ADDIS ABABA UNIVERSITY, MEDICAL FACULTY
SCHOOL OF PUBLIC HEALTH

Assessment of Acceptability of provider Initiated HIV Counseling and Testing among Tuberculosis Patients on DOTS in Selected areas in Gamo Gofa Zone, SNNPR

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Approved By the Examining Board

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Abstract

Background: HIV counseling and testing is fundamental to both HIV/AIDS prevention and treatment. Patients need to know their sero-status to benefit from available care and treatment options. Therefore, multi-focused counseling and testing strategies need to be instituted in order to reach risk groups. Provider Initiated HIV Counseling and Testing (PIHCT) is getting implemented in most facilities utilizing Directly Observed Treatment Short course (DOTS) to increase uptake of HCT as most the important opportunity. Different factors might affect PIHCT service uptake which demand timely assessment.

Objective*:* To assess acceptability of PIHCT and factors influencing its uptake among tuberculosis patients in selected areas in Gamo Gofa zone.

Methods: Institution-based, cross-sectional study was conducted from January to April 2009, on 440 patients attending Tuberculosis clinics from four weredas in Gamo Gofa zone. Study site were selected based on their annual TB case load and evidence of HCT service presence. Regression model was used to assess factors associated with acceptability of PIHCT.

Results: 373 (84.8%) patients were initiated for HIV counseling and testing by their TB treatment supervisor and of these 336 (89.8%) had under gone HIV testing and the overall acceptability was found to be 76.4%. knowledge and attitude variables like willingness to disclose status of TB to others (AOR= 3.9; 95% CI= 1.9-8.2), believing healthy looking person could be infected with HIV (AOR 8.8, 95%CI=2.5-31.7), agreed that everyone should be tested (AOR=7.1; 95% CI=2.3-22.1), and disagreeing PIHCT has negative influence (AOR=4.9, 95%CI=1.4-16.5) were each associated with higher odds of having tested for HIV following their supervisor initiation.

Conclusion an d R ecommendation: The relatively high acceptability of PIHCT in this study shows fertile ground for the control, prevention and treatment of both HIV/AIDS and TB. The programme needs to be strengthened and TB supervisors should keep their efforts to promote PIHCT.

List of Abbreviation

AIDS	Acquired immuno deficiency syndrome
AMH	Arbaminch Hospital
AOR	Adjusted odds ratio
ARV	Antiretroviral
BSS	Behavioral Surveillance Survey
CI	Confidence interval
DHS	Demographic health survey
DOTS	Directly Observed Treatment
EFY	Ethiopian fiscal year
EPHA	Ethiopian Public Health Association
FHAPCO	Federal HIV/AIDS control office
FMOH	Federal Ministry of Health
HBC	High Burden Countries
HC	Health center
HCT	HIV counseling and testing
HIV	Human Immunodeficiency Virus
MF	Medical Faculty
M.TB	Mycobacterium Tuberculosis
NTP	National Tuberculosis Program
OI	Opportunistic Infections
PIHCT	Provider-initiated HIV Counseling and Testing
PLWHA	People Living With HIV/AIDS
SNNPR	South Nations nationalities people regional state
SPH	School of public health
SSA	Sub Saharan African
TB	Tuberculosis
UNAIDS	Joint United Nations Program on HIV/AIDS
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

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1. Introduction

1.1 Background.

The human immunodeficiency virus (HIV) pandemic presents a massive challenge to the control of tuberculosis (TB) at all levels [1]. Developments have been seen in recent years in global efforts to address the acquired immune deficiency syndrome (AIDS) epidemic, including increased access to effective treatment and prevention programmes. However, the number of people living with HIV (PLWHA) continues to grow, as does the number of deaths due to AIDS in the past. A total of 33.2 million people were living with HIV in 2007 (6.3 million less than in 2006). This figure includes the estimated 2.5 million adults and children, who were newly infected with HIV in 2007. There were a total of 2.1 million deaths due to HIV/AIDS in 2007. In many regions of the world, new HIV infections are heavily concentrated among young people (15–24 years of age) [2].

Sub-Saharan Africa continues to bear the highest share of the global HIV epidemic. Two thirds (68%) of all adults and children with HIV globally live in sub-Saharan Africa. Almost three quarters (76%) of all adult and child deaths due to AIDS in 2007 occurred in sub-Saharan Africa: that is about 1.6 million of the global total of 2.1 million deaths. Among those who are newly infected with HIV 1.43 million (68%) reside in sub-Saharan Africa [2]

According to the adjusted single point HIV prevalence estimate published by federal HIV/AIDS control office (FHAPCO), about 2.1% of Ethiopia's adult population were living with HIV in 2005. It was projected that the prevalence would remain the same till 2007, and then would rise to 2.2 %, 2.3% and 2.4 % in 2008, 2009 and 2010 respectively. In 2007, nearly a million people were living with HIV of which 59.1% were females, with infection levels more than eight times higher in urban than in rural areas (7.7% versus 0.9%) [3].

HIV counseling and testing (HCT) is the key entry point to prevention, care, treatment and support services, where people learn whether they are infected and are helped to understand the implication of their HIV status and make informed choice in the future [4]

HIV counseling is a voluntary dialogue between a counselor and client, a couple or a group of clients. It is a process of enabling clients to understand and make informed decisions on whether to be tested for HIV, to understand the results and facilitate future planning. The common components are pretest, post test and ongoing counseling. HCT services in Ethiopia have been uneven and even when available uptake has been relatively low. There are three types of HIV testing in the country; Client initiated, or voluntary counseling and testing, Provider initiated HIV counseling and testing (PIHCT) and Mandatory HIV screening [4]. Provider initiated testing and counseling refers to HIV counseling and testing recommended during treatment by health care providers to enable specific clinical decisions to be made and/or specific medical services to be offered that would not be possible without the knowledge of the person's HIV status [4]. As part of the response to low uptake of client initiated HIV counseling and testing, the WHO and UNAIDS have introduced opt-out testing and are advocating for an increase in provider initiated HIV counseling and testing in addition to voluntary counseling and testing. The recommendation for universal systematic offer of HIV testing and counseling is seen as an important step in achieving the goal of universal access for all persons with HIV/AIDS. This intervention coupled with effective counseling for behavior change provides a seminal opportunity for HIV prevention [5].

HIV infection is a major risk factor for the development of tuberculosis (TB) and tuberculosis seems to make HIV infection worse. The increase in reported cases of TB since the mid-1980 is attributed, in part, to TB occurring in persons infected with HIV, the virus that causes AIDS. HIV robs the body off its natural ability to fight infection, making people with AIDS more likely to develop TB. HIV-infected person have weakened immune systems, and therefore have a much greater chance of developing active TB disease either by activation of latent infection or by being newly infected [6].

In 2003, TB incidence rate was falling or stable in five out of the six WHO regions, but growing at 1% per year annually, the glaring exception is Africa, where TB incidence rates are still rising across the continent at a rate of 3-4% annually. Even it had tripled or quadrupled since 1990 in countries with high HIV prevalence due to the deadly synergy between HIV and TB [7, 8]. TB is the leading cause of death among

people who are HIV positive, accounting for 13% of AIDS deaths worldwide. TB continues to claim more lives in Africa where the TB epidemic is still driven by the spread of HIV, which increases the likelihood of dying from the disease [9]. HIV infection is now the most important single predictor of TB incidence in sub-Saharan Africa. The region accounts 70% of the world's 14 million people who are co-infected [8]. In some countries of sub-Saharan Africa, up to 70% of patients with smear positive pulmonary TB are HIV-positive [10].

The prevalence of HIV co-infection among adult TB cases is estimated to be 40% in urban areas in Ethiopia [11]. HIV accounted for an estimated 38% of all TB case incidences in 2003. Recent report shows HIV/AIDS accounts for 32% of the estimated 141,000 total TB cases in 2006 [12]. Due to under utilization of client-initiated HIV testing, the revised UNAIDS/WHO policy statement on HIV testing recommended that provider-initiated HIV testing should be implemented in clinical setting [13, 5, 9,]. For instance, only 10% of patients know their sero-status in the world [14, 10]. In Ethiopia 6.6% of tuberculosis patients know their status as described in one cross- sectional study in north Gondar [15]. Studies on the factors why people may not want to learn their HIV status among youth and pregnant women commonly cited are low risk perception, fear of stigma and discrimination, lack of perceived benefits of VCT, fear of partner's reactions, and unable to cope with positive test [16, 17, 18].

1.2 Rationale of the study

The Ethiopian demographic and health survey (EDHS, 2005) reported the low uptake of VCT in the country, during this period VCT was the main method of HCT, EDHS reported that among the adult population of age 15-49 years, only 4% of women and 6% of men have been tested for HIV at some time [19]. Though World health organization (WHO) and Joint United Nations Programme on AIDS (UNAIDS) strongly support the continued scale up of client-initiated HIV counseling and testing, but recognize the need for additional, innovative and varied approaches. Health facilities represent a key point of contact with people with HIV who are in need of HIV prevention, treatment, care and support. Evidence from both industrialized and resource-constrained settings suggests that many opportunities to diagnose and counsel individuals at health facilities are being missed and that PIHCT facilitates diagnosis and access to HIV related services [5].

Though, there are studies conducted on willingness to accept PIHCT on different parts of Ethiopian towns before the implementation of the service, the acceptability of this approach has not been studied after its implementation. To the investigator's understanding, only few studies were conducted in Ethiopia on PIHCT in general and TB patients in particular. One study done in Arbaminch Hospital in 2005 on acceptability of HIV counseling and testing among TB patients showed that overall acceptability to be 35% [20].

Therefore, this study is aimed to assess the acceptability of PIHCT among TB patients and the factors influencing its uptake in selected areas in Gamo Gofa zone. The study tried to assess whether progress has been made since the launch of the program and might help design measures to increase the uptake of HIV testing, and also introduce a system for HIV surveillance among TB patients in Ethiopia.

2. Literature Review

2.1 TB and HIV/AIDS Overview

TB is a major public health problem throughout the world. According to the WHO Global Report 2007, one-third of the world's population is estimated to be infected with tubercle bacilli and hence at risk of developing active disease. Globally, in 2005, the annual TB incidence was about 8.8 million people (7.4 million i.e. 84.1% of these in Asia and sub-Saharan Africa), and annual number of deaths due to TB was 1.6 million including 195,000 patients infected with HIV. In developing countries, TB comprises 25% of all avoidable adult deaths [1].

Recent evidences tend to demonstrate that TB prevalence and TB deaths rates are globally decreasing after having reached a peak. Since 2005, the TB incidence rate is in decline in all WHO regions with exception to Africa (Annual TB incidence rates have increased by 2- to 3-fold in many countries in sub-Saharan Africa since 1990 [14]) and Eastern Europe [1, 21].

In Ethiopia, according to the 2007 WHO estimates, the incidence of TB of all forms and smears positive TB stands 341 and 152 per 100,000 population, respectively. The prevalence and mortality of Tuberculosis of all forms is estimated to be 546 and 73 per 100,000 populations respectively. In the year 2006/7 Ethiopia registered 129,743 cases of TB. Latest estimates indicate that Ethiopia stands 7th in the list of High Burden Countries (HBC) for TB [1]. TB poses an obstacle to socio-economic development as 75% of people affected by TB are within economically productive age group of 15-54 years. It is estimated that 50-60% of HIV infected people will develop TB diseases in their lifetime in contrast with HIV negative persons, whose life time risk is only 10%. Sero-prevalence of HIV among adult TB patients is 11% according to WHO report 2007, and 31% according to more recent national data from 1999EC (2006/7) [1].

2.2 The impact of HIV on tuberculosis

In August 2005, the World Health Organization declared the tuberculosis (TB) epidemic in Africa to be a regional emergency. Current TB-control measures are failing, largely as a result of the human immunodeficiency virus (HIV) epidemic [22]. HIV fuels the tuberculosis epidemic in several ways. HIV promotes progression to active TB both in people with recently acquired and with latent Mycobacterium tuberculosis infections. HIV is the most powerful known risk factor for reactivation of latent tuberculosis infection to active disease [7].

HIV infected people are more susceptible to be TB infected when they are exposed to M. TB [8, 23]. The life time risk of active tuberculosis in persons with TB infection alone is estimated to be only 5-10%, but the annual risk of developing TB in a PLWHA who is co-infected with M. TB ranges from 5 to 15 percent with an estimated life time risk above 30% [1, 24]. HIV also increases the rate of recurrent TB, which may be due to either endogenous reactivation (true relapse) or exogenous re-infection increasing tuberculosis cases in PLWHA pose an increased risk of TB transmission to the general community, whether or not HIV-infected [7, 23, 25]. TB also accelerates HIV disease progression and is associated with decreased survival. TB specific mortality is fourfold higher among HIV-infected patients than among the uninfected patients [26]. Furthermore, research shows that even in areas where there is a good TB control program, when the sero-prevalence of HIV is high, the annual percentage increase in TB will be high and difficult to the control of TB [25]. HIV has impact on TB patients and programmes and that has great implication for TB control policies. The impact of HIV on patients includes the effect of HIV on diagnosis and on the pattern of HIV–related TB, response of HIV-infected patients to TB treatment, the benefits of antiretroviral therapy (ART), and the quality and continuity of care for TB patients. The impacts on national TB programmes (NTP) includes increased case load, impaired NTP performance, and increased need for access to ART and difficulties in reaching TB control targets [1,8].

2.3. HIV counseling and testing

HIV counseling is a voluntary dialogue between a counselor and client, a couple or a group of clients. It is a process of enabling clients to understand and make informed decisions on whether to be tested for HIV, to understand the results and facilitate future planning. The common components are pretest, post test and ongoing counseling. HCT services in Ethiopia have been uneven (more concentrated in urban areas) and even when available uptake has been relatively low. There are three types of HIV testing in the country [4]:

1. Client initiated, or voluntary counseling and testing
2. Provider initiated HIV counseling and testing (PIHCT)
3. Mandatory HIV screening.

Greater knowledge of HIV status is critical to expanding access to HIV treatment, care and support in a timely manner, and offers people living with HIV an opportunity to receive information and tools to prevent HIV transmission to others. Increased access to HIV testing and counseling is essential in working towards universal access to HIV prevention, treatment, care and support, as endorsed by G 8 leaders in 2005 and the United Nation General Assembly in 2006 [27]. Ethiopian HCT policy states that "Counseling and testing, as a crucial intervention component of the HIV/AIDS prevention, care and support program shall be promoted and made widely available, affordable and accessible to all individuals and communities" [4].

In Ethiopia there were 1005 HCT sites, from July 2006 to June 2007. A total of 1,922,666 clients were tested nationwide of whom 7.45% were tested positive [4]. Since HIV antibody testing first became available WHO has advocated for persons at risk for HIV to voluntarily seek out HIV testing and counseling. The cornerstone of WHO guidance on HIV testing remained constant for nearly twenty years: confidentiality, informed consent, and access to quality counseling [5, 28]. Programs offering VCT have been seen successful in many countries in providing individuals with knowledge about HIV, prevention measures and in providing HIV test results to millions of individuals. Still, in many high prevalence countries, fewer than one in ten HIV positive individuals are aware they are infected with HIV. Reaching individuals

living with the virus who do not know their sero-status must clearly be a global public health priority [28].

Most efforts have focused on VCT as the primary means of providing testing and encouraging people to become aware of their HIV status. But coverage has been low, with the number being tested far fewer than that required to identify even those requiring Highly Active Anti Retro viral Therapy (HAART) [29]. As part of the response to the problem, the WHO and UNAIDS have introduced opt-out testing and are advocating for an increase in provider initiated HIV testing and counseling in addition to voluntary counseling and testing. The recommendation for universal systematic offer of HIV testing and counseling is seen as an important step in achieving the goal of universal access for all persons with HIV/AIDS. This intervention coupled with effective counseling for behavior change provides a seminal opportunity for HIV prevention [5].

In contrast to the industrialized countries, many HIV infected people in developing countries including Ethiopia do not know their HIV status [30]. A country wide BSS reported that only 4.6% of youth having had VCT for HIV in 2000 [31].The rate of VCT service utilization among TB patients was only 6.6% as described in one cross-sectional study in north Gondar [15]. Studies on the factors why people may not want to learn their HIV status among youth and pregnant women commonly cited are low risk perception, fear of stigma and discrimination, lack of perceived benefits of VCT, fear of partner's reactions, and unable to cope with positive test [16, 17, 18].

2.4 Provider initiated HIV counseling and testing (PIHCT)

Provider initiated counseling and testing refers to HIV testing and counseling recommended during treatment by health care providers to enable specific clinical decisions to be made and/or specific medical services to be offered that would not be possible without the knowledge of the person's HIV status [4]. PIHCT is voluntary and the "three Cs" –informed consent, counseling and confidentiality must be observed at all times. A brief counseling or pre test education / information should always accompany testing even for diagnostic purpose and patients should never be forced to undergo testing against their will [4].

WHO sets two discrete categories for PIHCT namely diagnostic and routine offer: Diagnostic testing is part of a clinical process of determining the diagnosis of a sick person and it refers to situations where a medical condition (e.g. Tuberculosis) or medical symptoms (e.g. Opportunistic infection or unexplained weight loss) indicate a significant possibility of underlying HIV disease [5]. And routine offer of testing and counseling means, offering an HIV test to all sexually active patients, who present for medical care regardless of their initial reason for seeking medical attention [5].

Report on the integration of TB and HIV care in Rwanda, in 2004 shows that, 45.5% of the 6108 registered TB patients were tested for HIV, and 46% were found to be positive. By the first quarter of 2006, 64% of the 1909 registered TB patients were tested, and 49% were HIV positive [32].

Community-based cross-sectional study in Botswana, found that 81 % of people reported that they were either `extremely' or very much in favor of routine testing, and 68% of the sample felt that they could not refuse a test. Just under half of those questioned (48%) had undergone testing (a much higher proportion than seen in other African countries). But the key barriers to testing were the same as those reported by others in different parts of the world: fear of learning one's HIV status, lack of perceived HIV risk and fear of having to change one's sexual practices [33].

Researchers in Uganda looked at the effects of introducing routine testing on the clinical profile of HIV-positive patients in their care, and found that over the course of

a year, routine testing shifted the profile strongly towards asymptomatic patients who needed less intensive clinical management when they started treatment. Prior to routine testing 65% of patients had CD4 counts below 200 and three-quarters were symptomatic. After routine testing was introduced, the proportion with CD4 counts below 200 fell to 45% and the proportion that were symptomatic fell to 55% [34].

Studies on acceptability of routine testing in different parts of Africa has shown that, in pilot and clinical trials, when HIV counseling and testing is routinely offered by health providers, the acceptability rate of HIV testing is reported to be satisfactorily high, reaching 90 to 100% of patients attending TB clinics in several countries [35-37]. For instance, 91% of TB patients in Guyana [35], 99% in South Africa [36], and 91% of TB patients in Malawi [37] have accepted and were tested for HIV. A study conducted to assess acceptability of HIV testing in patients with invasive cervical cancer in Kenya revealed that overall, 11% of invasive cervical cancer (ICC) patients were HIV sero-positive [38]. The acceptance rate of HIV testing in that study was 99%; yet, 5% of the patients did not want to know their HIV results. Patients younger than 35 years of age were two times more likely to refuse the result of the HIV test. Patients who did not want to know their HIV results were three times more likely to be HIV sero-positive. Eighty four percent of the patients were unaware of their HIV sero-positive status. The HIV-1 sero-prevalence in ICC patients was comparable to the overall sero-prevalence in Kenya [38].

In addition a study assessing of VCT utilization, and willingness to accept provider-initiated HIV counseling and testing among tuberculosis patients in Addis Ababa came up with a result, where by 86.2% of the patients were willing for PIHTC [39]. In this study key testing barriers include self trust (41.1%), lack of risk perception for HIV infection (24.4%), fear of learning positive result (13.9%), and stigma and discrimination attached to TB and HIV. Early evidence of widespread support for PIHTC and moderate acceptance of HIV testing in this study holds significant promise for the control, prevention and treatment of HIV/AIDS and TB [39].

Another study done to assess acceptability of PIHCT and the factors influencing its uptake among TB patients in Addis Ababa, showed that; most of the patients were initiated for HIV testing by their TB treatment supervisor 402(98.5%). Among those who were initiated by their treatment supervisor for HIV testing, 266 (66.2%) had

under gone HIV testing. The reported barriers for acceptability of PIHCT include no risk perception for HIV infection 54(40.3%), tested before 53(39.3%), and fear of learning positive result 40 (29.8%) [40]. And other study done in Addis to assess acceptability of PIHCT among OPD clients with possible clinical sign of HIV infection and factors associated with it showed that; the pre-test, post-test and overall acceptability rates were 0.97, 0.98 and 0.67, respectively. HIV prevalence rate among the study participants was 37.6% [41]. In another study conducted in Nazareth in 2007 to assess PIHCT acceptability among tuberculosis patients showed significant role played by supervisors for higher uptake of HIV testing [42].

In summary, the afore mentioned literatures indicate that, there was high willingness but low acceptance of PIHCT; the main reasons reported by the studies for not accepting the test were, lack of perceived HIV risk and stigmatizing attitude about people living with HIV/AIDS. The present study in addition to increasing to the existing knowledge on PIHTC and may show means of scaling up of the approach.

3- Objectives

3.1-General objective

- To assess acceptability of PIHCT and factors influencing its uptake among tuberculosis patients in selected areas in Gamo Gofa zone

3.2-Specific Objective

- To determine acceptability of PIHCT among TB patients in selected areas of Gamo Gofa zone.
- To identify factors influencing uptake of PIHCT among TB patients in studied health facilities of Gamo Gofa zone.

4. Methods

4.1 Study area and Study period

The study was conducted in six health facilities from four weredas (three weredas and one town administration) in Gamo Gofa zone, namely Arbaminch Hospital, Arbaminch Health Centre, Chencha Hospital, Lante Health Center, Shele Helath Center and Gerese Health center from January to April 2009. The zone has 15 weredas, 2 town administrative, 35 urban kebele associations and 444 rural kebele associations. Regarding the available health facilities in the zone; there are three hospitals, 18 health centers, 44 upgrading health centers, 437 health posts, 5 medium private clinics, 53 lower private clinics, 4 diagnostic laboratories, 8 pharmacies and 25 drug vendors. In the zone more than five ethnic groups reside with the topography being 30.13% high land, 41.44% middle land and 28.43% lowland. Total population of the zone is 1,689,957 of which 841,662 (49.8%) are males and 848295(50.2%) are females [43].

In Gamo Gofa zone, PIHCT service has been launched quite recently. And documented number of TB patients offered the test using PIHCT was found from only two out of six sites included in the study. In 2000 Ethiopian fiscal year (EFY) [2007/8 Gregorian calendar (GC)], in Arbaminch Hospital 277 TB patients were screened of these 84 were HIV positive (47 of these were started with ART), one hundred seventy four were sero-negatives while 42 refused the test. 2001EFY (6 month report of Arbaminch Hospital) showed that 174 were screened and of these 29 turned out to be HIV positive, 12 refused to be tested and rest were sero-negatives. In Chencha Hospital, in 2000 EFY (2007/8 GC) 188 were screened and 22 were sero-positive and no one refused to be tested. In 2001 EFY six month report of Chencha Hospital, 101 were screened and 8 were sero-reactive while the rest were HIV negative.

In 2000 EFY (2007/8 GC) the total registered TB cases in the zone were 1883. Of these 1190 (63.4%) TB cases were reported from the selected six sites alone [43].

4.2 study design

Institution based cross sectional study was conducted among TB patients who were getting their treatment for TB to assess uptake of provider initiated HIV counseling and testing in selected areas of Gamo Gofa zone. This study also took into account an analytic approach of internal comparison between accepters and non-accepters of PIHCT.

4.3 study population

4.3.1 Source Population

The source population was all TB patients (both old and new patients) who were registered and put on DOTS attending TB clinics in selected health facilities in Gamo Gofa zone and the study population was all TB patients on DOTS in the period from January to April 2009.

4.3.2 Sample size determination

Sample size determination formula for single population proportion was used, that is

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

Where

n- The required sample size.

p- The proportion of PIHCT acceptance among TB patients. This was assumed to be 35%. This was taken from similar studies that determined acceptability for HIV counseling and testing among TB patients conducted in Arbaminch Hospital in 2005 which yielded overall acceptance of HCT to be 35% [20].

z- A standard score corresponding to 95% confidence level.

d- The margin of error is 4.5%

Using the above formula the initial sample size will be 432, taking the non-response rate to be 10% the final sample size will become **475.**

4.3.3 Sampling procedure

The total sample was allocated to six selected health facilities based on the number of TB clients flow. The selection of health facilities was done using the following criteria;

- ☑ Annual case load of TB (ranging 126 to 591)
- ☑ Evidence of pre-existing HIV counselling and testing specifically PIHCT
- ☑ Proximity to capital of the zone (Arbaminch), a 60 KM radius was considered manageable by the principal investigator (PI)

Exit interview using structured questionnaire was entertained to total of 440 registered TB patients over a period of three months (January to April 2009). The data was collected from all TB patients from the selected sites who fulfil the inclusion criteria during the study period.

Inclusion criteria:

- All types of TB patients who were following their treatment at the selected six health facilities from four weredas of Gamo Gofa zone during the study period.

Exclusion criteria:

- TB patients who were diagnosed in the health facilities of interest but transferred out to other health institutions outside the study sites for follow up.
- TB patients who discontinued their treatment,
- Those below the age of 18 years
- Known HIV positive clients

4.4 Data collection

4.4.1 Data collection tools

The study used both open and closed ended structured questionnaire. The variables in the questionnaire were adopted from previous studies and through consultation with advisors, individuals and finalized after pre-testing on sample of the interviewee. The questionnaire was prepared in English and translated in to Amharic then back to

English to check for the consistency. The questionnaire included socio demographic characteristics, knowledge about HIV, personal HIV risk perception, knowledge about PIHCT and acceptability of PIHCT (see annex 10.2). Six nurses were selected from all health facilities (one from each) to conduct the interview. An exit interview was carried out on appointment days in which patients come to treatment centers to collect their drugs.

4.4.2 Data collection procedure

Six data collectors and two supervisors, who have at least diploma level training and who can speak Amharic and English language, were recruited. The selection was done in collaboration with head of the health facilities and Metrons of the hospitals. The interviewers were nurses working in the TB clinics of all facilities. Two supervisors, one working at health centre as health officer and the second as senior nurse working at Arbaminch hospital were recruited.

The principal investigator trained the data collectors and supervisors for two days and the training was done in the respective health facilities during working hours in the afternoon. The training focused on selection of cases, confidentiality and informed consent.

The questionnaire was used after pre-test was done on 10 TB patients by all study members together with the principal investigator at one of health institution which was not part of the main study and the pre-tested questionnaire was used for the actual data collection.

4.4.3 Data quality control

Adjustments were made on the appropriateness of the data collection instrument based on the feedback of pre-tested questionnaire. Supervision was carried out on daily base both by the two supervisors and by principal investigator to keep the quality of data. Completed questionnaires were collected from data collectors by supervisors and submitted to principal investigators. This process helped in maintaining the quality of the data before it was entered and analyzed.

4.4.4. Operational definitions and study variables

Provider-Initiated HIV counseling and testing: is a process in which the individual undergoes counseling and HIV testing by health provider initiation

Acceptability: was measured by the proportion of TB patients who accept PIHCT

Acceptors: TB patients who accepted PIHCT.

Non-acceptors: TB patients who refused PIHCT.

Risk perception for HIV/AIDS: respondents feeling of vulnerability of being infected with HIV/A**IDS**

Dependent Variable

- Acceptability of P IHCT (having be en t ested f or H IV f ollowing s upervisor initiation)

Independent variable

- Socio-demographic and economic characteristic: (age, sex, educational level, occupation, marital status, ethnicity, religion, family size, monthly family income, history of family member treated for tuberculosis).
- Knowledge on, and attitude of HIV/AIDS
- Knowledge on TB
- Knowledge of, and attitude towards PIHCT
- Perceived barriers for HIV testing
- Self- perceived risk of HIV infection

4.5 Data processing and analysis

The coll ected data w as entered and analyzed using EPI I nfo 3.3 a nd SPSS 15 for windows s oftware respectively. To describe t he characteristics of t he st udy population, means, medians, and percentages were calculated. In the analyses process, individuals who accepted PIHCT were compared against non-acceptors of PIHCT for significant differences. Chi-square statistics and odds ratios were generated with 95% confidence int ervals to guide interpretation. Variables t hat w ere found t o be a statistically significant a t $p<0.05$ during the univarate an alysis w ere entered and analyzed by multivariate logistic regression analysis to adjust for confounding.

4.6 Ethical consideration

Ethical clearance was obtained from the Institute of Review Board (IRB) of Faculty of Medicine, Addis Ababa University. Official permission was secured from regional health bureau, Zonal/District health office and respective wereda/town administration health offices. The respondents were informed about the objective and purpose of the study and verbal consent was taken from each respondent. They were also informed about their right of not participating in the study or withdrawing at any time. Personal privacy and dignity was respected. Finally, a specific safe place was arranged to put the questionnaires after completion of the interview.

4.7 Dissemination of result

The final report of the study will be presented and discussed in School of Public Health, Faculty of medicine, Addis Ababa University. The result of study will be disseminated to Ethiopian public health association, Gamo Gofa zonal health department, the three weredas' health offices, Arbaminch town administrative health office and the six health facilities included in the study. And it is expected to be published in scientific journals.

5. Results

5.1 Socio-demographic profiles

All 440 TB patients participated in the study, making the response rate 100%. Two hundred fifty two (57.3%) of the study participants were males with 1.34 to 1 sex ratio. The mean and median ages of the patients were 31.8±11.7 and 29.5 years old respectively. 220 (50.0%) of the study populations were between 15-29 years old followed by 30-44 age group which accounted for 34.1% of the study participants (Table 1). Of those interviewed 226 (51.4%) were Protestants followed by Orthodox Christians 182 (41.4%). The predominant ethnic groups of study participants were from Gamo ethnic group 326 (74.1%), followed by Amhara 54 (12.3%). The rest were Welayta, Oromo, Konso and few others as shown in Table 1.

Regarding the marital status of the participants, 256 (58.2%) were married in union, 151 (34.3%) were single, and 20 (4.5%) were divorced. And 170 (38.7%) of the participants had secondary and above education, whereby 241 (57.1%) of the study population had at least a primary (Grade 1-6) education. Seeing the occupational profile, 108 (24.5%) of the respondents were farmers, 88 (20.0%) were students, 73 (16.6%) housewives, 32(7.3 %) were civil servants, and 25 (5.7%) were jobless.

About 227 (51.6%) of the sampled patients were from family size of five (mean family size of the study group) or less persons. Only 93 (21.1%) of the respondents reported that their family monthly incomes to be 350 Birr per month or above. And 89 (20.2%) claimed no income and 178 (40.5%) the participants did not want to mention their family house hold monthly income.

Table 1: Socio-Demographic Characteristics of Tuberculosis patients in Gamo Gofa Zone, May 2009.

Variables	Frequency	%
Gender		
Male	**252**	**57.3**
Female	**188**	**42.7**
Age in completed years		
15-19	**54**	**12.3**
20-24	**84**	**19.1**
25-29	**82**	**18.6**
30-34	**63**	**14.3**
35-39	**44**	**10.0**
40-44	**43**	**9.8**
≥ 45	**70**	**15.9**
Religion		
Protestant	**226**	**51.4**
Orthodox	**182**	**41.4**
Muslim	**23**	**5.2**
Catholic	**4**	**0.9**
Johova/pagan	**5**	**1.1**
Ethnic group		
Gamo	**326**	**74.1**
Amhara	**54**	**12.3**
Welayta	**24**	**5.4**
Konso	**4**	**0.9**
Others*	**32**	**7.3**
Marital status		
Married	**256**	**58.2**
Single	**151**	**34.3**
Divorced	**20**	**4.5**
Widowed	**13**	**3.0**
Educational status		
Illiterate	**120**	**27.3**
Read and write	**69**	**15.7**
Grade 1-6	**81**	**18.4**
Grade 7-12	**135**	**30.7**
Above grade 12	**35**	**8.0**
Occupational status		
Farmer	**108**	**24.5**
Student	**88**	**20.0**
Housewife	**73**	**16.6**
Merchant	**38**	**8.6**
Civil servant	**32**	**7.3**
Daily laborer	**31**	**7.1**
No job	**25**	**5.7**
Others**	**45**	**10.2**
Family size (mean family size)		
≤ 5	**227**	**51.6**
>5	**197**	**44.8**
No response	**16**	**3.6**
Monthly family income (in Birr)		
≥ 350***	**93**	**21.1**
< 350	**80**	**18.2**
No income	**89**	**20.2**
No response	**178**	**40.5**

* Oromo, Gurage, Tigre, Gofa, Koyra **Domestic servant, shemane, soldier, bar lady, *** Poverty line- Income less than one dollar per day and the exchange with regard to the purchasing power in Ethiopian currency for one dollar is 11.5 birr which is 350 birr monthly. (Human development report 2007/8)

5.2 Knowledge, Risk Perception and attitude towards TB/HIV/AIDS

Almost all study subjects 434 (98.6%) reported that they have heard of HIV/AIDS, and 379 (86.1%) believed that HIV is definitely not a curable disease. Four hundred and two (91.4%), and 280(63.6%) of the study subjects knew that sexual intercourse and sharing of sharp materials respectively were the most common ways of HIV transmission in Ethiopia (Table 2) . Only 130 (29.5%) participants were able to identify mother to child transmission, and blood transfusion as modes of HIV transmission. Overall, 27 (6.14%) of the participants had misconception on transmission of HIV/AIDS including mosquito bite, shaking hands with and sharing a meal with PLWHA. Out of those who reported that they have heard of HIV /AIDS, 336 (77.4%) and 178 (41.0%) of the participants indicated that abstinence and staying with only one uninfected partner as means of HIV prevention method respectively. And 151 (34.8%) of the participants mentioned use of condom every time during sexual intercourse as means of HIV prevention method. Seventy-eight point nine percent of participants believed that HIV infection could be asymptomatic, and 308 (70.0%) reported that they either knew someone infected with HIV or died of AIDS.

Looking at patients' knowledge on tuberculosis; 431 (98.0%) of the participants believed that tuberculosis is a curable disease, and 283 (64.3%) of the study subjects said that they revealed themselves to others as TB patients. Only 69 (15.7%) of patients were afraid of being infected with TB before they were diagnosed for TB. Responses on questions relating to source of TB showed that those said from TB patients were 304 (69.1%) and 212 (48.2%) of study participants said from polluted air. There were still misconceptions on source of TB evidenced by 74 (16.6%) of the sampled TB patients indicated cold weather, evil spirit and contaminated water as source of TB. See Table 2.

Regarding TB and HIV/AIDS association, 282 (64.1%) of the participants believed that the cases of TB have been increasing after the era of HIV/AIDS. Likewise 256 (58.2%) of the participants believed that the control of HIV/AIDS could help TB control. Looking at the self perceived risk of HIV infection, only 100 (22.7%) of the participants think that they can get infected with HIV. Among those who think that they can get the virus, 52 (52.0%) & 27 (27.0%) of the respondents claimed minimal and moderate chance of being infected with HIV respectively as shown on Table 2.

Table 2: Tuberculosis Patients' Knowledge and Attitude Related to TB, HIV/AIDS and perceived risk of HIV infection in Gamo Gofa Zone, May2009

TB and HIV/AIDS related questions	Frequency	%
Route of HIV infection$^{\$}$(n=440)		
Sexual contact	402	91.4
Sharing of sharp materials with PLWHA	280	63.6
Blood contact	100	22.7
Transfusion of blood	119	27.0
Mother to child	130	29.5
Others*	27	6.1
Methods of HIV infection prevention$^{\$}$(n=440)		
Abstinence	336	76.4
Staying with only one uninfected partner	178	40.5
Condom use every time during sexual intercourse	151	34.3
No sharing sharp materials	76	17.3
Source of TB$^{\$}$(n=440)		
From TB patients	304	69.1
Polluted air	212	48.2
Contaminated water	40	9.1
Health personnel/health unit	5	1.1
Others**	34	7.5
Chance of getting infected with HIV(n=100)		
Minimal	52	52.0
Moderate	27	27.0
High	16	16.0

$- Multiple responses were possible * sharing meal, mosquito bite, shaking hands
** Lack of food, smoking, taking much alcohol, sexual intercourse, evil spirit etc

5.3 Knowledge, and Attitude towards PIHCT

Of the 440 patients interviewed, 379 (86.1%) reported that they are aware of the availability of PIHCT prior to this survey. The most common source of information for PIHCT mentioned by participants was health worker/institutions 242 (63.8%),) followed by combination of two or more sources 99 (26.1%), mass media 19 (5.0%) and friends 10 (2.3%) as shown on Table 3. Majority of the patients have positive views toward PIHCT after it was explained (Table 3). Three hundred eighty six (87.7%) were "extremely" or "very much" in favor of PIHCT. And 380 (86.4%) of the respondents agreed that any one should get tested for HIV.

Most of the participants 399 (90.7%) believed that PIHCT is important. Among those who believe PIHCT is important, 176 (44.1%) agreed that PIHCT makes it easier for TB patients to get tested, 162 (40.6%) to gain access to ART and other importance of PIHCT as seen in Table 3.

On the other hand 26 (5.9%) said that PIHCT has a negative influence on TB patients, most of whom 21 (80.8%) believed that PIHCT would cause TB patients to avoid seeing their health provider for fear of being tested and few reported that it violates human right and increase violence on women.

Table3: Knowledge and Attitude Related To PIHCT among Tuberculosis Patients in Gamo Gofa Zone, May 2009

Variables	Frequency	%
Ever heard of PIHCT (n=440)		
Yes	379	86.1
No	57	13.0
No response	4	0.9
Sources of information (n=379)*		
Health worker/ institution	242	63.8
Mass media	19	5.0
Friends	10	2.6
Family member	5	1.3
More than one source	99	26.1
Others**	5	1.3
In favor of PIHCT (n=440)		
Extremely	217	49.3
Very much	169	38.4
Some what	27	6.1
Not at all	3	0.7
Reasons why PIHCT is important (n=399) *		
Makes easier for TB pts to get tested	176	44.1
Helps TB patients to get access to ART	162	40.6
Results in less discrimination	5	1.3
Increases number of tested people	25	6.3
Others***	35	8.8
Anyone should be tested for HIV (n=440)		
Yes	380	86.4
No	30	6.8
No response	30	6.8

* Multiple answers were possible ** School, workplace meeting, anti-AIDS club, neighbor

*** Helps them know their status, increase self confidence

5.4 HIV Testing among Tuberculosis Patients

It was found that 327 (74.3%) of the interviewed TB patients were counseled and tested for HIV, either client or provider initiated, in the past (prior to the most recent test offered by their current TB supervisors). Among those ever tested: 254 (77.7%) patients were tested during their TB treatment and the remaining 73 (22.3%) of the participants had tested for HIV before being diagnosed for tuberculosis.

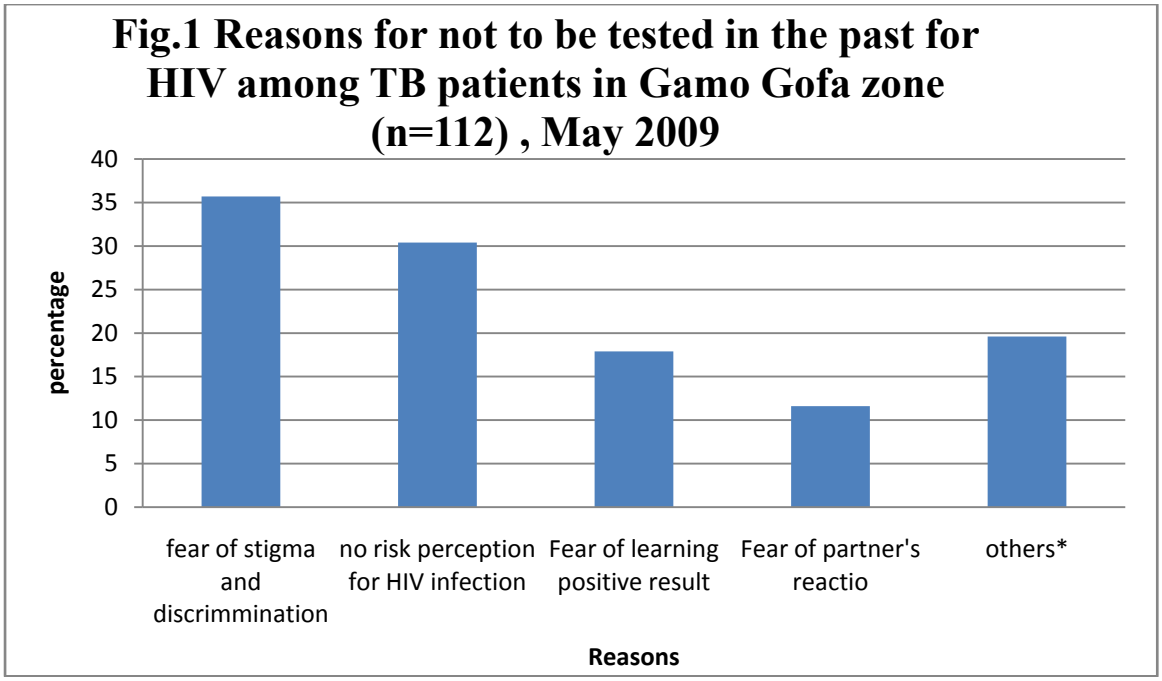
The reasons for the last HIV test as mentioned by participants were, initiated by health workers 223 (68.2%), and voluntary HIV counseling and testing was 89 (27.2%). Of those who reported tested, 250 (76.5%) were tested in their current TB treatment centers, 61 (18.7%) in other facilities, and 1 (3.3%) in free standing VCT centers as shown in Table 4.

Table 4: Past HIV testing experience, reasons and sites to HIV counseling and testing among Tuberculosis Patients in GamoGofa Zone, May 2009

Variable	Frequency	%
Previously tested for HIV (n=440)		
Yes	327	74.3
No	112	25.5
No response	1	0.2
The reason for HIV testing (n=327)		
Initiated by health worker	223	68.2
Voluntary testing	89	27.2
Others*	15	4.6
Time of HIV testing (n=327)		
Before illness	73	22.3
After illness	254	77.7
Centers used for HIV testing (n=327)		
TB treatment center	250	76.5
Other facility	61	18.7
Free standing VCT center	11	3.3
Other**	5	1.5

* Blood donation, marriage, ANC visit ** working place, school, market place, during campaign

One hundred twelve (25.5%) of the study participants have never been tested before presenting themselves to TB clinics and the main reasons for not to be tested mentioned were; fear of stigma and discrimination 40 (35.7%), lack of risk perception for HIV infection 34 (30.4%) and fear of learning positive result as depicted in Fig.1.



Others*partner's trust, not sure of confidentiality, being tested not useful, unable to pay for test

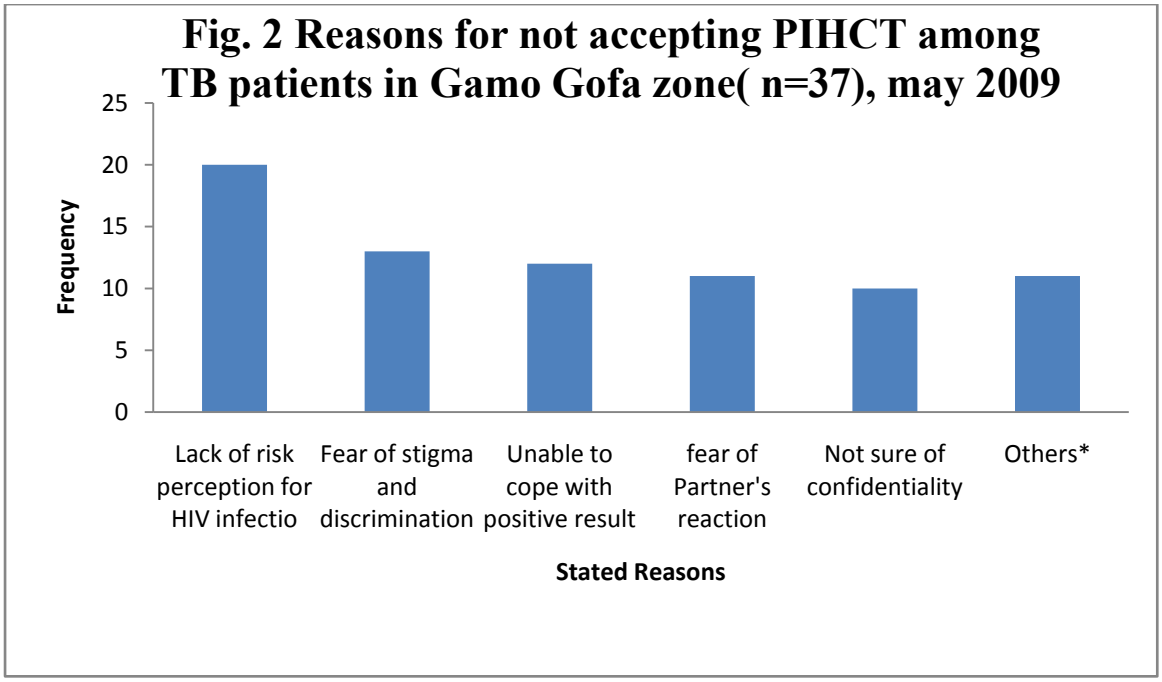
5.5 Acceptability of PIHCT

Most of the patients 373 (84.8%) were initiated for HIV counseling and testing by their TB treatment supervisor and 336 accepted the test to make the overall acceptance rate to be 76.4%. Among those who were initiated by their treatment supervisor for HIV testing 336 (89.8%) who had under gone HIV testing, 325 (96.7%) of the HIV tested patients had collected their HIV test result and 304 (90.5%) and 294 (87.5%) of tested patients received counseling before and after testing respectively see Table 5.

Table 5: Acceptability of PIHCT, counseling trend and barriers among TB patients in Gamo Gofa zone, May 2009

Variable	*Frequency*	*%*
Overall acceptability (n=440)		
Overall accepted	336	76.4
Overall not accepted	104	23.6
Did your TB supervisor Initiated the test (n=440)		
Yes	373	84.8
No	66	15.0
No response	1	0.2
If yes, did you take the test (n=373)		
Yes (**Accepters**)	**336**	89.8
No (**Non-accepters**)	**37**	9.9
No response	1	0.3
Did you receive counseling before the test (n=336)		
Yes	304	90.5
No	32	9.5
Did you receive counseling after the test (n=336)		
Yes	294	87.5
No	39	11.6
No response	3	0.9
Do you know (have you collected) the result (n=336)		
Yes	325	96.7
No	7	2.1
No response	4	1.2

The reported reasons for not accepting PIHCT (n=37) include no risk perception for HIV infection 20 (54.0%), Fear of stigma and discrimination 13 (35.1%), unable to cope with positive result 12 (34.2%), fear of partner's reaction 10 (29.7%) and not sure of confidentiality 10 (27.0%) of the non acceptors. See Fig.2.



*tested before, partner's trust, others advised against testing, belief being tested not useful

5.6 Factors associated with acceptability of PIHCT

This study assessed factors associated with acceptability of PIHCT. A logistic regression model was used to examine factors associated with acceptability of PIHCT (having been tested for HIV following supervisor initiation) as dependent variable. Variables that were found to be statistically significant ($p<0.05$) at bivariate analysis were entered and analyzed by multivariate analysis.

In the bivariate analysis, acceptability of PIHCT was not significantly ($p>0.05$) associated with socio-demographics characteristics i.e. sex ($p=0.734$), age ($p=0.105$), marital status ($p=0.350$), religion ($p=0.670$), ethnicity (0.052), educational status ($p=0.10$), occupational status ($p=0.236$) and family size ($p=0.884$). And knowledge factors such as correctly identifying source of TB ($p=0.071$), believing number of TB cases increasing following HIV ($p=0.117$), believing that HIV is not curable illness ($p=0.374$), afraid of being infected with TB ($p=0.939$), and knowing TB being curable disease ($p=0.469$) were not found to be statistically associated with acceptability of PIHCT. The same fact also hold true for other knowledge and attitude variables like; knowing means of HIV transmission ($p=0.993$), knowing means of preventive mechanisms against HIV infection ($p=0.846$), Knowing someone infected with HIV or died of AIDS ($p=0.977$), self perceive risk of getting HIV infection ($p=0.278$),

heard of PIHCT (p=0.341), and believed that PIHCT is important (p=0.091) were also not significantly associated with acceptability of PIHCT see Table 6.

Table 6: Bivariate analysis on factors associated with acceptability of PIHCT among TB patients on DOTS in selected health facilities, Gamo Gofa May 2009

Variable	Acceptors	Non acceptors	Chi square	P value
Sex			**0.12**	**0.734**
Male	**190**	**22**		
Female	**146**	**15**		
Age			**6.132**	**0.105**
15-24	**110**	**10**		
25-34	**98**	**18**		
35-44	**73**	**5**		
≥ 45	**55**	**4**		
Religion			**2.3**	**0.67**
Orthodox	**135**	**16**		
Muslim	**18**	**3**		
Protestant	**175**	**17**		
Other*	**8**	**1**		
Ethnicity			**17.4**	**0.52**
Gamo	**252**	**20**		
Welayta	**15**	**6**		
Amhara	**43**	**6**		
Other**	**26**	**5**		
Marital Status			**3.485**	**0.35**
Married	**199**	**18**		
Single	**112**	**14**		
Divorced	**15**	**4**		
Widowed	**10**	**1**		
Education			**6.712**	**0.1**
Illiterate/read and write	**144**	**13**		
1-6 grade	**65**	**3**		
7-12 grade	**101**	**15**		
Above 12	**26**	**6**		
Occupation			**7.314**	**0.236**
Civil servant	**24**	**6**		
House wife	**54**	**9**		
Student	**68**	**6**		
Farmer	**80**	**6**		
Others***	**110**	**10**		
Family Size			**0.021**	**0.884**
≤ 5	**182**	**17**		
>5	**149**	**13**		
No response	**5**	**7**		
Family history of TB			**18.314**	**0.972**
Yes	**71**	**8**		
No	**265**	**27**		
No response	**0**	**2**		
Had concern of being infected with TB			**0.347**	**0.939**
Yes	**47**	**6**		
No	**287**	**31**		
No response	**2**	**0**		
Can TB be cured			**2.284**	**0.469**
Yes	**330**	**15**		
No	**102**	**22**		

No response	4	0		
Is TB increasing after advent of HIV			8.148	0.117
Yes	215	32		
No	27	0		
No response	94	5		
Does controlling HIV helps controlling TB			4.45	0.126
Yes	202	28		
No	34	4		
No response	100	5		
Can HIV be cured			2.03	0.374
Yes	30	6		
No	296	30		
No response	10	1		
Do you know PLWHA or died of AIDS			0.604	0.977
Yes	236	27		
No	95	10		
No response	5	0		
Do you think you could be infected with HIV			1.425	0.278
Yes	81	6		
No	253	31		
No response	2	0		
Heard of PIHCT			1.261	0.341
Yes	304	32		
No	29	5		
No response	3	0		
Is PIHCT important			5.894	0.091
Yes	312	35		
No	4	2		
No response	20	0		

*catholic, pagan ** konso, oromo, tigre ***domestic servant, daily laborer, tailor (shemane), soldier

On the other hand, knowledge and attitude variables like willingness to disclose status of TB to others (p=0.001), knowing who is at risk of developing TB (p=0.041), believing healthy looking person could be infected with HIV (p=0.023), agreed that everyone should be tested (p=0.000), reasoning why PIHCT important (p=0.010), disagreeing PIHCT has negative influence (p=0.005) and ever been tested (p=0.000) were found significantly associated with acceptability of PIHCT in Bivariate analysis (Table 7). At this bivariate analysis; those who were willing to disclose their TB status to others were found to be 3.3 times more acceptor (95% CI= 1.6-6.6), the odds of acceptability was 2.8 (95% CI=1.2-6.7) times higher in those who believed HIV could be asymptomatic, believing everyone should be tested for HIV was coupled with higher odd i.e. 5.5 (95% CI=2.2-14.2) of accepting PIHCT, disagreeing PIHCT has influence was also at high odd i.e. 4.4 (95% CI=1.6-12.6) of accepting and the odds of accepting PIHCT among those who had ever been tested were 17.9 (95% CI=7.7-41.3) time more (Table 7)

Table 7: Multivariate Logistic Regression Analysis of Factors Associated With acceptability of PIHCT, Gamo Gofa May 2009.

Variables*	Acceptors(n=336)	Non-acceptors (n=37)	OR (95% CI)	AOR (95% CI)
Willing to disclose status of TB				
No[R]	102	22	1.0	1.0
Yes	230	15	**3.3(1.6-6.6)**	**3.9(1.9-8.2)**
Can healthy looking person be infected with HIV				
No[R]	33	8	1.0	1.0
Yes	275	24	**2.8(1.2-6.7)**	**8.8(2.5-31.7)**
Everyone should be tested for HIV				
No[R]	15	8	1.0	1.0
Yes	301	29	**5.5(2.2-14.2)**	**7.1(2.3-22.1)**
PIHCT has negative influence				
Yes[R]	13	6	1.0	1.0
No	289	30	**4.4(1.6-12.6)**	**4.9(1.4-16.5)**
Previously tested for HIV				
No[R]	55	28	1.0	1.0
Yes	281	8	**17.9(7.7-41.3)**	**517.2(65.0-4113.1)**

R= Reference category, *= Variables with statistical significant in Univariable logistic analysis
NB: - those who did not respond for particular questions stated above, in both acceptors and non-acceptors, were excluded from analysis.

After adjusting for significant independent variables (Table 7), knowledge and attitude variables like willingness to disclose status of TB to others, believing healthy looking person could be infected with HIV, agreed that everyone should be tested, disagreeing PIHCT has influence and ever been tested were each associated with higher odds of having tested for HIV following their supervisor initiation.

Patients who were willing to disclose their TB status to others had higher odd of acceptability of PIHCT (AOR= 3.9; 95% CI= 1.9-8.2) than those who would like to keep it secret. Patients who believed that healthy looking person could be infected with HIV were close to nine times more likely to get tested for HIV following their supervisor initiation than those who don't (AOR 8.8, 95% CI=2.5-31.7). In addition, patients who reported that they agreed any one can check his/ her sero-status had higher odds of acceptability of PIHCT (AOR=7.1; 95% CI=2.3-22.1). Those who did not think PIHCT has negative influence were found to be at higher odd of accepting PIHCT (AOR=4.9, 95% CI=1.4-16.5) as shown in Table 7.

6. Discussions

HIV counseling and testing is the key entry point and cornerstone to comprehensive HIV/AIDS prevention and care services [4]. One of the elements of HCT is PIHCT, which is regarded as cost-effective in all settings and this study assesses its uptake among TB patients and the factors influencing its uptake. In this study it was found that 327 (74.3%) of the interviewed TB patients were ever counseled and tested for HIV (either client or provider initiated) in the past. Among those previously tested: 254 (77.7%) patients were tested during their TB treatment and the remaining 73 (22.3%) of the participants had tested for HIV before being diagnosed for tuberculosis. The reasons for the last HIV test as mentioned by participants were, initiated by health workers 223 (68.2%), and voluntary HIV counseling and testing was 89 (27.2%). Centers used for HIV testing reported by interviewed patients were 251 (76.8%) in their current TB treatment centers, 61 (18.7%) in other facilities, and 1 (3.4%) in free standing VCT centers. In the current assessment, most of the patients interviewed were initiated for HIV counseling and testing by their TB treatment supervisor 373 (84.8%). Among those who were initiated by their treatment supervisor for HIV testing, 336 (89.8%) had under gone HIV testing. And 96.7% of the HIV tested patients had collected their HIV test result.

Our findings self reported acceptability rate of 89.8 % was more than threefold increased when compared to report from Addis Ababa (26.4%) when the service was initiated [38]. And significant forward leap when compared to a study in Arbamich study which demonstrated low prevalence of practical acceptability (35%) [20]. The high prevalence of PIHCT acceptability in this study could be due to the availability of comprehensive HIV/AIDS care (availability of many free standing VCT centers, increased access to ART, OI and care and support services). It can be noted that there is high theoretical acceptability which usually don't complement with similar high practical acceptability [20].

Fifty seven point three percent of the study participants were males with 1.34 to 1 sex ratio. The mean and median ages of the patients were 31.83±11.65 and 29.5 years old respectively. Half (50.0%) of the study populations were between 15-29 years old followed by 30-44 age group which account for 34.1% of the study participants. As

documented by several studies and WHO [14, 15, and 39], this study also showed that a high prevalence of TB occurred in the young and adult population.

In this study, high proportions of TB patients were aware of; curability of TB (98.0%) and source of TB from patients (69.1%). The study also identified misconceptions regarding source of TB among the TB patients (16.6%) saying that cold weather and contaminated water were implicated as a source of TB. This finding is similar to finding from study done North Ethiopia [15] and Addis Ababa [40]. This gap could be due to unplanned health education at health facilities that may affect TB/HIV/AIDS control programs.

In this study, almost all (98.6%) TB patients reported that they have heard of HIV/AIDS. This result is comparable with the results observed among the community (100%) in north Gondar [15] and Addis Ababa [40]. This finding is also comparable with a recent finding from BSS round two that revealed that 98% of study populations were aware of HIV /AIDS [9]. Evaluating findings of the participants' knowledge on mode of HIV transmission, majority (91.4%) mentioned sexual contact as means of transmission and sharing of sharp material with PLWHA was mentioned by 63.6%. But mother to child transmission was reported by only 29.5% of respondents which is much lower when compare to studies done in Gondar [15] and Adama [42]. On the other hand, still few (6.1%) of the participants had misconception on transmission of HIV/AIDS like mosquito bite and sharing of meal with PLWHA as reported as mode of transmission. Similar findings were observed among TB patients in north Gondar [15], Addis Ababa [40, 41]. Misconceptions on HIV transmission and poor knowledge about the disease would affect protective behaviors and may cause stigma associated with the disease that have impacts on the control of the epidemic [13]. Regarding the means against HIV infection; abstinence, faithfulness and correct use of condom was mentioned by 76.4%, 40.5% and 34.3 % of respondents. This is relatively lower when compare to other studies [40-42]. This could be due to poor delivery of the health education in the study area which calls for due attention.

Only 100 (22.7%) of the participants reported that they might be infected with HIV. This finding is lower when compared to studies done in Addis Ababa [39] and Adama [42] and lack of risk perception was mentioned as main reason for not accepting

PIHCT by 54.0% of the non-acceptors. This behavior might be a threat to the scaling up of HIV counseling and testing.

In this study, there was widespread support for PIHCT, with 87.7% of TB patients reporting that they were either extremely or very much in favor of PIHCT which is comparable to findings of a study done in Addis Ababa [40]. A majority of respondents felt that PIHCT would make testing process easier for TB patients and would increase uptake of ART. These results, in conjunction with the high acceptability of PIHCT among TB patients (89.8%) in this study, suggest that PIHCT is beneficial in improving access to testing and thereby increasing life-saving treatment users. A similar result was also reported from a population based study on routine testing in Botswana, where 81% of the study participants were extremely or very much in favor of routine HIV test [33].In addition to the implementation of PIHCT in TB clinics (high preference of TB patients to be tested in TB clinics was seen in clinical trial n Congo [45]), increased access to ART and HIV testing are likely to be the contributing factors for the relatively high prevalence of testing in this study population. Moreover, high knowledge of TB and HIV association could be the possible explanations for the relatively high prevalence of HIV test. However, this finding is lower than findings from other studies done in several countries. In pilot and clinical trials, when HIV counseling and testing is routinely offered by health providers, the acceptability rate of HIV testing is reported to be satisfactorily high, reaching 90 to 100% of patients attending TB clinics in several countries [35-37].

Knowledge and attitude variables like willingness to disclose status of TB to others, believing healthy looking person could be infected with HIV, agreed that everyone should be tested, disagreeing PIHCT has Negative influence and ever been tested were each associated with higher odds of having tested for HIV following their supervisor initiation. Patients who were willing to disclose their TB status to others had higher odd of acceptability of PIHCT (AOR= 3.9; 95% CI= 1.9-8.2) than those who would like to keep it secret. Patients who believed that healthy looking person could be infected with HIV were close to nine times more likely to get tested for HIV following their supervisor initiation than those who don't (AOR 8.8 , 95% CI=2.5-31.7) and those who did not think PIHCT has negative influence were found to be at five times higher odd of accepting PIHCT. In addition, patients who reported that they

agreed any one can check his/her sero-status had higher odds of acceptability of PIHCT (AOR=7.1; 95 % CI=2.3-22.1) and the same association was observed in similar studies done in Addis Ababa [40] and Adama [42]. This can be explained by the fact that those who know the benefit of HIV testing are more likely to accept the test and knowledge of HIV/AIDS would help to bring about desired behavioral changes if applied accordingly.

The association between having prior HIV test and HIV test acceptance may be explained those who had prior HIV test most likely bring behavioural change towards practicing safe sex after knowing their HIV status. The same association was seen in a study conducted in Army hospital prior HIV test was found to be a significant predictor of acceptance of HIV test among pregnant women after adjusted for possible confounding factors [45]. This could be taken as those individuals who performed HIV test in the past would decrease practicing risky sexual behaviour. Hence, TB patients who tested for HIV previously were more likely to accept the test in the current test taking in to consideration their earlier encouraging HIV test result and thinking they will be negative.

This study did not find the hypothesized association between self-perceived risk of HIV infection and acceptability of PIHCT that had been previously reported in the literature [20, 33]. Neither did the study show any association between socio-demographic characteristics nor acceptability of PIHCT that was seen in other studies [15, 20, 40 and 42].

The most commonly cited perceived barriers for PIHCT among respondents who had not been tested for HIV were lack of HIV risk perception, fear of partner's reaction and fear of learning positive result. These findings are similar to findings from studies done on HIV testing in Ethiopia and elsewhere in Africa [16, 17, 20, 33, and 40].

7.Strength and Limitations of the Study

Strengths

1. The study involved all TB patients on DOTS during study period
2. HIV status wasn't asked, so that it can maximize validity of self report on HIV testing
3. Primary data, generated on the spot was used
4.

Limitations

1. Non-probability method was used in selecting study sites
2. Self report might introduce social desirable response
3. Lack of supplementation with qualitative approaches.
4. Practical acceptability was not measured which would have been better estimator of acceptance rate
5. As the study is cross sectional there is difficulty in determining causality

8.Conclusions and Recommendations

Conclusions

- There is evidence of relatively high acceptability of PIHCT in this study. This holds significant promise for the control, prevention and treatment of TB and HIV/AIDS.

- Patients' recognition that any one should get tested for HIV, willing to disclose TB status to others, believing healthy looking persons could be HIV infected and ever tested were found more likely to be tested for HIV following their supervisor initiation.

- There are still misconceptions about transmission of TB and HIV.

- Lack of self perceived risk of HIV infection, unable to cope with the positive HIV test results, fear of stigma and discrimination, fear of partner's reaction and tested before were found to be the main barriers for PIHCT.

Recommendation

- High number of HIV testing following provider initiation observed in this study is encouraging result that needs further strengthening of the service
- Strengthening of IEC/BCC through different channels on TB/ HIV to address barrier to testing.
- Current information, education and communication (IEC) activities need to address misconceptions regarding TB/HIV transmission means
- The study takes into consideration only clients' aspect (acceptability) for PIHCT implementation thus other studies should be done to assess other aspects like professionals' attitude, infrastructure condition and the like

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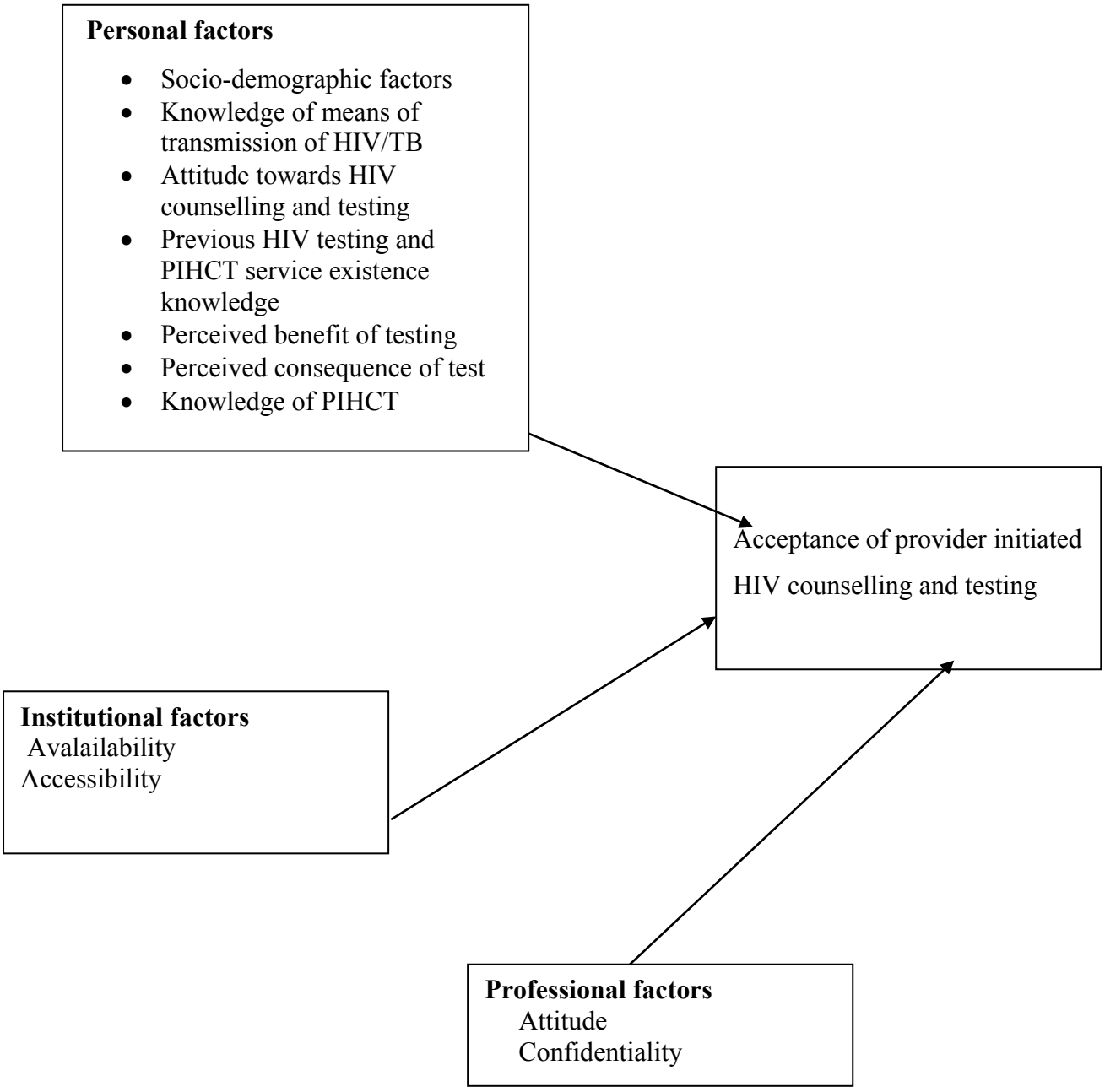
10. Annex

10.1 Conceptual frame work



10.2 Structured Questionnaire English Version

ADDIS ABABA UNIVERSITY MEDICAL FACULTY, SCHOOL OF PUBLIC HEALTH **QUESTIONAIRE**

Assessment of magnitude and factors influencing the acceptance of provider initiated HIV counseling and testing among TB patients in selected areas of Gamo Goffa Zone, SNNPR

Consent form that certify the respondents agreement before the interview

01. Name of Health institution_____
02. Questionnaire Identification Number_____

Introduction: My name is Samson Tesfaye. I came from Addis Ababa University, Medical faculty, School of Public Health. I would like to inform you that you and I would have a short discussion concerning this study. Before we go to our discussion, I will ask you to listen carefully to what I am going to read to you about the purpose and general condition of the study and tell me whether you agree or disagree to participate in this study. I am interviewing TB patients who follow their treatment at…….. (Name of the health institution) about the acceptability of PIHCT and factors influencing its uptake, among TB patients in this health facility. You are selected to be one of the participants in the study. The study will be conducted through interview. The information you give us is confidential and will be used only for study purpose. A code number will identify every participant and no names will be used. If a report of the result is published, only summarized information of the total group will appear. The interview is voluntary and you have the right to participate, or not to participate or to refuse at any time during the interview. Your refusal will not have any effect on services that you or any members of your family receive. However, your participation is important to fulfill the study and design appropriate PIHCT health services for this health facility and other similar setups in the country.

Are you willing to participate in the study?

1. ( ) Yes 2. ( ) No

Thank you!!

If the study subject agrees to participate in the study, start the interview.

03. Interviewer signature certifying that the informed consent has been given verbally.

Name---------- signature----------

Code----------

Date----------month----------2008

04. Result code

1. Completed---------- 3. Partially completed……..

2. Refused---------- 4. Other (please specify)…….

05. Checked by supervisor

Name ----------signature---------- date ----------

NB. For any question or need of clarification you can contact the PI using the following phone number +251-911-861401

Part I. Socio-Demographic Characteristics of Respondents

No	Questions	Coding classifications	Remark

101	How old are you at your last birthday?	----------Years (full yrs)	
102	Record sex of the patient	Male – 1 Female -- 2	
103	What is your religion?	Orthodox -- 1 Muslim -- 2 Protestant -- 3 Catholic -- 4 Other (specify) -- 5	
104	To which ethnic group do you belong?	Gamo -- 1 Welayta -- 2 Konso -- 3 Amhara -- 4 Other (specify) -- 5 No response -- 99	
105	What is your current marital status?	Married in union -- 1 Never married -- 2 Divorced -- 3 Widowed -- 4 Unmarried couples -- 5 No response -- 99	
106	What i s your c ompleted e ducational status?	----------Grade completed Read and write --1 Illiterate --2 No response -- 99	
107	What is your current occupation?	Civil servant -- 1 House wife -- 2 Daily laborer -- 3 Domestic servant -- 4 Hotels worker -- 5 Student -- 6 Merchant -- 7 No job – 8 Farmer--9 Others(specify) -10	
108	What i s y our a verage hous ehold i ncome per month?	----------Birr Eth No income -- 1 No response -- 99	
109	What is your family size?	----------in numbers No response -- 99	
110	Do y ou h ave an y f amily m ember t reated before a nd/or be ing treated now f or tuberculosis?	Yes -- 1 No -- 2 No response -- 99	

Part II: Knowledge, attitude, and opinions on TB/HIV/AIDS

NO	QUESTIONS	CODING CLASSIFICATIONS	REMAK

201	Have you ever been concerned of being infected with TB?	yes --*1* no -- 2 no response -- 99	
202	As a TB patient do you reveal it to others?	Yes -- 1 No -- 2 No response -- 99	
203	In your opinion which segment of population is at risk of getting TB? (Multiple response is possible, needs probing)	the poor people -- 1 those who live with TB patients -- 2 people living with HIVAIDS -- 3 other(specify) -- 4 no response – 99	
204	From where can some one get TB? (Multiple response is possible, Needs probing)	From TB patients -- 1 Health personnel/health unit -- 2 Contaminated air -- 3 Contaminated Water -- 4 Having Sexual intercourse -- 5 Evil sprit -- 6 Other(specify) -- 7 No response -- 99	
205	Do you belief that TB can be cured?	Yes -- 1 No -- 2 No response -- 99	
206	Do you think the number of TB patients increasing after the era of HIV/AIDS?	Yes -- 1 No -- 2 No response -- 99	
207	Do you think control of HIV/AIDS helps for the control of TB?	Yes -- 1 No -- 2 No response -- 99	
208	Have you ever heard of HIV or the disease called AIDS?	Yes -- 1 No -- 2 No response -- 99	
209	Can HIV be cured?	Yes -- 1 No -- 2 No response -- 99	
210	How is HIV/AIDS transmitted? (Multiple response is possible, Needs probing)	Sexual intercourse --1 Mother to Child during pregnancy -- 2 Mother to Child during breastfeeding -- 3 Transfusion of infected blood -- 4 Sharing of Sharps with someone who is infected(Needles, etc) -- 5 shaking hands a person living with HIV/AIDS -- 6 wearing clothes of a person living with HIV/AIDS -- 7 sharing a meal with a person living with HIV/AIDS -- 8 Mosquito bite -- 9 Blood contact -- 10 Other(Specify) -- 11 No response -- 99	
211	How can people protect themselves from getting HIV/AIDS?	Avoiding Sex (abstinence) -- 1 Using a condom every time during sex -- 2 Staying with only one uninfected partner	

	(Multiple response is possible, Needs probing)	faithful -- 3 Others (specify) -- 4 No response -- 99	
212	Do you know any one who is infected with HIV or who has died of AIDS?	Yes -- 1 No -- 2 No response – 99	
213	Can a healthy looking person be positive for HIV?	Yes -- 1 No -- 2 No response -- 99	

PART III-Personal risk perception

No	Questions	Coding Classifications	Remark
301	Do you think you can get the virus?	Yes -- 1 No -- 2 No response -- 99	If response is no, go to Q 304
302	What are your chances of getting infected with HIV?	Minimal-- 1 moderate -- 2 high -- 3 No response -- 99	
303	If the answer is moderate or high, what are the reasons?	I had multiple sexual partner -- 1 I had sexual contact with out condom-- 2 I had injection with un sterile needle -- 3 I had sexual contact with HIV positive person -- 4 Other specify -- 5 No response -- 99	
304	If your response is no to question number 301,what are the reasons	I trust my sexual partner -- 1 no injection with un sterile needle 2 I always use condom -- 3 Abstained – 4 Others specify-5 No response -- 99	

PART-IV: provider-initiated HIV counseling and testing.

No	Questions	Coding Classifications	Remark
401	Have you ever heard of PIHCT?	Yes – 1 No -- 2 No response -- 99	If response is no, go to Q 403
402	If your response to Q401 is yes, where did you get the information? (Multiple response is possible, Needs probing)	Health workers – 1 Mass media -- 2 Family member -- 3 friends -- 4 Other(specify)-- 5 No response -- 99	
403	Do you agree that any one should check his /her HIV sero-status?	Yes – 1 No -- 2 No response -- 99	
404	To what extent are you in favor of PIHCT?	Extremely in favor – 1 Very much -- 2 Somewhat – 3 Not at all--4 No response -- 99	
405	Did you feel that PIHCT is important?	Yes – 1 No -- 2 No response -- 99	If response is no, go to Q 407
406	If your response to Q405 is yes, what are the reasons for feeling that PIHCT is important?	Helps TB patients get access to ART—1 Makes easier for TB patients to get tested—2 Results in less discrimination (bad treatment) of HIV positive TB patients—3 Increase number of tested people – 4 Other(specify)-- 5 No response – 99	
407	Did you feel that PIHCT has influence?	Yes – 1 No -- 2 No response – 99	If response is no, go to Q 409
408	If your response to Q407 is yes, what are the reasons for feeling that PIHCT has influence?	Will cause TB patients to avoid seeing health professionals for fear of being tested—1 Violet TB patients human right – 2 Leads to more violence against women – 3 Other(specify)-- 4 No response – 99	
409	At which time should one be tested for HIV? (Multiple response is possible, Needs probing)	When one is sick – 1 Before marriage -- 2 If only has multiple partners -- 3 At any time -- 4 Other (specify) -- 5 No responses – 99	
410	Who are people in need of HIV test? (Multiple response is possible, Needs	Female commercial sex workers – 1 Drivers -- 2	

	probing)	People with history of unprotected sex --3 TB patients -- 4 Those with multiple partners -- 5 Any one sexually active -- 6 Those who are sick -- 7 Any one at risk -- 8 Others (specify) -- 9 No responses -- 99	
411	I don't want to know the result, but have you ever been tested for HIV?	Yes – 1 No -- 2 No response – 99	If response is no, go to Q 415
412	If your response to Q411 is yes, what was the reason of having HIV test?	Voluntary testing by your self – 1 Initiated by health worker -- 2 Donation of blood -- 3 Infected with TB -- 4 Others(specify) -- 5 No response -- 99	
413	If your response to Q411 is yes, when did you do your last test for HIV?	Before my illness – 1 After my illness -- 2 Other(specify) -- 3 No response -- 99	
414	If your response to Q411 is yes, where did you do your test?	Your TB treatment center – 1 Other health facilities -- 2 Free standing VCT centers -- 3 Other (specify) -- 4 No response -- 99	
415	If your response to Q411 is no, what are your reasons for not to be tested? (Multiple response is possible, Needs probing)	Fear of stigma and discrimination follow the positive result -- 1 Fear of partner's reaction -- 2 Unable to cope with the positive result --3 I am not risk person for HIV -- 4 Difficult to pay for HCT service -- 5 Absence of HCT center in TB treatment center -- 6 Belief as Begin tested is not useful -7 Not sure of the confidentiality -- 8 Don't want to know the result -- 9 Partners trust -- 10 self trust -- 11 Other (specify) -- 12 No response – 99	
416	Did your TB treatment supervisor initiate you for HIV counseling and testing any time during your TB treatment follow-up?	Yes -- 1 No -- 2 No response – 99	If response is no, stop here
417	If your response to Q416 is yes, I don't want to know the result, but have you had HIV counseling and testing following your supervisor initiation?	Yes – 1 No -- 2 No response -- 99	If response is no, go to Q 421
418	If your response to Q417 is yes, did you	Yes – 1	

	receive counseling before testing?	No -- 2 No response -- 99	
419	If your response to Q417 is yes, did you receive counseling after testing?	Yes – 1 No -- 2 No response -- 99	
420	If your response to Q417 is yes, don't tell me result; do you know the result of your test?	Yes – 1 No -- 2 No response -- 99	
421	If your response to Q417 is no, what were your reasons for not to be tested? (Multiple response is possible, Needs probing)	Fear of stigma and discrimination following the positive result -- 1 Fear of partner's reaction -- 2 Unable to cope with the positive result --3 I am not risk person for HIV – 4 Fear of discrimination (bad treatment) by health providers—5 No access to good quality clinic—6 Other people advised not to test-- 7 Belief as Being tested is not useful --8 Not sure of the confidentiality -- 9 Don't want to know the result -- 10 Partners trust -- 11 Tested before -- 12 Other (specify) -- 13 No response -- 99	

10.3 Structured Questionnaire Amharic Version
በአዲስ አበባ ዩኒቨርሲቲ

ህክምና ፋካልቲ
የህብረተሰብ ጤና ትምህርት ቤት

በ ጋሞ ጎፋ ዞን የተመረጡ ጤና ጣብያዎችና ሆስፒታሎች የሳንባ ነቀረሳ/ቲቢ በሽታ ህክምናቸውን በመከታተል ላይ ለሚገኙት ህሙማን በጤና ባለሙያ አነሳሽነት ለሚደረግ የኤች አይ ቪ ምርመራና ምክር አገልግሎት አቀባበል ሁኔታ የተመለከተ ጥናት

<u>ከመጠይቁ በፊት የተጠያቂዉን ስምምነት ማረጋገጫ ቅጽ</u>

01. የጤና ተቋሙ ስም----------
02. የመጠይቁ መለያ ቁጥር----------

<u>መግቢያ</u> ስሜ ሳምሶን ተስፋዬ ይባላል::እ እኔ የመጣሁት ከአዲስ አበባ ዩኒቨርሲቲ ሕክምና ፋካልቲ ሕብረተሰብ ጤና ትምህት ቤት ሲሆን የአዲስ አበባ ዩኒቨርሲቲ የጥናት ቡድን አባል ነኝ:: እ እኔና እ እርስዎ ይሸንን ጥናት በተመለከተአጭር ዉይይት እንደሚኖረን ልግልጽልዎት እወዳለሁ:: ወደ ዉይይ ታችን ከመግባታችን በፊት ስለጥናቱ አላማና አጠቃላይ ሁኔታታ ገለጻ ስለማደርግልዎት በጽሞና እእንዲያዳምጡኝ እፈልጋለሁ:: በአዲስ አበባ ዩኒቨርሲቲ የህክምና ፋክሊቲ የህብረተሰብ ጤና ትምህርት ክፍል አስባባሪነት በሚከናወነው ጥናት የሳንባ ነቀርሳ/ቲቢ በሽታ ህክምናቸውን በመከታተል ላይ ለሚገኙት ሕሙማን በጤና ባለሙያ አነሳሽነት ለሚደረግ የኤች.አይ.ቪ ምርመራና ምክር አገልግሎት መጠይቆችን እጠይቃለሁ::

እርስዎ ለዚህ ጥናት ተሳታፊ እንዲሆኑ ተመርጠዋል::ይህ ጥናት የሚካሄደው በ ቃለ መጠይቅ ሲሆን በዚህ ጥናት እያንዳንዱን ተሳ ታፊ ለመለየት መለያ ቁጥር እንጂ ስም አንጠቀምም:: የጥናቱ ዉጤት ሲታተም የማታተመው አጭር ማጠቃለያ ሲሆን ይኸም የቃለ መጠይቁን ተሳታፊዎች ያጠቃለለ መረጃ ይሆናል:: መጠይቁ በፈቃደኝነት ላይ የተመሰረተ ሲሆን እእርስዎ በጥናቱ ዉስጥ የመሳተፍ ያለመሳተፍ እና የመቃወም መብትዎ በማንኛዉም ሰዓት የተጠበቀ ነው:: በጥናቱ ውስጥ አልሳተፍም ማለትዎ በእርስዎና ቤተሰብዎ በጤና ተቋሙ ዉስጥ በሚያገኙት አገልግሎት ላይ ምንም ዓይነት ተጽዕኖ አይፈጥርም:: ነገር ግን እርስዎ በጥናቱ ተሣትፈው የሚሰጡን መረጃ የጥናቱን አላማ ለማሣካት እና ለሣንባ ነቀርሣ ህሙማን የኤች.አይ.ቪ ህክምና አገልግሎት አሰጣጥ ላይ ለውጥ ለማምጣት ከፍተኛ ጠቀሜታ አለው::
በጥናቱ ለመሳተፍ ፈቃደኛ ነዎት?
1. አዎ( ) 2. አይደለሁም( )
አመሰግናለሁ
የጥናቱ ተሳታፊ በጥናቱ ለመሳተፍ ፈቃደኛ ከሆኑ ቃለመጠይቁ ይጀመር::
03. ተጠያቂዋ በቃል ተነግሯት የተስማማች ለመሆኗ የሚያረጋግጥ የቃለመጠይቁ አድራጊ ስምና ፊርማ
ሀ. ስም---------- ፊርማ----------
ለ. ኮድ----------
ሐ. ቀን----------ወር----------2001
04. <u>ዉጤት(መጠይቁ መሞላቱን ለማረጋገጥ)</u>
ሀ. ሙሉ በሙሉ የተሞላ ለ. በከፊል የተሞላ
ሐ. ተጠያቂው ፍቃደኛ አይደለም መ. ሌላ ካለ ይገለጽ----------

05 .በተቆጣጣሪዉየተረጋገጠ(መጠይቁመሞላቱንለማረጋገጥ)

ስም..... ፊርማ----------ቀን----------

ማንኛውንም አይነት ጥያቄ ወይም ማብራሪያ ከፈለጉ ተመራማሪውን በዚህ ስልክ ማግኘት ይቻላል 00251-911-861401

<u>ክፍል አንድ: የተቋፊዎች ን ማህበራዊና ኢኮኖሚያዊ የሚያመለክቱ ጥያቄዎች</u>

ተ.ቁ	ጥያቄዎች	መልስ ሊሆኑ የሚችሉ	አስተያየት

		ዝርዝሮች	
101	እድሜዎ ስንት ነው?	_____ዓመት/በሙሉ ዓመት ይገለፅ	
102	የተጠያቂው ፆታ	ወንድ ---1 ሴት ---2	
103	ሐይማኖትዎ ምንድን ነው?	ኦርቶዶክስ ---1 ሙስሊም ---2 ፕሮቴስታንት ---3 ካቶሊክ ---4 ሌላ ካለ ይገለፅ ---5 መልስ የለም ---99	
104	ብሔርዎ ምንድን ነው?	ጋሞ....1. ወላይታ....2 ኮሶ.....3 አማራ.....4 ሌላ ካለ ይገለፅ ---5 መልስ የለም ---99	
105	በአሁኑ ወቅት የጋብቻ ሁኔታዎ እንዴት ነው?	ያገቡ ---1 ያላገቡ ---2 የተፋቱ ---3 ባል/ሚስት የሞተባቸው ---4 ያልተጋቡ ጥንዶች ---5 መልስ የለም -- 99	
106	ተምረው የጨረሱት ከፍተኛው የትምህርት ደረጃ ስንት ነው?	_____ክፍል ያጠናቀቁ ማንበብና መፃፍ የሚችል ....1 ማንበብና መፃፍ የማይችል - 2 መልስ የለም ---99	
107	በአሁኑ ወቅት ያሉበት የስራ አይነት ምንድን ነው?	የመንግስት ሰራተኛ ---1 የቤት እመቤት ---2 የቀን ሰራተኛ ---3 የቤት ሰራተኛ ---4 የቡና ቤት ሰራተኛ ---5 ተማሪ ---6 ነጋዴ ---7 ስራ የሌለው ---8 ገበሬ----------9 ሌላ ካለ ይገለፅ ---10	
108	ጠቅላላ የቤተሰብ አማካይ የወር ገቢ ስንት ነው?	_____የኢ/ብር ገቢ የሌለው ---8 መልስ ---99	
109	የቤተሰብ አባላት ብዛት ስንት ነው?	_____ቁጥር መልስ የለም ---99	
110	ከቤተሰብዎ ውስጥ በቲቢ በሽታ ታሞ ህክምና የወሰደ አለ? (ከአሁን በፊት ወይም አሁን)	አዎ ---1 የለም ---2 መልስ የለም ---99	

ክፍል ሁለት: ስለ ኤች.አይ.ቪ ኤድስ እና ቲቢ ያለዎትን እውቀት አስተያየት አመለካከት

ተ.ቁ	ጥያቄዎች	መልስ ሊሆኑ የሚችሉ ዝርዝሮች	አስተያየት

201	በሳምባ ነቀርሳ /ቲቢ በሽታ እያዛለሁ የሚል ስጋት ነበርዎት?	አዎ ---1 የለኝም ---2 መልስ የለም ---99	
202	የሳምባ ነቀርሳ/ቲቢ በሽታ እንዳለቦዎ ለሌሎች ሰዎች ይናገራሉ?	እናገራለሁ ---1 አልናገርም ---2 መልስ የለም ---99	
203	በእርሶዎ አመለካከት/እይታ ለሳምባ ነቀርሳ/ቲቢ በሽታ በተለየ መልኩ ተጋላጭ የሆነ የህብረተሰብ ክፍል የትኛው ይሆናል ብለው ያምናሉ? (ከአንድ በላይ መልስ ይቻላል። አታንብበው የሚሰጡትን ሁሉ መልስ አክብበው)	ደሀው ህብረተሰብ ---1 ከቲቢ ህሙማን ጋር የሚኖር ሰው ---2 ከኤች አይ ቪ ኤድስ ጋር አብሮ የሚኖር ሰው ---3 ሌላ ካለ ይገለጽ ---4 መልስ የለም ---99	
204	አንድ ሰው የሳንባ ነቀርሣ በሽታ ከየት ሊይዘው ይችላል? (ከአንድ በላይ መልስ ይቻላል።የሚሰጡትን ሁሉ መልስ አክብበው)	ከቲቢ በሽተኛ ---1 ከጤና ባለሙያዎች/ተቋማት ---2 ከተበከለ አየር ---3 ከተበከለ ውሀ ---4 ከግብረ ስጋ ግንኙነት ---5 ከእርኩስ መንፈስ ---6 ሌላ ካለ ይገለጽ ---7 መልስ የለም ---99	
205	የሳምባ ነቀርሳ/ቲቢ በህክምና ሊድን/ሊፈወስ ይችላል?	አዎን ---1 አይፈውስም ---2 መልስ የለም ---99	
206	የኤች አይ ቪ/ኤድስን በሽታ ከተከሰተ ወዲህ የሳንባ ነቀርሳ/ቲቢ ህሙማን የጨመረ ይመስልዎታል?	አዎን ---1 የለም ---2 መልስ የለም ---99	
207	የኤች አይ ቪ/ኤድስ መቆጣጠር የሳንባ ነቀርሣ/ቲቢን ለመቆጣጠር የሚረዳ ይመስልዎታል?	ይረዳል ---1 አይረዳውም ---2 መልስ የለም ---99	
208	ስለ ኤች አይ ቪ/ኤድስ በሽታ ሰምተው ያውቃሉ?	አዎ ሰምቻለሁ ---1 አልሰማሁም ---2 መልስ የለም ---99	
209	የኤች አይ ቪ ኤድስ በሽታ ፈዋሽ መድኃኒት ያለው ይመስልዎታል?	አዎ ---1 የለውም ---2 መልስ የለም ---99	
210	የኤች አይ ቪ ኤድስ በሽታ በምን መንገድ ሊተላለፍ ይችላል? (ከአንድ በላይ መልስ ይቻላል አታንብበው የሚሰጡትን ሁሉ መልስ አክብበው)	በግብረ ሥጋ ግንኙነት ---1 ከእናት ወደ ፅንስ በእርግዝና ጊዜ ---2 ከእናት ወደ ልጅ በጡት መጥባት ---3 በኤች አይ ቪ ኤድስ የተበከለ ደም መቀበል ---4 ኤች አይ ቪ ኤድስ ከያዘው ሰው ጋር በጋራ ስለታም ነገሮችን መጠቀም ---5 መጨባበጥ ---6 የኤች አይ ቪ ኤድስ በሽታኛ ልብሶች መልበስ --7 ኤች አይ ቪ ኤድስ ከያዘው ሰው ጋር አብሮ መመገብ ---8 በወባ ትንኝ ---9 በደም ንክኪ ---10 ሌላ ካለ ይገለፅ ---11 መልስ የለም ---99	

211	አንድ ሰው በኤች አይ ቪ ኤድስ እንዳይያዝ በምን መንገድ መከላከል ይቻላል? (ከአንድ በላይ መልስ ይቻላል። አታንብበው የሚሰጡትን ሁሉ መል አክብበው)	ከግብረ ስጋ ግንኙነት በመቆጠብ ---1 ግብረ ስጋ ግንኙነት በፈፀሙ ቁጥር ኮንዶም መጠቀም ---2 ከበሽታ ነፃ ከሆነ/ች ጋር አንድ ለአንድ መወሰን ---3 ሌላ ካለ ይጠቀስ ---4 አላውቅም ---88 መልስ የለም ---99	
212	ከኤች አይ ቪ ጋር የሚኖር አልያም በኤድስ በሽታ የታመመ ወይም በበሽታው የሞተ ሰው ያውቃሉ?	አውቃለሁ ---1 አላውቅም ---2 መልስ የለም ---99	
213	ጤናኛ የሚመስሉ ሰዎች የኤች አይ ቪ ቫይረስ ሊኖርባቸው ይችላል?	ይችላል ---1 አይችልም ---2 መልስ የለም ---99	

ክፍል ሶስት፡ ስለበሽታዉ የመጋለጥ ግላዊ እሳቤ

ተ.ቁ	ጥያቄዎች	መልስ ሊሆኑ የሚችሉ ዝርዝሮች	አስተያየት
301	የኤች አይ ቪ ቫይረስ ሊይዘኝ ይችላል ብለው ያስባሉን?	አዎ ---1 አላስብም ---2 መልስ የለም ---99	መልሱ አላስብም ከሆነ ወደ ቁጥር 304 ይሂዱ
302	የራስዎ የኤች አይ ቪ/ኤድስ ተጋለጭነት ምን ያህል ይመስልዎታል?	አነስተኛ ተጋላጭ ነኝ ---1 መካከለኛ ተጋላጭ ነኝ ---2 በጣም ተጋላጭ ነኝ ---3 መልስ የለም ---99	

303	የጥያቄ 301 መልስ አዎ ከሆነ ምክኒያቱ ምንድነው ?	ያለ ኮንዶም የግብረ ስጋ ግንኙነት ስለፈፀምኩ ---1 ኤች አይ ቪ ፖዘቲቭ ከሆነ ሰው ጋር የግብረ ስጋ ግንኙነት ስለፈፀምኩ ---2 ብዙ የወሲብ ጓደኞች ስለነበሩኝ ---3 ሌላ ሰው በተጠቀመበት መርፌ ስለተጠቀምኩ ---4 ሌላ ካለ ይጠቀስ ---5 መልስ የለም ---99	
304	የጥያቄ 301 መልስ አይደለም ከሆነ ምክኒያቱ ምንድን ነው?	በአንድ ሰው ተወስኜ ስለምኖር ---1 በተበከለ መርፌ ስለምጠቀም ---2 ሁልጊዜ ኮንደም ስለምጠቀም ---3 ስለታቀብኩ ---4 ሌላ ካለ ይጠቀስ----5 መልስ የለም ---99	

ክፍል አራት፡ : በጤና ባለሙያ አነሳሽነት ላይ የተመሰረተ የኤች አይ ቪ ምርመራና ምክር አገልግሎት አጠቃቀም

ተ.ቁ	ጥያቄዎች	መልስ ሊሆኑ የሚችሉ ዝርዝሮች	አስተያየት
401	በጤና ባለሙያ አነሳሽነት ላይ የተመሠረተ የኤች አይ ቪ ኤድስ ምክርና ምርመራ አገልግሎት መኖሩን ሰምተው ያውቃሉ?	ሰምቻለሁ ---1 አልሰማሁም ---2 መልስ የለም ---99	መልሱ አልሰማሁም ከሆነ ወደ ቁጥር 403
402	ለቁጥር 401 መልሱ ሰምቻለሁ ከሆነ መረጃው ከየት ነው ያገኙት?	ከጤና ባለሙያዎች/ተቋማት ---1 ብዙሀን መገናኛ ---2 ከቤተሰብ ---3 ከጓደኛ ---4 ሌላ ካለ ይጠቀስ ---5 መልስ የለም ---99	

403	ማንኛውም ሰው የኤች አይ ቪ ምርመራ ማድረግ አለበት ብለው ይስማማሉ?	አዎ ---1 አልስማማም ---2 መልስ የለም ---99	
404	በጤና ባለሙያ አነሳሽነት ላይ የተመሰረተ የኤች አይ ቪ ምክርና ምርመራ አገልግሎትን ምን ያክል ይደግፋሉ?	እጅግ በጣም ---1 በጣም ---2 በመጠኑ --3 አልደግፍም ---4 መልስ የለም ---99	
405	በጤና ባለሙያ አነሳሽነት ላይ የተመሰረተ የኤች አይ ቪ ምክርና ምርመራ አገልግሎት ጠቃሚ ነው ብለው ያስባሉ?	አዎ ---1 አይጠቅምም ---2 መልስ የለም ---99	መልሱ አይጠቅምም ከሆነ ወደ 407 ይሔዱ
406	በቁጥር 405 መልሱ አዎ ከሆነ በጤና ባለሙያ አነሳሽነት ላይ የተመሰረተ የኤች አይ ቪ ምክርና ምርመራ ለቲቢ ህመምን መጀመሩ ምን ጥቅም አለው ብለው ያስባሉ?	የቲቢ ህመምን የፀረ ኤድስ መድሃኒት እንዲያገኙ ይረዳል ---1 ቲቢ ህመምን በቀላሉ እንዲመረመሩ ያደርጋል ---2 ኤች አይ ቪ ፖዘቲቭ በሆኑ ቲቢ ህመምን ህክምና ላይ የሚደረግ አድልዎ ይቀንሳል ---3 የተመርማሪ ቁጥር እንዲጨምር ያደርጋል ---4 ሌላ ካለ ይገለጽ ---5 መልስ የለም ---99	
407	በጤና ባለሙያ አነሳሽነት ላይ የተመሰረተ የአች አይ ቪ ምክርና ምርመራ አገልግሎት ተጽእኖ አለው ብለው ያስባሉ?	አዎ ---1 የለውም ---2 መልስ የለም ---99	መልሱ የለውም ከሆነ ወደ 409 ይሂዱ
408	በቁጥር 407 መልሰ አዎ ከሆነ በጤና ባለሙያ አነሳሽነት ላይ የተመሰረተ የኤች አይ ቪ ምክርና ምርመራ አገልግሎት መጀመር ምን ተፅዕኖ ይኖረዋል ብለው ያስባሉ?	ቲቢ ህመምን የኤች አይ ቪ ምርመራን በመፍራት ወደ ህክምና ማዕከል እንዳይሄዱ ያደርጋል ---1 የቲቢ ህመምን ሰብአዊ መብት ሊጥስ ይችላል ---2 በሴቶች ላይ ያታዊ ጥቃት እንዲደርስ ያደርጋል ---3 ሌላ ካለ ይጠቀስ ---4 መልስ የለም ---99	
409	አንድ ሰው የኤች አይ ቪ ምርመራ ማድረግ ያለበት መቼ ነው?	ሲታመም ---1 ከጋብቻ በፊት ---2 ከአንድ በላይ ወሲብ ጓደኛ ሲኖረው ---3 በማንኛውም ጊዜ ---4 ሌላ ካለ ይጠቀስ ---5 መልስ የለም ---99	
410	የኤች አይ ቪ ምርመራ የሚያስፈልገው ለማን ነው ይላሉ? (ከአንድ በላይ መልስ ይቻላል:: አታንብበው የሚሰጡትን መልስ አክብብ)	ለሴተኛ አዳሪዎች ---1 ለሾፌሮች ---2 ያለ ኮንዶም የግብረ ስጋ ግንኙነት ያደረገ/ች ---3 ለቲቢ ህመምን ---4 ከአንድ በላይ ወሲብ ጓደኛ ያለው --5 የግብረ ስጋ ግንኙነት ማድረግ የጀመረ/ች ---6 ለታመሙ ሰዎች ---7 ማንኛውም ሰው የኤች አይ ቪ ተጋላጭ የሆነ ሰው ---8 ሌላ ካለ ይጠቀስ ---9 መልስ የለም ---99	

411	የምርመራውን ውጤት ማወቅ አልፈልግም። የ ኤች አይ ቪ ምርመራ አድርገው ያውቃሉ?	ተመርምሬ አውቃለሁ ---1 ተመርምሬ አላውቅም ---2 መልስ የለም ---99	መልስዎ ተመርምሬ አላውቅም ከሆነ ወደ ቁጥር 415 ይሂዱ
412	ለቁጥር 411 መልስዎ አዎ ከሆነ በምን ምክንያት ነበር የ ኤች አይ ቪ ምርመራ ያደረጉት?	በራሴ ፍላጎትና ጥያቄ ---1 በጤና ባለሙያ ትዕዛዝ ---2 የደም ልገሣ ለማድረግ ---3 ለጋብቻ ---4 ሌላ ካለ ይጠቀስ ---5 መልስ የለም ---99	
413	ለቁጥር 411 መልስዎ አዎ ከሆነ የመጨረሻውን የኤች አይ ቪ ምርመራ ያደረጉት መቼ ነው?	በቲቢ በሽታ ከመታመሜ በፊት ---1 በቲቢ በሽታ ከታመምኩ በሁዋላ ---2 መልስ የለም ---99	
414	ለቁጥር 411 መልስዎ አዎ ከሆነ የኤች አይ ቪ ምርመራ የት ነበር ያደረጉት?	የቲቢ ህክምና በሚከታተሉበት የጤና ድርጅት ---1 ሌላ የጤና ድርጅት ---2 ለኤች አይ ቪ ምርመራ አገልግሎት ብቻ በሚሰጡ ድርጅት ---3 ሌላ ካለ ይጠቀስ ---4 መልስ የለም ---99	
415	ለቁጥር 411 መልስዎ ተመርምሬ አላውቅም ከሆነ በምን ምክንያት ነው የ ኤች አይ ቪ ምርመራ ያላደረጉት? (ከአንድ በላይ መልስ ይቻላል። አታንብበው የሚሰጡትን ሁሉ መልስ አክብበው)	አድልዎና መገለል በመፍራት ---1 ቫይረሱ ቢኖርብኝ የጓደኛ ቁጣ በመፍራት ---2 ውጤት ለመቀበል ስለምፈራ ---3 ኤች አይ ቪ ይይዘኛል ብዬ ስለማላስብ ---4 የኤች አይ ቪ ምርመራ ዋጋ መክፈል ስለማልችል ---5 በቲቢ የህክምና ማዕከል የኤች አይ ቪ ምርመራና ምክር አገልግሎት ስለሌለ ---6 መመርመር ጥቅም አለው ብዬ ስለማላምን ---7 ሚስጢራዊነቱን መጠበቁን ስለምጠራጠር ---8 ውጤቱን ማወቅ ስለማልፈልግ -9 ጓደኛዬ ስለተመረመረ ---10 ሌላ ካለ ይጠቀስ ---11 መልስ የለም ---99	
416	የቲቢ ህክምናውን ክትትል የሚያደርግልዎ የጤና ባለሙያ የኤች አይ ቪ ምክርና ምርመራ እንዲያደርጉ አነሳስተዎት ያውቃል?	ያውቃል ---1 አያውቅም ---2 መልስ የለም ---99	መልስዎ አያውቅም ከሆነ ቃለመጠይቁን እዚህ ላይ ይጨርሳሉ።
417	ለቁጥር 416 መልሱ ያውቃል ከሆነ የምርመራ ውጤቱን ማወቅ አልፈልግም ነገር ግን በጤና ባለሙያው አነሳሽነት የኤች አይ ቪ ምርመራ አድርገዋል?	አዎ ---1 አላደረኩም ---2 መልስ የለም ---99	መልስዎ አላደረኩም ከሆነ ወደ 421 ይሂዱ
418	ለቁጥር 417 መልሱ አዎ ከሆነ ከምርመራው በፊት የምክር አገልግሎት ወስደዋል?	አዎ ---1 አልወሰድኩም ---2 መልስ የለም ---99	
419	ለቁጥር 417 መልሱ አዎ ከሆነ	አዎ ---1	

	ከምርመራው በኋላ የምክር አገልግሎት ወስደዋል?	አልወሰድኩም ---2 መልስ የለም ---99	
420	ለቁጥር 417 መልሱ አዎ ከሆነ የምርመራ ውጤቱን ማወቅ አልፈልግም ነገር ግን የኤች አይ ቪ ምርመራ ውጤትዎን አውቀዋል?	አውቄያለሁ ---1 ውጤት አላውቅም ---2 መልስ የለም ---99	
421	በቁጥር 417 መልስዎ አላደረኩም ከሆነ በምን ምክንያት ነው ምርመራ ያለደረኩት?	አድሎና መገለል በመፍራት ---1 ቫይረሱ ቢኖርብኝ የጓደኛ ቁጣ በመፍራት ---2 ውጤት ለመቀበል ስለምፈራ ---3 ኤች አይ ቪ ይይዘኛል ብዬ ስለማላስብ ---4 በጤና ባለሙያዎች አድሎ /ጥሩ ያልሆነ ህክምና/ይደርስብኛል ብዬ ስለምፈራ ---5 ጥሩ እና ጥራት ያለው የህክምና ማዕከል አቅርቦት ስለሌለ ---6 ሌሎች ሰዎች እንዳልመረመር ስለመከሩኝ ---7 መመርመር ጥቅም አለው ብዬ ስለማላምን ---8 ሚስጢራዊነቱ መጠበቁን ስለምጠራጠር ---9 ውጤቱ ማወቅ ስለማልፈልግ ---10 ጓድናዬ ስለተመረመረ ---11 ተመርምሬ ስላማውቅ ---12 ሌላ ካለ ይጠቀስ ---13 መልስ የለም ---99	

ጥያቄ አለዎትን?

ቃለ መጠቁን እዚህ ላይ እንጨርሳለን:: ቃለ መጠይቁን ለማድረግ ስለተባበሩን ከልብ አመሰግናለሁ::

Declaration of Principal investigator

I the under signed MPH student declare that this thesis is my original work in partial fulfillment of the requirement for the degree of Master of Public Health. All sources of materials used for this thesis and all people and institutions who gave their support for this work are fully acknowledged.

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Approval of the primary Advisor

This Thesis work has been submitted for examination with my approval as university advisor.

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