
# ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCE SCHOOL OF PUBLIC HEALTH

## MAGNITUDE AND RELATED FACTORS OF HIV INDEX TESTING IN SELECTED GOVERNMENT HEALTH FACILITIES IN LIDETA SUB CITY ADDIS ABABA, ETHIOPIA.

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## Master of public health research project submission form

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Acronyms

| | |
|---|---|
| AA | Addis Ababa |
| AIDS | Acquired Immunodeficiency Syndromes |
| AOR | Adjusted Odds Ratio |
| ART | Antiretroviral Therapy |
| ARV | Anti-retroviral |
| AU | Africa Union |
| CHASS | Clinical and Community HIV/AIDS Services Strengthening |
| Covid 19 | Corona Virus Disease 19 |
| EDHS | Ethiopian Demographic Health Survey |
| EPHI | Ethiopian Public Health Institution |
| EPHIA | Ethiopian Public Health Institution Assessment |
| FGD | Focus Group Discussion |
| FMOH | Federal Ministry of Health |
| HIV | Human Immunodeficiency Virus |
| HIVST | HIV Self-Test |
| HTS | HIV Testing Service |
| ICT | Index Case Testing |
| PLHIV | People Living With HIV/AIDS |
| PMTCT | Prevention of Mother To Child Transmission |
| PNS | Partner Notification Service |
| PP | Priority Population |
| REC | Research Ethical Committee |
| SPSS | Statistical Package for Social Science |
| SRS | Simple Random Sampling |
| SSA | Sub Sahara Africa |
| UNECA | United Nation European Commission Agency |
| UNAIDS | United Nation Program On HIV/AIDS |
| VCT | Voluntary and Counseling Service |

## Abstract

**Introduction:** Ethiopia is one of the countries' most severely hit by HIV pandemic. Two percent of new HIV infection 3% of HIV-related death occurred in Ethiopia in 2017. The national adult HIV prevalence rate was 0.9% [1.2% in females and 0.7% males]. Index testing is focus on offering HIV testing to everyone exposed to HIV by the index case. Ethiopian Country Operation Plan (COP19) is focused on active case finding using Index Case Testing (ICT) (minimum 20% yields) as a major component of service delivery efforts. This research analyzed the HIV sero-prevalence among sexual partners and children of Index cases.

**Objectives**: To assess the magnitude and associated factors of HIV index testing among index cases on ART follow-up in selected government health facilities in lideta subcity, Addis Ababa, Ethiopia

**Methods:** Mixed method facility-based cross-sectional study design was used. Pretested checklist was used to retrieve information from the client's medical record and analyzed using SPSS version 23. Results were displayed in Odds ratio, confidence intervals, and P-value. Bivariate and multi variable analysis used to analyze HIV index testing and the factors associated with it. Qualitative data was collected through in-depth interviews and analyzed using open code and thematic analysis approach.

**Result:** A total of 385 index cases on patient card reviewed from ART follow-up. Out of two hundred ninety-one partners 84% and from 481 children 91% were tested. Sixty percent of partners and 9.6% of children's test results were positive. The odds of HIV index testing were higher in male partners AOR 8.43(1.32-8.94) than females. Index cases who had one children AOR of 7.59(2.39,26.95) and two children AOR of 3.47(1.2,10.4) times more likely HIV tested than index cases with no children. The qualitative test result showed that the major reasons for not testing their families were fear disclosure, fear of positive test result, stigma and discrimination and service related factors.

**Conclusions and Recommendation:** This study showed that high proportions of index partners and children have been tested for HIV. Out of tested partners, the majority test result was positive. Factor that had a strong association with HIV index testing was being male partner and having one or two children. The health institutions should strengthen ICT service in the ART unit to ensure the sustainability of testing.

# 1. Introduction

## 1.1 Background

HIV infection remains one of the greatest challenges facing the global health community, and a devastating infection in sub-Saharan Africa (1). The United Nation Program On HIV/AIDS (UNAIDS) set the goal of ending the (Acquired Immunodeficiency Syndromes) AIDS epidemic by 2030 in 2014, and announced that 95% of people living with HIV should be aware of their HIV status, while an estimated 40% remain undiagnosed (2) Eastern and Southern Africa accounted for 45% of HIV infections and 53% of HIV patients worldwide in 2017 (3). Many children living with HIV in resource-limited settings are still undiagnosed and at risk of HIV-related mortality and morbidity (4) and several factors are associated with partner non-testing, and there are numerous serious challenges to achieving full global epidemic control (95-95-95) (5))(6).

According to the 2018 Ethiopian Population-based HIV Impact Assessment (EPHIA), the urban HIV prevalence is 3%, with the prevalence varying geographically, ranging from 0.8 to 5.7% in the Somali and Gambella regions ((7)8).Whereas the prevalence in Addis Ababa is 3.1%, despite its relative economic advantages and easy access to health care, Addis Ababa City, falls below the rest of the country in key HIV indicators when non-residents are factored out (8) (9). Addis Ababa is home to 104,851 PLHIV, accounting for approximately 17.7% of the country's PLHIV population, though only accounting for 3.5% of the total population. (1(9)0). A total of 94,240 clients were on antiretroviral therapy (ART) in Addis Ababa and 3616 were newly enrolled.(11).

Several novel approaches have been developed to improve the efficacy and yield of HIV testing by bringing HIV testing services (HTS) into facility-based (Voluntary Counseling and Testing (VCT) and Provider Initiated Testing and Counseling (PITC)) and community-based settings (Families of HIV Index cases, widows, divorced, remarried, and AIDS orphans).Traditional HIV testing methods, such as facility-based testing, are effective at identifying HIV-positive adult women in SSA, but have yielded sub-optimal results for reaching men. (10) the term HIV testing services is used to embrace the full range of services that should be provided together with HIV

testing counseling (pre-test information and post-test counseling); links to appropriate HIV prevention, treatment, and care services; and other clinical and support services. collaboration with laboratory services to ensure quality assurance and accurate results delivery. HIV testing is a serious first step in identifying and linking PLHIV to the treatment cascade and it also provides an important opportunity to strengthen HIV prevention among negative people. (11)

Referral and linkage of clients must get crucial attention to maximize the number of identified HIV-infected people that are linked to available care and treatment services in the country (12)(1. HIV Index testing involves systematically identifying current and former partners and household members of individuals newly or previously diagnosed with HIV and engaging them in an HIV testing service. Testing can be done in the health facility via invitations to household members or through home-based testing. The HIV index testing strategy uses a known HIV-infected person receiving HIV care as an index reference to target partners for HIV testing (6) (13)

Partner and family-based index case testing is a potentially high-yield identification strategy irrespective of national seroprevalence (14) The yields may be higher in low-prevalence countries where ICT & PNS are implemented. PEPFAR-E is implementing ICT & PNS across facilities and with more intensity, Using line-lists produced by EMRs, we were able to achieve a 20% increase in yield among adults and a +2% yield among children. ICT would account for half of the total HTS observed at COP19. ((15)

## 1.2 Problem of the Statement

Approximately 19% of people with HIV globally are unaware of their HIV status in 2019, and still need access to HIV testing services.(16) (Global HIV/AIDS Overview)According to UNAIDS Spectrum, 610,000 Ethiopians were living with HIV in 2017.(17) While 73% of these people are aware of their infection status, there are still pockets that need to be addressed.(17) HIV stigma has an important role in the spread of the AIDS epidemic. Fear of being identified as having HIV may discourage a person from getting tested (18). Healthcare settings screen broadly for HIV

using social networks and partner testing to select high-risk individuals based on their contacts (9). Adults tend to get tested at voluntary counseling and testing (VCT) centers, and other service delivery points where providers may not be fully aware of the importance of family testing of the index case. Parents may be in denial of their status or not be ready to test children when they themselves are first identified as living with HIV. Offering family-based testing in such settings may make them less likely to get HIV care.

One of the main objectives of ICT testing and counseling is to identify and link HIV-positive people to care and treatment services and HIV-negative people to prevention services (19)(9). Despite the potential contribution of HIV Index testing to the prevention of HIV infection and transmission, all Index cases are not willing to bring their partners or children to get tested for different reasons. HIV Index testing study results stated that 73% in Addis Ababa, 61% in Kenya Nyanza province adults and 25% children were tested which is insufficient. This emphasizes the public health significance of providing effective HIV index testing services.

## 1.3 Significant of the study

Ethiopia's consolidated comprehensive HIV prevention, care, and treatment national guidelines state that clients' concerns should be addressed to improve disclosure and testing service uptake among index partners (spouses and non-spouse partners) and HIV-exposed children (20). This study helps to assess the magnitude and associated actors of HIV index testing among index cases in selected government health facilities in Lideta sub city. The study findings may help in developing better strategic approaches to increasing the number of HIV index tests. The recommendations made by this study may play a role in improving index testing yield.

This may aid in the development of more effective strategic approaches to increasing the number of HIV index tests. The recommendations made by this study may play a role in improving index testing yield.

# 1. Literature Review

## 2.1. Global, Regional and National context of HIV/AIDS

The total number of people globally living with HIV has increased from 28.9 million people in 2000 to 38 million people in 2019. HIV infections are still especially widespread in Eastesrn and Southern Africa, with 20.7 million people living with the condition in 2019. The national adult HIV prevalence rate was 0.9% [1.2% in females and 0.7% in males], (21) and 2% of all global new HIV infections and 3% of global HIV-related deaths occurred in Ethiopia in 2017 ((22) In 2019, approximately 81% of people living with HIV worldwide are aware of their HIV status.The remaining 19% (about 7.1 million people) still need access to HIV testing services. (Global HIV/AIDS Overview) According to EDHS 2016, of the general population, only 40% of women and 43% of men have ever been tested for HIV and received the test results (23) Of the estimated PLHIV, about 73% know their status. (cop strategy)(24)

Since the onset of the HIV epidemic, countries in sub Saharan Africa have introduced and expanded several HIV testing modalities.(25). Despite the expansion of HIV testing services, some countries in sub-Saharan Africa have not been able to reach the first 90 goals. To address this gap, several countries have introduced index testing services in both facilities and in community settings. Community-based HTC is described as testing done outside of a health facility, whereas facility-based HTS is defined as testing done within health facilities. (26)(27)

## 2.2. HIV Index testing

Gap in HIV testing for partner study done in Nigeria's result indicated that less than one in 10 individuals know their HIV status and 40% of HIV-positive people are unaware of their status. . In Ethiopia, Addis Ababa study done on HIV-positive status disclosure to sexual partners results revealed that 11.3% of participants reported that their disclosure immediately initiated their partner for HIV testing (7).Sexual Partners and biological children of people diagnosed with HIV infection have an increased probability of being HIV positive. Index case HIV testing is a key strategy in preventing new HIV infections. Several studies, systematic reviews, and cost-

effectiveness studies pointed to the benefits of offering HIV testing services to the partners of people diagnosed with HIV. While overall HIV testing rates have improved, implementation and uptake of index partner testing remains unacceptably poor,(28)(29)

Study findings in East Africa showed that less than 10% of HIV seropositive individuals know their partners' status (30) The study conducted in Uganda showed that out of the 120 spouses of HIV-positive index participants starting ART and living in households, 99 percent of them had never been tested for HIV (24) Another study done in Malawi on Index case finding facilitates identification and linkage to care of children and young people living with HIV/AIDS. The results revealed that in facility-based testing, out of 429 279 (64.7% ) a child or young person was untested. According to the Clinical and Community HIV/AIDS Services Strengthening (CHASS) project study results in Mozambique, 53 percent of women and 47 percent of children were tested for spouse and family-based index testing.(31) whereas the community-based results revealed that 28 HIV-infected people (4.0%) were newly diagnosed among 711 children and young people tested by CHWs (32) 72% (10,854/14,986) of all eligible family members who requested testing were tested for HIV.

The proportion of eligible sexual partners who were tested, 86% (982/1,139), was significantly higher than the proportion of eligible children who were tested, 71% (9,872/13,847). According to a qualitative study from Malawi, some index clients avoided HIV testing because they were afraid that community members would see them testing and make assumptions about their sexual behavior.( Acceptability of index partner HIV self-testing among HIV-positive clients in Malawi: A mixed methods analysis) In Lesotho, 72% of children's HIV testing was carried out (33), out of 14,986 eligible family members elicited for testing.In the Nyanza province of Kenya, the index model was particularly effective in testing children, constituting 61% of the family members that were identified and tested (12). According to a study conducted in Addis Abeba on the acceptance of index case HIV testing and counseling among HIV patients, seventy-five (20%) of the respondents' families had never been tested for HIV, and 28 (7%) respondents

didn't know whether their family members had been tested.(22), The study conducted in Kenya on HIV index testing showed that 63.3 % were tested in the integrated VCT clinic. (16).

### 2.3. HIV testing yields

Effect of clients Strategic Index Case Testing on community-based detection of HIV infections results showed that a total of 741 (85.2%) of 870 sexual contacts traced were tested for HIV, out of which 378 (51%) tested positive using an HIV rapid test kit, (Effect of clients). The Strategic Index Case Testing on community-based detection of HIV infections (STRICT study) Index and targeted community-based testing to optimize HIV case finding and ART linkage among men in Zambia revealed that Index testing services identified 2186 (49%) of HIV-positive men, with a positivity yield of 40%.

A study done in Zimbabwe showed that through HIV index testing, 25.1% of children ages 2–14 years, adolescents 5.7%, and adults 69.2%, were represented. The HIV positivity rate by age group was 1.4% among children 2–14 years, 2.4% (among adolescents ages 15–19 years, and 17.6% among adults. (31). Another study from Zambia Index testing services identified 2186 (49%) of HIV-positive men, with a positivity yield of 40% (Index and targeted in Zambia) The HIV positivity rate among all index contacts (biological children, adolescents, and sexual partners) who were tested for HIV was 4.2%, with sexual partners having a higher HIV positivity rate than biological children.(HIV index testing to improve HIV positivity rate and linkage to care and treatment of sexual partners, adolescents and children of PLHIV in Lesetho.

Study from Ethiopia, Woliso Among 237 HIV-tested partners, 176 were HIV positive, with a positivity yield of 0.7%, (34)and 31 of 258 tested under 15 children were HIV positive, with a positivity yield of 0.1%.Lusaka, of 565 index contacts that were eligible for an HIV test, 113 of them tested HIV positive, representing a positivity yield of 20%. (HIV index testing services in urban Lusaka: a review of medical records (35)

In the Democratic Republic of Congo (DRC) and Zimbabwe, over a period of six months, a total of 170 children were identified as HIV positive. The majority of these (161/170) were in DRC,

where the yield of family-based testing was very high, at 30%. By contrast, in Zimbabwe, although the strategy was still valuable, the yield was lower, at 3%.(36)

## 2.4. Factors influencing HIV index testing utilization

### 2.4.1. Socio demographic characteristics and HIV index testing

#### 2.4.1.1 Age and HIV index testing

The HIV positivity rates also differed significantly for different age groups, related to the index case. The HIV positivity rate was highest amongst contacts who were 45 to 49 years old, with a positivity rate of 43%. Sexual partners of index clients had an HIV positivity rate of 46% compared to children under the age of 15 at 17%. (36)( According to a mixed-methods study conducted in Gujarat, India, factors such as age > 25 years are more likely to be associated with partner non-testing.((37)

In a study by Leseto, among the index contacts tested, 73.5% (7,982) were children aged 2–14 years and 10% (1,088) were adolescents aged 15–19 years. Adults aged 20 years and above accounted for 16.4% (1,784). Out of tested among children ages 2–14 years, the HIV positivity rate was 1.4%, adolescents 15–19 years had a positivity rate of 2.4% and adults 20 years and above had a positivity rate of 17.6%. (38) Index and targeted community-based testing, of the men found HIV positive, and 13.0% were aged 15 to 24 years, 60.3% were aged 25 to 39, 20.9% were aged 40 to 49 and 5.8% were ≥50 years old. (39)

#### 2.4.1.2. Sex and HIV index testing

Index and targeted community-based testing in Zambia, Over a 12-month period, a total of 18,336 males were tested and 4458 were identified as HIV positive for an overall positivity yield of 24.3% (Index and targeted community-based testing to optimize HIV case finding and ART linkage among men in Zambia). A study found that the gender distribution for HIV testing varies by age group.done in Lesato finding showed that slightly above half (53.1%, 4,814) of all

children and adolescent clients tested were female compared to 46.9% (4,256) male and among adults HIV tested 51.5% (918) were females clients (38)

According to a review of medical records in Lusaka, the total number of female participants for HIV index testing was 314 (representing 52%) out of 604 study participants.(HIV index testing (35). A mixed study done on the acceptability of index partner HIV self-testing results showed that 404 HIV-positive clients with an active sexual partner completed the index partner testing survey, with 159 (39%) male and 245 (61%) female HIV-postive individuals.(40)

An Indian study discovered factors, including index cases, where being male was one of the most likely to be associated with partner non-testing.A qualitative finding revealed that the main barriers to testing were non-disclosure of HIV status (due to fear of marital discord) and a lack of awareness and risk perception.(Gujarat, India) (37) Sustained high HIV case-finding through index testing and partner notification services study results showed that the high HIV positivity rate was achieved for both males and females (mean monthly HIV positivity rate of 31.3% for males and 33.7% for females), with females showing significantly higher positivity compared to males. (25)

## 2. Conceptual Frame work

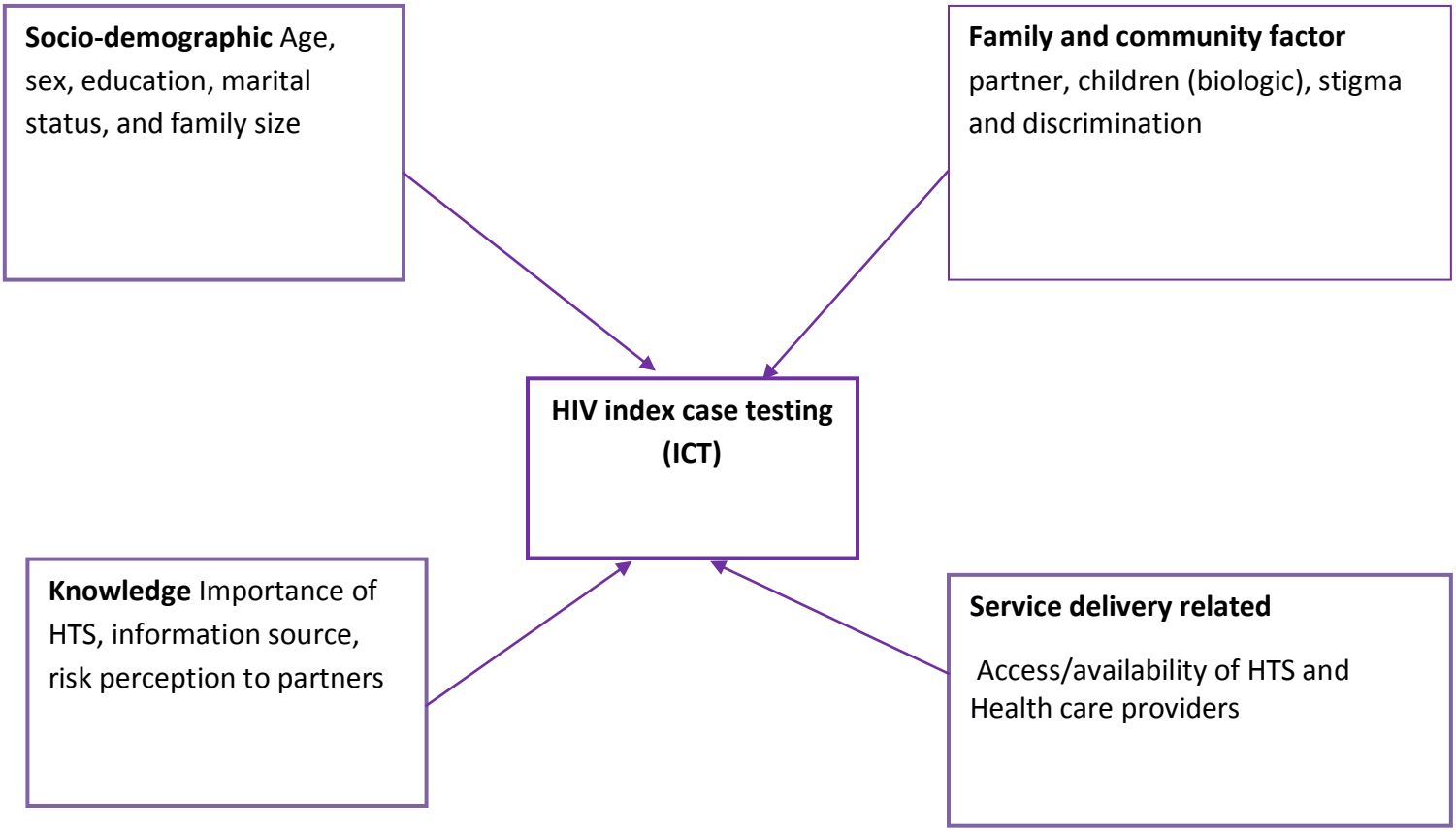


**Figure 1** Conceptual frameworks on HIV index testing among index case on ART follow-up in selected government health facilities, lideta sub-city, Addis Ababa Ethiopia, October 2020 (Adapted based on literature review.)

## 4. Objective:

### 4.1 General objective:

- To assess the magnitude and related factors of HIV index testing among index cases on ART follow-up in selected government health facilities in lideta sub-city A.A, Ethiopia from Aug 2019-Oct 2020.

### 4.2 Specific objective:

- To determine the magnitude of HIV index testing among index cases on ART follow-up in selected government health facilities in A.A, Ethiopia Aug 2019-Oct 2020.
- To assess HIV status of indexes on ART follow up in selected government health facilities Aug 2019-Oct 2020
- To identify factors related to HIV index testing on ART follow up in selected government health facilities in A.A, Ethiopia Aug 2019-Oct 2020
- To explored factors associated with HIV index testing on ART follow up in selected government health facilities in A.A, Ethiopia Aug 2019-Oct 2020

# 5. METHODS

## 5.1 Study area and period

Addis Ababa is the capital city of the Federal Democratic Republic of Ethiopia with a total population of 3,352,001 females, or 51.6%. It is divided into 10 sub-cities and 116 Woreda. Addis Ababa has the second highest HIV prevalence rate in the country (7). The study was conducted in one of the sub-cities, called Lideta sub-city, which had a population of 424,215

## 5.2 Study design

Facility based cross sectional study in the form of mixed study

## 5.3 Source and Study population

### 5.3.1 Source population:

Quantitative:-All index cases patient's card in selected government health facilities from chronic care follows up in lideta sub city.

Qualitative: Index cases of those who are active on ART follow up and those out of the selected cards

### 5.3.2 Study population

Sampled patient cards who were elicited for HIV index contact testing during the study period. Who have fulfilled the inclusion criteria in Lideta, Beletshachew, and T/Hymanot health centers.

### 5.4 Sample size and sampling procedure

#### 5.4.1. Quantitative method

The sample size for the study was determined assuming the prevalence of HIV index client testing (P) of 64.92% from a similar study conducted in Kenya,(12). The actual sample size was calculated using a single population proportion formula of:

$$n=\frac{(Z\alpha\backslash 2)^2 P (1-P)}{(d)^2}$$

$$n=\frac{(1.96)^2 0.6492(1-0.6492)}{(0.05)^2}$$

n= 350

Where:

n = the desired sample size

Z= percentiles of the standard normal distribution corresponding to 95% confidence level

P= there is research conducted in Kenya on the state of index case testing so, I used 0.6492 for sample size calculation. (16)

d= marginal error between sample and population was taken as 5%

The calculated total sample size was 350 and a 10% non-response rate was considered.

so, the total required sample size was 350+35= 385

#### 5.4.1.2 Qualitative method

Purposive sampling was used to select 15 participants living with HIV and who attended ART clinic and three key-informants from respected health centers ART unit Primary data were collected via an in-depth interview until saturation of findings.

### 5.4.2 Sampling procedures

#### 5.4.2.1 Quantitative method

Quantitative sampling purpose patient cards were reviewed from ART units of selected public health facilities of Lideta, Beletshachew, and T/Hymanot health centers who were providing chronic care follow-up services in lideta sub-city. The calculated sample size was proportionally allocated based on the client number of each ART unit. A systematic random sampling procedure was used to select eligible patient cards from each ART unites. Every “kth" index case from the patient card was selected." K" was calculated by dividing the expected total number of index cases from medical records within one month before data collection in each facility.

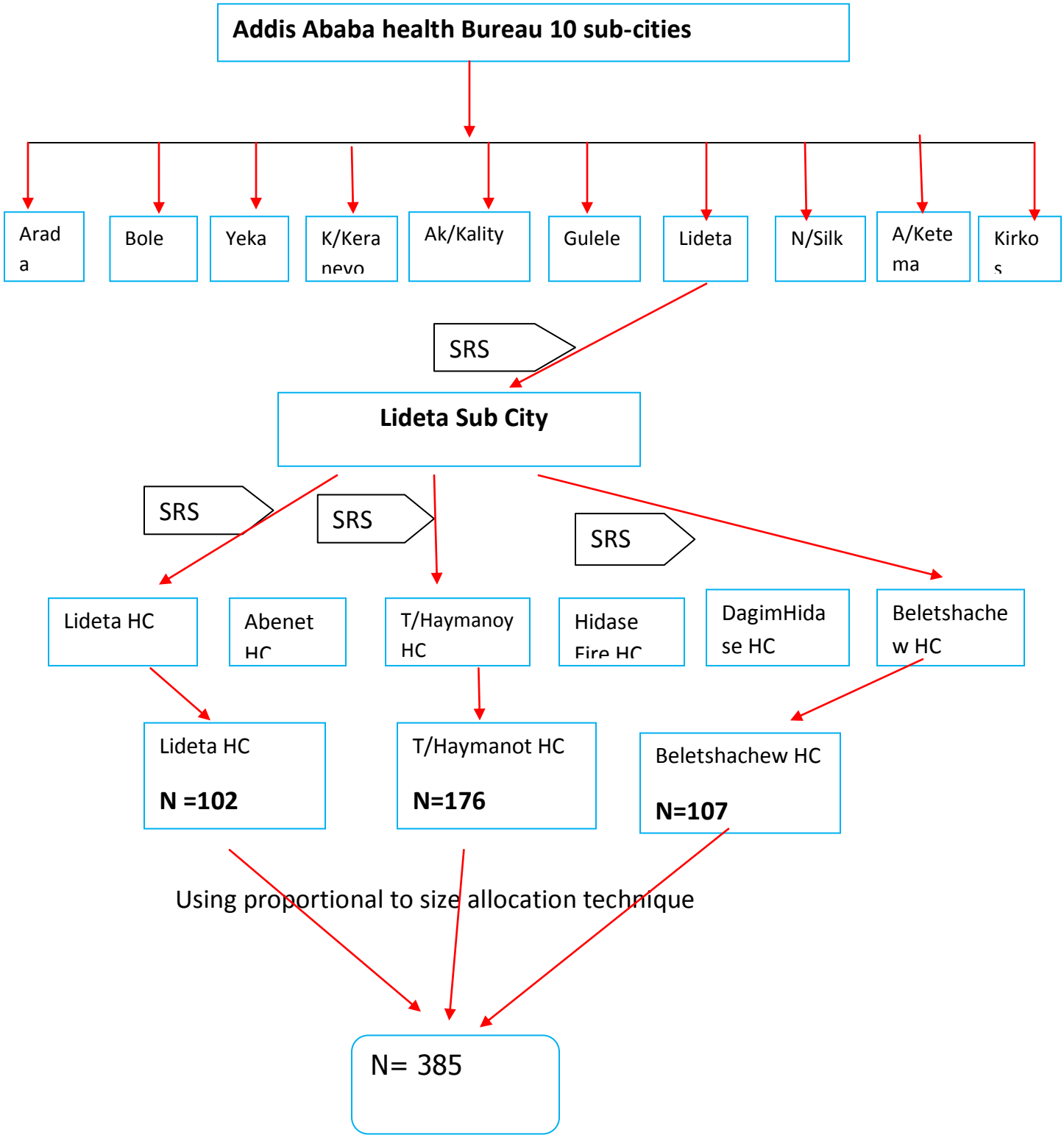


Figure 2 diagrammatic presentation of the sampling procedure used in the study in magnitude and related factors of HIV index client testing in Lideta sub-city Addis Ababa Ethiopia 2020.

#### 5.4.2.2 Qualitative method

For in-depth interviews, a purposive sampling procedure was applied to select the study participants using different criteria, such as; index cases who tested their family and were not and who had a partner or clients with more than one child.

## 5.5 Inclusion and exclusion criteria

### 5.5.1 Inclusion criteria

- HIV index cases that have at least one index that is a partner (spousal/non spousal) or child (biologic)
- Index case being documented in HIV index case testing registers (ICT).

### 5.4.3 Exclusion criteria

- Patient medical records from the ART unit and clients who are on follow up do not list index partners or children.
- Index Clients not documented in index testing registers
- Too sick to give consent or to be interviewed.

## 5.6 Data collection tools and procedures

#### 5.6.1 Quantitative method

Data was collected using a checklist prepared in English to collect information, on socio-demographic characteristics, the state of testing, personal and social factors related to HIV testing, and counseling. The checklist was filled in by ART provider nurses or ART data clerks from the respective health facilities.

### 5.6.2 Qualitative data collection

The semi-structured, open-ended interview guide was used for the in-depth interview. Data was collected by the principal investigator in Amharic. A PI both in writing and mobile recorder to back up the written note, finally, the principal investigator transcribed the mobile recording information after each session, then translated it into English

### 5.7 Variably of the Study

#### 5.7.1 Dependent variable: Magnitude of HIV index testing.

#### 5.7.2 Independent Variables

- Socio-demographic characteristics age in years, educational status, marital status
- Client related factors (knowledge about HIV testing.) for the qualitative component
- Family-related factors for qualitative method and number of children and family size.
- Community factors (fear of stigma and discrimination) for qualitative method.
- Service-related factors (availability index case HIV counseling and testing service and rapid test kits in the facility.

### 5.7.3 Operational definitions

**Index case**:-The index case is defined as the individual who is found HIV positive on HIV Testing and Counseling (HTC) provided at the health facility

**Index:-** Only count individuals tested in the household/community who had a known exposure to an index case (e.g. they are sex or drug-using partner or the biological child of an HIV-positive woman)

**Index testing:** Focus on offering HIV testing to everyone exposed to HIV by the index case;

**Sexual Partner** is defined as persons with whom the index client has had sexual contact at least once.

**Spousal Partner**- Individual having a legally or formally married partner

**Non-Spousal Partner**- Any sexual partner other than legally married ones.

**Children- Biological** family members of index cases<15 years.

**Clients who are on ART follow-up**: Index cases who are receiving ARV service and registered on treatment registration book and clients who visit the selected ART treatment unit for receiving ART service.

### 5.8 Data quality management

#### 5.8.1 Quantitative data

To ensure the quality of the data, the first orientation of the data collectors and their supervisors was undertaken for two days by the principal investigator on the objectives, relevance of the study, method of interviewing, the confidentiality of the information, and informed consent. The data collection tool was prepared in English. The data collection processes were overseen by two supervisors with a first-year degree in health. They closely follow the data collection throughout the data collection period along with the principal investigator. All the questionnaires were checked each night on the same day, and inconsistencies and errors were corrected accordingly. The structured questionnaire was pretested in the ART units selected for the study and participants who were involved in the pretest were excluded in the later data collection.

#### 5.8.2 Qualitative data

Trustworthiness of the Study

The researcher would spend adequate time for the study. The researcher should be available during data collection so that appropriate supervision and responses to any claim from data collectors or study participants can be made. At the end of each discussion, the note was cross-checked with the Audio records. The record information was transcribed as described by the interviewee and then translated into English. The data then categorized into different codes and these codes were refined and categorized into major themes

### 5.9 Data Analysis procedures

#### 5.9.1 Quantitative data

Data from the checklist entered and cleaned using Epi-Info; and analyzed using SPSS. Data were presented using frequency tables. Important summary statistics were obtained and an association was examined using Odds ratio, confidence intervals, and $P$ value. A significance level of 0.05 (i.e. P< 0.05) was used to assess the importance of the relationships under

investigation. Descriptive, bivariate, and multivariate methods were used to analyze the state of testing of HIV and the factors associated with it.

### 5.9.2 Qualitative data

Thematic analysis was used to analyze the qualitative data generated by the OPEN code version 4.02 software. First, the audiotape data and the detailed notes were transcribed and translated into English by the principal investigator. The translated data was imported into an open code to facilitate coding. Based on key concepts, some codes were developed. Maximum care was taken to ensure that each respondent's meaning was as accurate as possible. As part of the analysis, categories were developed that show the clear meaning of the findings and categories and themes were developed using content analysis.

## 5.10 Ethical consideration

Written ethical clearance was obtained from the Addis Ababa public health research and emergency management directorate after the approval of the research proposal from Addis Ababa University School of Public Health. A formal letter was written to the Addis Ababa health bureau from the Addis Ababa public health research and emergency management directorate and then to the health facilities from the lideta sub-city. Written informed consent was given to participants who were involved in the qualitative method but, for quantitative data, clinical client records and SMART care are used in this study. However, patients' records/information was anonymized and identified before the analysis.

All interviews were taken in a place that keeps privacy and time chosen by the respondents. To maintain confidentiality identifiers like names or codes were not taken in the questionnaire. Moreover, the same counselor working in the ART treatment units was used as a data collector this helped ensure confidentiality during data collection since respondents were not be exposed to a different person. Dissemination of the results of the study was not in referent with the specific respondent but to the general source population.

### 5.11 Dissemination of results

The findings of the study will be presented at the School of Public Health, College of Health Sciences. Besides, a copy of the research findings will be disseminated to Addis Ababa public health research and emergency management directorate, Addis Ababa health bureau, and the Lideta sub-city. Publication of this study finding will be considered.

# 6. RESULT

## 6.1 quantitative research

### 6.1.3 Information about index cases and HIV Index testing partner

A total of 385 index cases, 291 partners and 481 children were elicited for HIV testing, out of 291 elicited partner 245(84%) were tested, whereas out of 481 elicited children 432(91%) were tested for HIV. Regarding the test result, partner with HIV positive test result were 146(60%), negative were 86(35%) and 13(5%) were unknown test result, whereas 42(10%) of children were HIV test result positive. The age distribution of index cases who were tested there partner 203 (82.9%) of them were in the age group of less than 45 years and the rest 42(17.1%) were 45 and above years. Concerning the sex sharing of index cases who were tested there partner most of them 146(59.6%) were female. Education level of index cases who were tested there partner 103(45%) had secondary and above education.

In relation to marital status of index cases who were tested their partner, majority 197(80.4%) of them were married whereas 21(8.6%), 17(6.9%) and 10(4.1%) were unknown marital status, never married and divorced respectively. One hundred nineteen (58.3%) of index cases who were tested their partner were stage one according to WHO staging while 45(22.1%), 36(17.6%) and 4(2) were stage II, III, IV respectively. Among index cases who were tested their partner 156(66.6%) of them had one or two child, however 66(26.9%) had no child and 23(9.4%) had greater than three children respectively. (Table 1)

Table 1. The Theme, Categories and Codes of Reasons for not testing HIV indexes in Lideta sub city, government health facility, Addis Ababa Ethiopia, 2021

Partner tested

| **Variable** | **No** | **%** | **Yes** | **%** |
|---|---|---|---|---|
| Age group | | | | |
| less than 45 | 38 | 82.6 | 203 | 82.9 |
| 45 & above | 8 | 17.4 | 42 | 17.1 |
| Total | 46 | 100 | 245 | 100 |
| | | | | |
| Sex | | | | |
| Female | 32 | (69.6) | 146 | (59.6) |
| Male | 14 | (30.4) | 99 | (40.4) |
| Total | 46 | (100) | 245 | (100) |
| | | | | |
| Education | | | | |
| No Education | 8 | 20 | 41 | (18.1) |
| Primary | **18** | 45 | 83 | 36.6 |
| Secondary | 14 | 35 | 103 | 45 |
| Total | 40 | 100 | 227 | 100 |
| | | | | |
| Marital status | | | | |
| Married | 32 | 69.6 | 197 | 80.4 |

| | | | | |
|---|---|---|---|---|
| Never Married | 2 | 4.3 | 17 | 6.9 |
| Divorced | 2 | 4.3 | 10 | 4.1 |
| Unknown | 10 | 21.7 | 21 | 8.6 |
| Total | 46 | 100 | 245 | 100 |

| | | | | |
|---|---|---|---|---|
| WHO staging | | | | |
| I | 20 | 55.6 | 119 | 58.3 |
| II | 8 | 22.2 | 45 | 22.1 |
| III | 7 | 19.4 | 36 | 17.6 |
| IV | 1 | 2.8 | 4 | 2 |
| Total | 36 | 100 | 204 | 100 |

| | | | | |
|---|---|---|---|---|
| Numbers of children | | | | |
| No | 21 | 45.7 | 66 | 26.9 |
| One | 8 | 17.4 | 78 | 31.8 |
| Two | 10 | 21.7 | 78 | 31.8 |
| >three | 7 | 15.2 | 23 | 9.4 |
| Total | 46 | 100 | 245 | 100 |

### 6.1.5. Factors associated with HIV index testing

### 6.1.5. Factors associated with HIV index testing

In the Bivariate logistic analysis only number of children has shown significant association with HIV index testing among index cases. The odds of HIV index testing were higher among index cases with one children COR 5.41(1.74,16.81)0.004 and two children COR 3.43(1.32,8.34)0.012 Compared to index case who had no children.

In the multivariate logistic analysis, number of children and partner sex has shown significant association with partner HIV testing. Male partners were AOR 3.43(1.32-8.94) times more likely HIV tested than females. Index cases who had one children adjusted odds of 7.59(2.39,26.95) and two children an adjusted odds of 3.47(1.2,10.4) times more likely HIV tested than index case with no children. Whereas the other variables like age of respondent, family size, education has no statistically significant association with partner testing.

Table 2: Bivariate and multivariate logistic regression analysis of variables associated with HIV index testing in selected government health facilities lideta sub-city Addis Ababa Oct 2020

| **Variables**<br>**Age** | **Crude OR (95% CI)** | **Crude P-value** | **Adjusted OR (95% CI)** | **P-value** |
|---|---|---|---|---|
| Age Group: 45 & above vs. less than 45 | 0.87 (0.37,2.05) | 0.75 | 0.76 (0.25,2.33) | 0.637 |
| **Sex :** | | | | |
| Male vs Female | 2.15 (0.96,4.82) | 0.062 | **3.43(1.32,8.94)** | **0.012**** |
| **Education: ref.=No Education** | | | | |
| Primary | 1.02 (0.4,2.63) | 0.96 | 0.7(.23,2.11) | 0.532 |
| Secondary | 1.46 (0.56,3.8) | 0.441 | 1.08(.37,3.16) | 0.882 |
| **Marital: ref.=Married** | | | | |
| Never Married | 1.29 (0.28,5.94) | 0.745 | 1.32(0.25,6.95) | 0.737 |
| Divorced | 1.55 (0.19,12.68) | 0.685 | 1.59(.16,15.6) | 0.693 |
| Unknown | 0.48 (0.16,1.44) | 0.191 | .35(0.1,1.27) | 0.111 |
| **WHO staging: ref.=I** | | | | |
| II | 0.96 (0.4,2.34) | 0.931 | 1.37(.51,3.08) | 0.537 |
| III | 0.88 (0.34,2.25) | 0.788 | .9(0.31,2.63) | 0.853 |
| IV | 0.51 (0.05,5.18) | 0.571 | 0.18(0.01,2.33) | 0.187 |
| **Child No: ref.=No** | | | | |
| One | **5.41 (1.74,16.81)** | **0.004 *** | **7.59(2.19,26.35)** | **0.001**** |
| Two | **2.62 (1.02,6.72)** | **0.045 *** | **3.47(1.2,10.4)** | **0.022**** |
| More than 3 | 1.15 (0.4,3.26) | 0.798 | 1.32(.04,4.36) | 0.648 |

*Significantly associated in bivariate analysis. **Significantly associated multivariate analysis.

### 6.2 Qualitative Result

#### 6.2.1 Socio demographics

A total of fifteen HIV-positive clients participated in an in-depth interview (11 females and 4 males) their marital status were twelve married, one divorced and two of widowed. Greater than 45%,(8/15) of participants age between 35-44. Majority of index clients' educational status were secondary (60%). Regarding key informants in-depth interview three health care providers who were working in selected health facilities on ART unit interviewed; out of those interviewed two of them were female, all were nurse in profession and their responsibility in ART unit were two ICT focal person and ART provider and one ART focal.

**HIV index testing**

Most of the participants expressed as a top concern that the health care providers who are working in the ART unit advised us to bring and test our families as well as children.. Majority of the respondents expressed that early notification and testing of partner and children is very crucial.

"*Things should need attention to sick people, they need more love than any other people. Testing is very essentials to know the status and for further action like taking the drug regularly, accept the advice of health professional, avoid ourselves from any addiction, , I brought my families to a health facility for test and their result was my husband positive and my child negative."*

*A 35 years old mother from ART follow-up*

### 6.3 The Reasons for HIV index testing and related Factors

The most common factors associated with not HIV index testing were fear of disclosure, fear of positive test result, stigma and discrimination and service delivery related issues.

The Theme, Categories and Codes of the results of qualitative analysis using open code is indicated in Table 6 and the results are then presented based on each category.

Table 3. The Theme, Categories and Codes of Reasons for not testing HIV indexes in Lideta sub city, government health facility, Addis Ababa Ethiopia, 2021

The Theme, Categories and Codes of Reasons for not testing HIV indexes in Lideta sub city, government health facility, Addis Ababa Ethiopia, 2021

| Theme | HIV index cases were not tested their indexes because of fear of disclosure, fear of positive test result, stigma and discrimination and service related factors. | | | |
|---|---|---|---|---|
| Categories | Fear of disclosure | Fear of positive HIV test result | Stigma and discrimination Stigma | Service related |
| Code | Fear of departure<br>Fear of divorce<br>Not reveled | Partner influence<br>Fear of future hope<br>Test rejection<br>Family influence<br>Individual behavior<br>Taking drug long time<br>Lack of awareness<br>Not interested<br>Separated | Break confidentiality | Adequate information<br>No proper counseling<br>Respect client interest<br>Problem out of ART unit |

### 6.3 .1 Fear of disclosure

Some index cases did not disclose their HIV status to their families for a long time because of that partner and children would not tested on time. Respondents reported that the main reasons of fear of disclosure were fear of divorce and separation. a 38 years mother from ART unit explain that:

*"I haven't disclosed my HIV status to my husband for 11 years while we are living together because I thought that if my husband knows my HIV status he will not accept me and leave me alone"*

*A 38 years old index case from the ART unit*5.

### 6.3.2 Fear of positive test result

Majority of clients would not want to face the fact due to fear of positive HIV test result . The most common reasons for fear of positive test result were patients panic of future hope for their child and their life and also taking drug life long.

*"I have tested my current husband and kid but my previous husband passed away before getting tested. I asked him many time to test but he refused. So testing family is very crucial"*

A 37 years old mother from ART follow up

*"When I thought about HIV test I stressed on the result especially to my kid means that ,what will be her future life, and then next? I stressed in so many things but after many health facilities visits, I brought my kid and she tested for HIV.*

A37 years Women from ART follow up

### 6.3.3 Stigma and discrimination

The main issues raised on this section is beak confidentiality by family members, neighbors or community by itself exposed clients to stigma and discrimination. Participants reported that

they do not want to disclose their HIV status to anyone for fear of discrimination and social isolation. Key informants expressed as most patients are exposed to intimate partner violence (IPV) after notifying their status

*"Testing kids is simple but testing partner is very difficult because they do not want to be tested because of fear of stigma and discrimination until they became critical. So till now, I didn't test my husband. "*

27 years old female clients from ART follow up

**6.3.4. Service related**

Barriers to utilization of HIV index testing were lack of proper counseling, lack of respect patient interest and problem out of ART unit. Regarding the health care provider's approaches on the service delivery, three of the respondents expressed that: the ART service and ICT counseling available all the time working hours, off working hours, week-end and even holydays.

*"I believe that kids should know their HIV status before becoming youth or adults. I have tested my family, my husband was positive and my two kids were negative. We know all HIV-positive who had not tested their families. So we advised them the advantage of testing their families. All HIV-positive clients should test their families''*

*A 43 years old mother from ART follow up.*

## 7. Discussion

The study was undertaken to assess the magnitude and related factors of HIV index testing among index cases on chronic care follow-up in Addis Ababa lideta sub-city in Lideta, T/Haimanot, and Beletshachew health centers. Addressing testing of HIV index testing is vital for early diagnosis and initiation of ART and also prevention of HIV transmission for those HIV negative clients.

In this study, 84% of partners and 91% of children tested in a facility-based index case testing approach. The most frequent approach to test their family-based approach were in VCT and some of the clients in all service delivery points. This finding is in line with a study done in Zambia with the prevalence of index testing 85% (39). The prevalence in this study has higher from a study done in Kenya (64.9%),(12)) in Mozambique CHASS 53% women and 47% children tested (31), in Malawi only 35.3 % of children and young adult tested(41), in Lesotho 72% children tested,(38) in Nyanza province, Kenya 61 % family member tested(30), in Cameroon 66.8% community-based HIV testing,(42) another study in Mozambique 31% (17). another(42) study done in Malawi shows an HIV prevalence of 48.1 to 66.7% among sexual partners of HIV Positive clients tested(28). This discrepancy might be due to socio-demographic differences, different health care systems and treatment conditions under which the populations go through and the time interval of the studies conducted.

Result from qualitative data supported the finding from quantitative data as majority of the respondents expressed that early notification and testing of partner and children is very crucial. A qualitative study finding from Malawi, some index clients noted that their partners avoided HIV testing because they feared that community members will see them testing and make assumptions about their sexual behavior. This is comparable with our qualitative study result, factors associated with partner testing were fear of positive test result and stigma and discrimination.

In COP 17 the national positive yield was only 7.5% including non-spousal, partners (8), but in this study, the average positive yield is 27.6% (9.6% in children and 60% in partners). This

increment might be due to the strengthening of ICT services and the time difference. This study finding is in line with a study done in Zambia 24%,(39) Study from Lusaka 20% (35)and a facility-based study in Kenya 28.1%. Concerning partner positivity yield, this study finding is similar to the study done in Tanzania and Nigeria 61.9% (43)(30)and 51% respectively. Whereas; our test finding is higher than study done in Lesetho 4.2% and home-based testing positive yield of 2.8% in Kenya. This result difference might be because of the higher rate of positive test results in the facility-based index client test. In this study age of respondent was not associated with HIV index testing both bivariate and multivariate analyses. But, 82.9% of Index partners age less than 45 years were tested for HIV. This is in line with another study done in (36)Index and targeted community-based testing 94% of index partners were age below 49 year.

This study noted that male index cases had increased odds of testing their partner than female. This might be due to influence of male partner over female partner, so that it might increase the number of female partner tested. This study differ from study done in India, index cases being male was one of more likely to be associated with partner non-testing which is supported by qualitative result finding of the same study revealed that non-disclosure of HIV status (due to fear of marital discord) and lack of awareness and risk perception were the key barriers to testing partner.(INDIA) This discrepancy might be due to socio-cultural difference. In this study, in relation to marital status of index cases who were tested their partner, majority 197(80.4%) of them were married this is similar with study done in Woliso, Ethiopia, among 345 study participants 247 (71.6%) were married.

In this study out of HIV tested partner 60 % were positive for HIV this is in line with study done in Woliso 74%, whereas this study result showed that among HIV tested children 10% of them were positive, this is different with study finding in Woliso which is 50%. This discrepancy might be due to the quality of PMTCT service, residence area or educational status of index cases. This study noted that index cases that had one children increased odds of eight times test their children than index cases with no children and index case who had two children odds of three time test their children than index case who had no children. This might be due to index cases

those who had children, the chance of visiting health facility owing to different reason increased and getting HIV testing and counseling also increased.

## 8. Strength and limitation of the study

### 8.1 Strength

- In this study, qualitative and quantitative methods were used. These methods enhance the research outcomes as qualitative study complement and strengthen the quantitative study.

### 8.2 Limitation

- The sample is taken from health facilities, hence study result may not be generalized to all index testing
- Since the study used secondary data some of the information was incomplete. Those incomplete data filled by triangulation in different sources like ICT registration book SMART care clients database
- collectors were oriented on participants' confidentiality and respondents' right and to read the consent before they start the interview and explained to the participants as it has no link to service given, the respondents might have given the desired answer by the counselor or health care providers.
- Even if a systematic random sampling method was used to select index cases from the ICT registration book, the principal investigator may collect data consecutively
- Similar studies are required in maintenance sub city of Addis Ababa to ascertain inter-sub cityt variability of HIV Index Testing out comes.
- ICT registration book was not filled in properly

# 9. Conclusion and Recommendation

## 9. 1 Conclusion

- This study showed that high proportions of indexes have been tested for HIV.
- Out of the tested index partner and children the majority test result was positive.
- Major reasons for index cases not testing their families were fear of disclosure, fear of positive test result, stigma and discrimination and service related factors.
- A factor that had a strong association with HIV index testing were being male partner and having one or two children

## 9.2 Recommendation

The followings are recommended based on this study:

### 9.2.1 Government and stake holders in the study area

- Policy-makers and donors should reinforce the delivery ICT service in the ART units.

### 9.2.2. Health care providers in the research setting

- Ensure the sustainability of ICT service in ART.
- Provision of quality HIV index case testing service
- Strengthen proper recording on the ICT registration book

### 9.2.3. Researchers

- Further studies should be conducted in the health facilities (facility-based ICT ) and outside the health facilities(community-based ICT ) set-up ,in different sub city to compare inter sub city variation and different parts of the country to come up with more representative findings.

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## 11. Annex

### 11.1 Information sheet

#### 11.1.1 Informed-Consent form

Addis Ababa University

School of public health

Study on "magnitude and related factors of HIV index testing among index cases on selected government health facilities "in lideta sub-city AA

Information sheet:

Greeting

My name is ----------

First of all, I would like to thank you for your time.

I am working in the research team, which is conducted by Addis Ababa University in Collaboration with the Lideta sub-city health office on the magnitude and related factors of HIV index testing. The main purpose of the study is to assess the magnitude and related factors of HIV index testing among index cases on chronic care follow-up. We are inviting HIV-positive index cases on chronic care follow-up to contribute to the study. The study will not cause any harm to you except giving the information. So I would like to ask you some questions related to the subject. Your responses will help through policy formulation and program implementation to improve index case testing and for new identification.

Your name will not be recorded and all the information will be kept strictly confidential and is to be used only for this study. You have the right not to respond to any Question `you don't want to and your participation is voluntary. Are you willing to participate?

Yes ☐

No ☐

If they say yes and are willing to participate in the study, say thanks and proceed to the consent form. If they say no, say thanks. Do not force or reinforce people to participate in the study.

**11.1.2 Consent form**

I have read or have been read the information or there is a witness when the information is read (for those who cannot read or write). I understand the information given fully. So I am willing to participate in the study.

Date of the interview----------

Name of health facilities----------

Data collector/a person who took the consent name---------- signature----------

Check on the date----------

In case you need to contact:

Contact address of the investigator-------Name: Girma Feleke

Tel. 0911895490

Email **girmafeleke29@gmail.com**

**11.1.3 English Questionnaire**

This is a Questionnaire designed to collect secondary data to assess the magnitude of HIV index testing among index cases at selected government health facilities in Lideta Sub-city Addis Ababa, Ethiopia.

**PART I - Information on socio-demographic characteristics of index cases**

| S.No. | Question | Coding categories | code | Skip |
|---|---|---|---|---|
| 101 | Age of index case | **[_____]**in years | | |
| 102 | Sex of index case | Male | 1 | |
| | | Female | 2 | |
| 103 | Educational status | No education | 1 | |
| | | Primary(1-8) | 2 | |
| | | Secondary (9-12) | 3 | |
| | | Tertiary (diploma and above) | 4 | |
| | | Others | 5 | |
| 104 | Marital status? | Married | 1 | |
| | | Never Married | 2 | |
| | | Widowed | 3 | |
| | | Divorce | 4 | |
| 105 | Family size | _____(in number) | | |
| 106 | What is the Relationship to the index clients? | Spouse | 1 | |
| | | Mother | 2 | |
| | | Father | 3 | |
| | | Grandparent | 4 | |
| | | Siblings | 5 | |
| | | Relatives | 6 | |
| | | Others | 99 | |

| | | | | |
|---|---|---|---|---|
| 107 | Total number of children | _____(in number) | | |
| 108 | WHO clinical stage of the index case | Stage I | 1 | |
| | | Stage II | 2 | |
| | | Stage III | 3 | |
| | | Stage IV | 4 | |
| 109 | Date of eligibility | | | |
| 110 | Did the index case start ART? | Yes | 1 | |
| | | No | 2 | |
| 111 | Age of index testing partner | **[_____]**in years | | If |
| 112 | Sex of index testing partner | Male | 1 | |
| | | Female | 2 | |
| 113 | Did the index client ever tested | Yes | 1 | |
| | | No | 2 | |
| 114 | Did offered the test to index testing partner | Male | 1 | |
| | | Female | 2 | |
| 115 | Did interviewed the test to index testing partner | Yes | 1 | |
| | | No | 2 | |
| 116 | Date of test of index testing partner | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 117 | Result of index testing partner | Reactive/positive/ | | | | | 1 | if, answered go to Q125 |
| | | Non reactive/negative/ | | | | | 2 | |
| 118 | Age of index testing child | **Child 1** | | **chld2** | | **child3** | **child 4** | |
| | | | | | | | | |
| 119 | Sex of index testing child | Child 1 | | child 2 | | child 3 | child 4 | |
| | | Male | 1 | Male | 1 | Male 1 | Male | 1 |
| | | Female | 2 | Femal e | 2 | Female 2 | Femal e | 2 |
| 120 | Did the index testing child ever tested | Child 1 | | Child 2 | | Child 3 | Child 4 | |
| | | Yes | 1 | Yes | 1 | Yes 1 | Yes | 1 |
| | | No | 2 | No | 2 | No 2 | No | 2 |
| 121 | Did offered the test to index testing child | Child 1 | | child 2 | | child 3 | child 4 | |
| | | Yes | 1 | Yes | 1 | Yes 1 | Yes | 1 |
| | | No | 2 | No | 2 | No 2 | No | 2 |
| 122 | Did interviewed the test to index child | Child 1 | | Child 2 | | Child 3 | Child 4 | |
| | | Yes | 1 | Yes | 1 | Yes 1 | Yes | 1 |
| | | No | 2 | No | 2 | No 2 | No | 2 |
| 123 | Date of test of index testing child | Child 1 | | Child 2 | | Child 3 | Child 4 | |
| | | | | | | | | |
| 124 | Result of index | Child 1 | Reactive/positive/ | | | | | 1 |

| | | | | | |
|---|---|---|---|---|---|
| | testing partner | | Non reactive/negative/ | 2 | |
| | | Child 2 | Reactive/positive/ | 1 | |
| | | | Non reactive/negative/ | 2 | |
| | | Child 3 | Reactive/positive/ | 1 | |
| | | | Non reactive/negative/ | 2 | |
| | | Child 4 | Reactive/positive/ | 1 | |
| | | | Non reactive/negative/ | 2 | |
| 125 | If answered Q 117 Number of test of index test partner | | 1st | 1 | |
| | | | 2nd | 2 | |
| | | | 3rd | 3 | |
| 126 | If answered Q 124 Number of test of index test partner | Child 1 | 1st | 1 | |
| | | | 2nd | 2 | |
| | | | 3rd | 3 | |
| | | Child 2 | 1st | 1 | |
| | | | 2nd | 2 | |
| | | | 3rd | 3 | |
| | | Child 3 | 1st | 1 | |
| | | | 2nd | 2 | |
| | | | 3rd | 3 | |
| | | Child 4 | 1st | 1 | |
| | | | 2nd | 2 | |
| | | | 3rd | 3 | |

## Topic guide for an in-depth interview index case

### 11.1.4 Oral informed consent for an in-depth interview

**Introduction**

Greeting: Welcome and thank you for coming today. My name is _____I am from Addis Ababa University School of public health. Dear respondents here are lists of questions that are designed for research work to be conducted in partial fulfillment of a master's degree in public health, to carry out this study here in AA Town health facilities. The main purpose of the study is to assess the magnitude and related factors of testing of index clients among index cases at selected government health facilities in Addis Abeba. Your responses will help us to design an appropriate service delivery strategy and program implementation to improve index client testing service. We would like to know what you think about the HIV testing counseling service. Every one of you should participate freely, and all your views, whatever they are, are welcome. If you don't mind, we shall record the discussions on tape and on paper to ensure that all that is said is captured. No one will be identified by name. We shall treat the entire discussion confidentially, and we request all of you the same. Before we begin the discussion, I would like you to sign the consent form given to you when you came in. The consent form will be our record that you agreed to participate in the in-depth interview and that you agreed to the taping.

Are you willing to participate? Yes ☐ No ☐

Participant signature_____

Code_____

Age of respondents_____

Marital status _____

Educational level _____

Number of children_____

.

**11.2.2 Participant in-depth interview guide**

Well, come to the discussion.

Q1. Could you explain/list me a top concern for people living with HIV? Among those, you listed, in your opinion, which of these top concerns are considered as the most important ones? Put them in their order.

Q2. (If not mentioned above) do you believe index client testing is a serious concern for People living with HIV?

 would you list me the reasons?

Would it be possible to bring index clients for HTC? If “yes” how? If “No” why not?

Q3. Have you brought your family members(partner and biological children) for HTC?

Q4. In your opinion, what do you think are the reasons for not bringing index clients for HTC?

Probe- Opposition from husbands,

-opposition from children

-Lack of knowledge/information about testing

-lack of access to HTC,

-health providers approach (interaction), lack of confidentiality and counseling

Q5. Could you list me challenges of HIV positive people in the ART units to bring index clients for HIV testing?

Q6.How do you see the counseling about index client testing issues with your provider?

Probe the

- Interpersonal communication

- Follow-up care. giving appointments
- Information is given to them

(Probe, quality of the counseling, feels at ease when discussing those issues, the frequency of discussion,)

Q7. Anything you would like to say or thinks remained?

አዲስ አበባ ዩኒቨርሲቲ ህክምና ፋኩልቲ

የህብረተሰብ ጤና ሳይንስ ትምህርት ቤት

**11.3 የጥልቅ መጠይቅ *መመሪያ* ነጥቦች በአማርኛ**

*መግቢያ*

ጤና ይስጥልኝ

እንኳን ደህና መጡ! በቅድሚያ በውይይታችን ላይ ስለተገኙ እናመሰግናለን!

ስሜ----------ይባላል:: የመጣሁት ከአዲስ አበባ ዩኒቨርሲቲ ህክምና ፋኩልቲ የህብረተሰብ ጤና ሳይንስ ትምህርት ቤት ለድህረ ምረቃ ፕሮግራም ማሟያ የሚሆን የመመረቂያ ጥናቴን ለመስራት ነው፡፡ የዚህ ጥናት ዋና አላማ ኤችአይቪ በደማቸው ውስጥ የፀረ ኤች አይ ቪ መድኀኒት ክትትል በማድረግ ላይ ባሉዕድሜያቸው(>15) ስለቤተሰብ (የኤች አይ ቪ የምርመራ ሁኔታ ለመዳሰስ ነው፡፡ እርስዎ የሚሰጡን መረጃ በቤተሰብ የኤች አይ ቪ የምርመራ ላይ አዲስ ተገቢነት ያለው የስራ አፈጻጸም በመቅረፅ እና ፕሮግራም አፈፃፀም ማሻሻያ በማድረግ ከቫይረሱ ጋር የሚኖሩ ሰዎች ቤተሰቦቻቸውን የሚያስመረምሩበትን ሁኔታ ለማቻቸት በጣም ጠቃሚ ነው፡፡ ውይይታችን በቤተሰብ የኤች አይ ቪ የምርመራ አገልግሎት ላይ ያለዎትን ግንዛቤ ለማወቅ ስለሚረዳን ያለዎትን ሀሳብ ምንም ይሁን ምንም በነፃነት እንዲገልፁልን በአክብሮት እንጠይቃለን፡፡ ፍቃደኛ ከሆኑ ለማስታወስ ይረዳን ዘንድ በቴፕ እንቀዳለን፡፡ የተሳታፊ ስም አይገለፅም፡፡ የውይይታችን ምስጢር የተጠበቀ መሆኑን ከወዲሁ እንገልፃለን፡፡ ውይይታችንን ከመጀመራችን በፊት ፍቃደኝነትዎን ገልፀው የስምምነት ውሉን እንዲሞሉልን እንጠይቃልን፡፡

ፍቃደኛ ነኝ ፍቃደኛ አይደለሁም ☐

የተሳታፊ ፊርማ _____

መለያ_____

ዕድሜ _____ ☐

የጋብቻ ሁኔታ _____

የትምህርት ደረጃ _____

የልጆች ብዛት _____

የተሳታፊዎች ጥልቅ መጠይቅ መመሪያ ነጥቦች

በድጋሚ ወደ ውይይታችን እንኳን በደህና መጡ!

1. ከኤች አይ ቪ ጋር ለሚኖሩ ሰዎች ዋና ዋና የትኩረት የሚሹ ጉዳዮችን ሊዘረዝሩልኝ ይችላሉ? በእርስዎ አመለካከት አሁን ከገለፁት የትኩረት የሚሹ ጉዳዮች ውስጥ የትኞቹ ከፍተኛ ትኩረት ያስፈልጋቸዋል ይላሉ?

2.ከኤች አይ ቪ ጋር ለሚኖሩ ሰዎች ቤተሰቦቻቸውን የኤች አይ ቪ ምርመራን እንዲደርጉ ማድረግ ትኩረት የሚሰጠው ጉዳይ ነው ብለው ያምናሉ; (ከላይ ከተገለፁት ውስጥ ካልተገለፀ)

- እባኮዎን ምክንያቶን ሊገልፁልኝ ይችላላ,ሉ
- ከኤች አይ ቪ ጋር የሚኖሩ ሰዎች ቤተሰቦቻቸወን የኤች አይ ቪ የምርመራ እንዲደርጉ ማምጣት ይቻላል?

3. ቤተሰቦዎን (የትዳር አጋርዎን ወይም ልጆን/ቾን የኤች አይ ቪ ምርመራ እንዲዲደርጉ አምጥተዋል

4.በእርስዎ አመለካከት ከኤች አይ ቪ ጋር ለሚኖሩ ሰዎች ቤተሰቦቻቸውን የኤች አይ ቪ ምርመራን እንዲደርጉ ማምጣት የማይችሉበት ምክንያቶች ምን ይመስልዎታል?

- ከትዳር አጋር/ከባለቤታቸው ጋር አለመስማማት
- ከልጆች ጋር አለመስማማት
- ስለምርመራው አስፈላጊነት መረጃ አለመኖር
- ምርመራውን ለማድረግ አግልግሎት አለመኖር

5.ከኤች አይ ቪ ጋር ለሚኖሩ ሰዎች ቤተሰቦቻቸውን የኤች አይ ቪ ምርመራን እንዲደርጉ ለማድረግ በፀረ ኤች አይ ቪ ህክምና ክፍል ምንምን ችግሮች ያጋጥሟቸዋል?

6.በፀረ ኤች አይ ቪ ህክምና ክፍል ስለ ቤተሰብ የኤች አይ ቪ ምርመራ እንዲደርጉ የሚደረገውን የምክር አገልግሎት እንዴት ያዩታል?

(ግንኙነታቸው በተመለከተ፡ የክትትል ሁኔታ፡ የሚሰጣቸው መረጃ፡ የምክር አገልግሎቱ ጥራት፡ ይህን ጉዳይ በነፃነት ይወያያሉ፡ የባለሙያዎች ምስጢር ጠባቂነት)

7. ሌላ መጨመር ወይም ማለት የሚፈልጉት ነገር ካለ ይግለፁልን::

## Topic guide for an in-depth interview for Key informant

### 11.4 Oral informed consent for an in-depth interview

**Introduction**

Greeting: Welcome, my name is _____. I am a student at Addis Ababa University School of Public Health, am carrying out a research about the magnitude and related factors of HIV index testing at selected government health facilities Lideta sub city. Your responses will help us to design an appropriate service delivery strategy and program implementation to improve index client testing service. We would like to know what you think about the HIV testing counseling service. Feel free to ask any question in relation to the study. Before we begin the discussion, I would like you to sign the consent form. The consent form will be our record that you agreed to participate interview and that you agreed to the taping.

Are you willing to participate? Yes ☐ No ☐

Participant signature_____

Code_____

Age of respondents_____

Profession _____

Responsibility _____

**Health care providers in depth interview guide**

1. Could you let me know HIV index case testing (ICT) services for HIV indexes get from you as a service provider?

2. Would you comment on HIV index case services delivery render in your health institution for HIV indexes testing in terms of? (probe by saying what else)

- Availability and need
- Service delivery of HIV testing
- health care provider related

3. What challenges are faced by index cases towards partner and family based index case testing

- Client
- Partner

4. Could you list me challenges during counseling about HIV index case testing in your ART unit/counseling room?

5 Would you let me know your suggestion towards strengthening HIV index case testing services for index partners and children?

THANK YOU!!