ጥ.319	ቫይረሱ በደምዎት ወስጥ እንደሚኝ ካወቁበት ጊዜ ጀምሮ እስካሁን ድረስ ምን ያህል ጊዜ ሆነዎት?	_____	
ጥ.320	ከሞኖሩበት ቦታ ምርመራ እስከሚደጥበት ቦታ ለመድረስ ምን ያህል ጊዜ ይፈጃል?	1. ከ30 ደቂቃ በታች 2. ከ30 ደቂቃ እስከ 2ሰዓት 3. ከ2 ሰዓት በላይ	
ጥ.321	ከቤተሰብዎት ወስጥ ከቫይረሱ ጋር የሞኖሩ አሉ?ስንት ናቸው?	1. _____ 99. የሉም	

ጥ.322	እርስዎ እዚህ ከማማጣትዎት በፊት በዚህ ጠፍ ተቋም የኤች አይቪ /ኤድስ የህክምና አገልግሎት የጀሚ የቤተሰብ አባል አለዎት?	1. አዎ 99. የለም	
ክፍል አራት ባህሪን የሚመለከቱ ጥያቄዎች			
ጥ.401	አደንዛዥ ዕፅ ተጠቅመው ያውቃሉ?	1. አዎ 2. አላወቅም	
ጥ.402	ጫት ቅመው ያውቃሉ ?	1. አላወቅም 2. አንዴ ወይም ሁለቴ 3. አልፎ አልፎ 4. በየቀኑ	
ጥ.403	የአደንዛዥ ዕፅ ተጠቅመው ካወቁ ከሚከተሉት ወስጥ የትኞቹ ይገኝበታል ?	1. ሽሻ 2. አሸሸ 3. ኩኪይን 4. ሌላ_____	
ጥ.404	የልኮል ማጡኦችን ተጠቅመው ያውቃሉ? (አረቄ ፣ጠላ፣ በራ ወዘተ)	1. በጭራሽ 2. አንዴ ወይም ሁለቴ 3. አልፎ አልፎ 4. ሁል ጊዜ	
ጥ.405	እዚህ ከማማጣቶት አንድ አመት ቀደም ብሎ የነበሮት የአልኮል አወሳሰድ ምን ያህል ነበር ?	1. በጣም ጠጪ 2. መካከለኛ 99. ምንም	
ጥ.406	ሲጃራ አጫስው ያውቃሉ?	1. በፍፀም 2. አንዴ ወይም ሁለቴ 3. አልፎ አልፎ 4. ሁል ጊዜ	
ጥ.407	ስንት የሴት/ የወንድ ጓደኛ አለዎት ?	1. አንድ 2. ሁለት 3. ሶስትና ከዚያ በላይ 99. ምንም	
ጥ.408	በህይወት ዘመኖት ስንት የሴት /የወንድ ጓደኛ ነበሮት ?	1. $\underline{<}$ 3 2. 4 – 6 3. $\underline{>}$ 6 99. ምንም	
ጥ.409	ከሴተኛ አዳሪዎች ጋር ግንኙነ ት ፈፅመው ያውቃሉ ?	1. አዎ 2. አላወቅም	

ጥ.410	ቋሚ ጓደኛ አለዎት?	1. አዎ 2. የለኝም →	ጥ.500
ጥ.411	ከቋሚ ጓደኛዎት ጋር ምን ያህል ጊዜ ሆነዎት (በወር)?	1. < 24 2. 25 – 120 3. > 120	
ክፍል አምስት በጠፍ ተቋማት የሚሰጡ አገልግሎቶችን የሚመለከቱ ጥያቄዎች			
ጥ.501	የኤች አይቪ ምርመራ ከማድረጉት አንድ አመት ቀደም ብሎ የጠፍ ችግሮች ነበርዎት ?	1. አዎ 2. አልነበሩኝም →	ጥ.503
ጥ.502	የኤች አይቪ ምርመራ ከማድረጉት አንድ አመት ቀደም ብለው ለነበሩበት የጠፍ ችግሮች ባለሞያ አማክረው ያውቃሉ ?	1. አዎ 2. አላወቅም	
ጥ.503	እዚህ ከመምጣቶት በፊት የጠፍ ችግሮትን አስመልክተው የህክምና አገልግሎት ለማግኘት ወደ ሌለ የጠፍ ተቋም ሄደው ያውቃሉ?	1. አዎ 2. አላወቅም →	ጥ.505
ጥ.504	በጠፍ ተቋማት ወስጥ የሚሰጡ አገልግሎቶችን አስመልክቶ የነበርዎት አማላካከት ምን ነበር?	1. ጥሩ → 2. መጥፎ	ጥ.506
ጥ.505	በጠፍ ተቋማት ወስጥ የሚሰጡ አገልግሎቶችን አስመልክቶ መጥፎ አማላካከት እንዲኖርዎት ያደረጉ ምክንያቶች ምንድን ናቸው ?	1. በጠፍ ተቋማት እምነት ስለሌለኝ 2. ህክምና ሞድረግ ፋይዳ ስለሌለው 3. ወድ በመሆኑ 4. በጠፍ ተቋማት ወስጥ በሽታ የሚባባስ በመሆኑ 5. ሌላ_____	
ጥ.506	ከጠፍ ባለሞያዎች ጥራት ያለው አገልግሎት አገኛለሁ የሚል ምን ያህል እምነት ነበርዎት?	1. ሞሉ በሞሉ /ከፍተኛ የሆነ 2. በተወሰነ ሞልኩ 3. በፍፀም አላምንም	
ጥ.507	የጠፍ ባለሞያዎች ስለ እኔ ጠፍ ከምንም በላይ ይጨቁቁልኛል ብለው ምን ያህል ያምናሉ ?	1. ሞሉ በሞሉ 2. በተወሰነ ሞልኩ 3. በፍፀም አላምንም	
ጥ.508	ከቤትዎት በቅርብ እስከሚኘው የጠፍ ተቋም ድረስ ያለው እርቀት ምን ያህል ጊዜ ይፈጃል?	1. < 30 ደቂቃ 2. ከ30 ደቂቃ – 2 ሰዓት 3. > 2 ሰዓት	

ለቃለ ሞጠይቁ ስለተባበሩን በጣም እናሞግናለን !!

Declaration

I, the undersigned, declare that this thesis is my original work, has never been presented in this or other university, and that all resources and materials used herein, have been duly acknowledge.

Name:

Signature_____

Place: Addis Ababa University, Ethiopia

Date of submission:

This thesis has been submitted for examination with my approval as a University advisor.

Name:

Signature_____