

# Factors Affecting Voluntary Counseling and Testing VCT among Ambo Secondary School Students, West Shoa, Ethiopia

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## Abstract

**Background:** Acquired immunodeficiency syndrome (AIDS) is a chronic infection disease which is by human immune suppressive virus. HIV slowly attacks the immune system, the body's defense against infection, leaving an individual vulnerable to variety of other in infections and certain malignancies which eventually causes death. There are various options in reducing of this pandemic such as voluntary counseling and testing, anti-retroviral therapy and education for behavioral change. The objective was to assess the knowledge, attitude and practice HIV voluntary counseling and testing among Ambo secondary school students.

**Methods:** Across sectional quantitative study to be from December 2015 to January 2016 in Ambo secondary school. The data was entered, coded and analyzed using SPSS 20. The results are presented using numbers, percentages, tables and charts.

**Results:** From the total respondents 43.4% were male and 56.6 were females and 62.3% were grade 9 and 37.7 were grade 10. Majority of the respondent's age were ranged from 15-19 years that was 95.08%. Almost all, ninety eight (98%) were Oromo in ethnicity, 59.84% were protestant in religion. Majority of respondents to know the mode of transmission and protection. Out of total respondents 48.36% were undergone VCT and 69.7% were willingness to undergo VCT. When compared with a study conducted in Addis Ababa showed 55% study subject had HIV test, 63% to wish to have HIV testing and 45% who did not have HIV test. Majority of respondents were choice hospital 50 (40.87%) and health center 50 (40.98%) on place of VCT.

**Conclusion:** The needs of adolescents were important to provide youth-friendly services and practice of the study subjects about HIV/AIDS and VCT.

**Keywords:** VCT; HIV

## Background Information

Acquired immunodeficiency syndrome (AIDS) is a chronic infectious disease of immune system caused by human immune deficiency virus (HIV). HIV slowly attacks the immune system leaving an individual vulnerable to various infection and certain malignancies, AIDS is the final stage of HIV infection during which the total infection and concerns frequently arise [1].

Without a cure now in its 3<sup>rd</sup> decade ADIS is a cause of serious public health concern in the world. Estimates indicate that over 33.5 million people worldwide are infected with HIV. More than half of all new infection occurs in 15-24 years old [2].

Today HIV/AIDS is jeopardizing the existence of community in the world, mostly in Africa. Three quarter deaths occur in a Sub-Saharan African. The real fact is that the prevalence of HIV is increasing because most HIV patients are living longer due to effective ART. Rather the incidence is decreasing due to better prevention [3].

In Ethiopia based on report taken from VCT center, blood bank and ART program, the cumulative number of people living with HIV/AIDS is about 1.32 million 13% male and 4% female. This results in prevalence rate of 3.5% with 10.5% urban and 1.9% rural area for total population [4].

There are various options for reducing this pandemic: VCT, ART and education for behavioral change are the major ones. VCT is used to reduce this pandemic by making people know their HIV status. Models need to be expanded to testing in ANC, sexually transmitted infections clinics; inpatient wards as well as free standing clients initiated testing centers [5].

Global overview in 2007 on advanced method of HIV epidemics, which is applied in expanded range of countries. Data have resulted in substantial change in estimated number of persons living with HIV worldwide. However the qualitative interpretation of the security and implementation of pandemic has altered a little. The estimated number of PLWHA worldwide in 2009 was 33.2%, which showed reduction of 16% compared with estimated published in 2006; 39.5 million USAIDS/WHO, 2006 [2].

Important reasons of estimate elsewhere, particularly in sub-Saharan Africa, also contributed for the total difference on the estimate published in 2000 and 2007 [4-15]. Seventy percent are due to change in six sub-Saharan African countries, which is partly attributable to scaling-up of ART and VCT services in the past two years. However, AIDS remains the leading cause of death worldwide and the primary cause of mortality in sub-Saharan Africa, illustrating the tremendous service with hugely disproportionate impact in sub-Saharan African ever more clearly [2]. In Ethiopia, at the end of 2006, estimates of 1,319,000 male and 729,000 females were livings with HIV/AIDS in the country [4].

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VCT is internationally acknowledged as essential strategy for HIV prevention and also entry point to AIDS care. HIV counseling and testing encourages individuals to learn their HIV status, reduce their HIV risk and provides them with appropriate linkage to care, treatment and supportive services. There are several models of HIV testing and counseling that are used in different settings. VCT gives clients an opportunity to confidentially explore their HIV risk and learn their HIV status. VCT services can be provided in free standing sites or embedded in other facilities such as health center, work place and military services [8].

The target audiences are individuals who are interested in knowing their HIV status and learn how to reduce the risk. The focus of the counseling session is a risk assessment, risk reduction, referral and linkage to care treatment and support. Increased attention on VCT service provides a high prevention intervention for African countries [8].

In Ethiopia, since the national guideline were last published in 2007, new information as well as evidence based best practice have become available to make counseling and testing more effective and accessible, creating a need to service to increase access and improve quality more effectively [9].

The purpose of this study aims at assessing knowledge, attitude and practice on HIV/AIDS and voluntary counseling and testing among Ambo Secondary School Students.

The aim of this present study was to collect base line information about current knowledge and practice related to VCT on HIV/AIDS among Ambo secondary school students. This information will be intended to assist in designing an intervention to improve the practices that will be included in the result. This study also provide useful information about knowledge and practice of secondary students towards VCT for HIV/AIDS that will be useful to health planning and evaluation process of health delivery system and also it use as a yardstick for future research.

## Objectives of the Study

The overall objective of the study was to assess knowledge, attitude and practice on HIV voluntary counseling and testing among Ambo Secondary school students, Ambo town, West Shoa Zone, Ethiopia.

## Method and Materials

Ambo town is located in the central part of Ethiopia, Oromia regional state under the administration of West Shoa zone, which is located at about 114km from Addis Ababa in the west direction. This town has three kebeles.01 Kebele has two high schools. Ambo Secondary school is one of them and was established in 2000. Currently the school has 1767 (899 female and 868 male) students in the academic year 2015/16. Grade 9<sup>th</sup> students are 1014 (510 male and 504 are females) and grade 10<sup>th</sup> students are 753 (395 females and 358 are male). This school has a total of 32 sections (16 sections for grade 9 and 16 sections for grade 10. Most of the students are from rural area and living in rent houses. The survey was conducted from February 2 to 4/2016 (From Ambo secondary school staffs).

## Study design

A cross sectional study design was used in the study. Every student in Ambo Secondary school was our sample unit.

## Source of population

The source of population for this study was students of Ambo Secondary school.

## Study population

Study population was all randomly selected Ambo Secondary school students from grade 9-10.

## Sample size determination

Sample size (n) is determined by single population proportion formula as follows: at 95% confidence interval (I), degree of deviation/marginal error (d)  $\alpha=1.96$ ,  $P=0.093$  (is the prevalence of practicing VCT, which was taken from research done in Addis Ababa high school?

$$n = \frac{(z \propto /2)^2 p (1-p)}{d^2} = \frac{(1.96)^2 0.093 (0.907)}{(0.05)^2} = 130$$

Since the population from which the sample taken was less than 10,000 ( $N=1767$ ), so we have to use adjusted formula.

$$\text{Adjusted Sample size } (n_p) = \frac{n}{(1 + \frac{n}{N})} = \frac{130}{(1 + \frac{130}{1767})} = 121$$

Then non respondent rate is 5% so  $n=121 + \text{non respondent}=127$

## Sampling procedure

Simple random sampling techniques were applied to all students enrolled to Ambo Secondary school in 2015/16 academic year.

Simple random sampling techniques were applied to select from 1767 students in grade 9<sup>th</sup> and 10<sup>th</sup> to enrolled to Ambo secondary school in 2016 academic year, 5 and 3 students randomly selected from each classes from sixteen class of grade 9<sup>th</sup> and 10<sup>th</sup> respectively to allocate the sample equally to all classes, we have to use population proportion allocation formula as follows.

## Data collection procedure

The data was collected using self-administered questionnaire which contains both open and close ended questions.

## Study variables

Independent Variables.

**Socio-demography:** Age, sex, religion, ethnicity, marital status, grade year.

**Dependent variable:** Knowledge, attitude and practice of VCT.

## Operational Definition

### a. Knowledge

It is accumulated external and explicitly information belonging to the students and the respondent is considered to be knowledgeable about HIV prevention if they correctly identified the three main ways to prevent HIV transmission: abstinence, faithfulness to one uninfected partner, and consistent condom use. And 5 main ways mode of transmission such as unsafe sexual intercourse, sharing contaminated sharp material, Mother to child during pregnancy, contaminated blood contact and Breast feeding. Regarding correctly and incorrectly answered to knowledge.

### b. Attitude

Enduring students of beliefs, feeling and behavioral tendencies towards VCT.

### c. Practice

For voluntary HIV cursing and testing a process by which an individual undergoes counseling to enable him or her to make informed choices about being tested for HIV.

## Quality Control Measures

The questionnaire was prepared in English and translated to Afan Oromo language. Regular supervision was carried out during the course of data collection by group member. Orientation on proper way of filling questionnaire was provided for all respondents. Completeness of the questionnaire was checked daily after data collection.

## Data Processing and Analysis

Data were processed, i.e., entered, processed and analyzed using SPSS 20 and the result of the assessment was presented using tables, pie charts and bar graphs.

## Ethical Consideration

- Permission for doing research was requested using letter from department and took that letter to the concerned organization and get permission
- The objective of the study was described and written and informed consent was obtained from the study subject prior to data collection participation is on voluntary basis.

## Results

### Socio-demon graphic of the study subjects in Ambo secondary school

A total of 127 questionnaires were distributed and out of this 122 respondents were responded which gives 96.06% response rate. Out of one hundred twenty two, 53 (43.44%) of them were males and 69 (56.56%) were females. Out of total respondents, 76 (62.3%) of them were grade 9<sup>th</sup> and 46 (37.7%) were grade 10 which makes a respondents rate of 100%.

Majority of the respondents' age, 116 (95.08%) were ranged from 15-19 years and only 6 (4.92%) participant was above 19 years. Concerning their marital status, 116 (95.08%) were single, 1 (0.82%) were divorced and 5 (4.1%) were married. Regarding their ethnicity, 120 (98.36%) were Oromo, 2 (1.64%) was Gurage. Out of total respondents, 73 (59.84%) were protestant, orthodox 43 (35.26%) 2 (1.64%) were Muslim and 1 (0.82) were Catholic in their religion (Table 1).

### Knowledge of the study subject towards VCT in Ambo hospital and health center on Ambo secondary school

Regarding to correctly answered and incorrectly answered, out of total respondents, 84.43% responded correctly that HIV is not curable had good knowledge and 15.57% had poor knowledge, on HIV has treatable 84.43% had good knowledge and 15.57% had poor knowledge and on HIV preventable 95.9% had good knowledge and 4.1 had poor knowledge.

Out of five modes of HIV transmission mentioned above 75% respondents correctly identify at least three mode of HIV transmission.

Majority of the respondents (65.56%) had medium knowledge of HIV prevention (protection), 68% knew abstaining from sex, and 73.77% knew use of condom and 54.9% being faithful as ways of preventing HIV infection (Table 2).

In general most of respondents more than three answered on routes of HIV transmission and 15.57% had poor knowledge. In others on method of HIV protection respondents had medium knowledge of ABC rules (Table 3).

One hundred six (86.89%) of the total 122 respondents have ever heard of VCT for HIV/AIDS. Health worker/ television were the most common source of information (63.12%), followed by radio (48.36%) and newspaper 34.43%.

### Practices of study subjects about VCT for HIV/AIDS in Ambo secondary school

Fifty nine (48.36%) of the total 122 respondents undergone VCT for HIV/AIDS and 63 (51.64%) of the respondents not undergone VCT for HIV/AIDS.

When students' willingness to undergo VCT was assessed, 85 (69.67%) of respondents were willing to undergo VCT and 37 (30.33%) is not willingness to undergo VCT (Table 4).

From thirty student (24.59%) had used VCT services because of they was sick, 19 (15.57) for Visa and 6 (4.92) just to know their HIV status and some of the 2 (1.64%) fear of risk.

Majority of students 59 (48.36%) like to accept results in face to face and 26 (21.3%) confidentiality to knows their results by physician (Figure 1).

Concerning preferred place of VCT service, majority of the respondents 50 (40.89%) preferred health center while 50 (40.98%) preferred Hospital and 22 (18.04%) preferred private clinic.

As show in Figure 2 above those that had not tested before were asked for the reasons that prevented them from doing so, majority 36 (29.5%) because of they don't feel at risk, 14 (11.48%) due to fear of result, 13 (10.66%) were afraid of stigmatization, the others were due to cost, peer influence.

## Discussion

The purpose of this study was to assess Knowledge, Attitude and Practice towards VCT in HIV \AIDS among ambo secondary school students Oromia regional state Ethiopia .In this study 118 (96.72%) of respondents were ever heard about HIV \AIDS . This was almost similar to study conducted by Terefe Belachew Chali Jira which was conducted in south west Ethiopia shown that 96% of the study participant ever heard [10]. Even though this research is conducted after twelve years later the awareness of the community change was not such significant.

Majority of respondents had heard about voluntary counselling and testing (VCT) 106 (86.89%) in our study area. This result is similar with study conducted in Malawi Knowledge about HIV testing is quite high among secondary school students as 98% of the respondents reported having ever heard about HTC and this was regardless of the class and age of respondents [16]. This result is much better than study conducted in school of Nigeria by which is 59.5% [12]. This difference may be due to high awareness on of VCT services is done by the government in this country or may be the time difference of the both study conducted from one another and it might be also difference of sociocultural characteristics of the two study population.

Out of the total study participants majority of them obtained information on HIV \AIDS and VCT through TV 82 (67.21%) and Health worker 72 (59.02) in the study area. this result is different from the study conducted which was the major source of information for the students churches [12]. this may be due to difference of health policy of the two country.

Preceding the study 48.36% students had taken HIV test majority of respondents 86 (69.67%) of those who had tested went and 37 (30.33%)

Variables			Number	percent	Total%
Age	15-19	M	50	94.33	95.08
		F	66	95.65	
	≥20	M	3	5.66	4.92
		F	3	4.35	
Sex	M	M	53	43.44	100
	F	F	69	56.56	
Marital status	Single	M	50	94.33	95.08
		F	66	95.65	
	Married	M	2	3.77	4.1
		F	3	4.35	
	Divorced	M	1	1.89	0.82
	Ethnicity	Oromo	M	51	41.8
F			69	56.56	
Guraage		M	2	3.77	1.64
Religion	Protestant	M	28	22.95	59.84
		F	45	36.89	
	Ortodox	M	20	16.39	35.26
		F	23	18.85	
	Muslim	M	1	1.89	1.64
		F	1	1.45	
	Catolic	M	1	1.89	0.82
	Other	M	3	5.66	2.46
Educational status Age married	Grade 9	M	34	64.15	62.3
		F	42	60.87	
	Grade 10	M	19	35.85	37.7
		F	27	39.13	
	15-19	M	2	3.77	4.1
		F	3	4.35	
	15-19	M	1	1.89	0.87

Table 1: Socio demon graphic characteristics of the study subjects in Ambo secondary school, February 2016.

Ever heard about HIV/AIDS	Yes	M	53	100	96.72
		F	65	94.21	
	No	M			3.28
		F	4	5.79	
HIV curable	Yes	F	11	15.94	
	No	M	45	48.91	84.43
F		58	84.06		
HIV preventable	Yes	M	51	96.23	95.9
		F	66	95.65	
	No	M	2	3.77	4.1
		F	3	4.35	
HIV treatable	Yes	M	48	90.57	84.43
		F	55	79.71	
	No	M	5	9.43	15.57
		F	14	20.29	
Modes (routes) of HIV transmission	Unsafe sexual intercourse	M	48	90.57	92.62
		F	65	94.21	
	Mother to child transmission during pregnancy	M	44	83.2	75.41
		F	48	69.57	
	Mosquito bite	M	8	15.09	15.57
		F	11	15.94	
	Living together	M	7	13.2	9.34
		F	5	7.25	
	Sharing contaminated sharp material	M	46	86.79	81.97
		F	54	78.26	
	contaminated blood	M	15	28.3	15.57
		F	8	11.59	
	Breast feeding	M	4	7.54	9.84
		F	2	2.9	

Method of HIV protection	Abstinence	M	43	81.13	68
		F	40	57.97	
	Being faithful	M	35	66.04	54.9
		F	32	46.38	
	Condom use	M	41	77.36	73.77
		F	49	71.01	
Others	M	2	3.77	4.92	
	F	4	5.79		

**Table 2:** Knowledge of study subjects about source of information, mode of transmission and method of protection about HIV/AIDS in ambo secondary school, February 2016.

Variables	Response		Number	Percent	Total %
Ever heard about VCT	Yes	M	48	90.57	86.89
		F	58	84.06	
	No	M	5	9.43	13.12
		F	11	15.94	
Source of information for VCT	Radio	M	24	45.28	48.36
		F	35	50.72	
	Television	M	36	67.92	67.21
		F	46	66.67	
	Health worker	M	30	56.6	59.02
		F	42	60.87	
	News paper	M	21	39.62	34.43
		F	21	30.43	
	Others	M	3		56.56
		F	7		

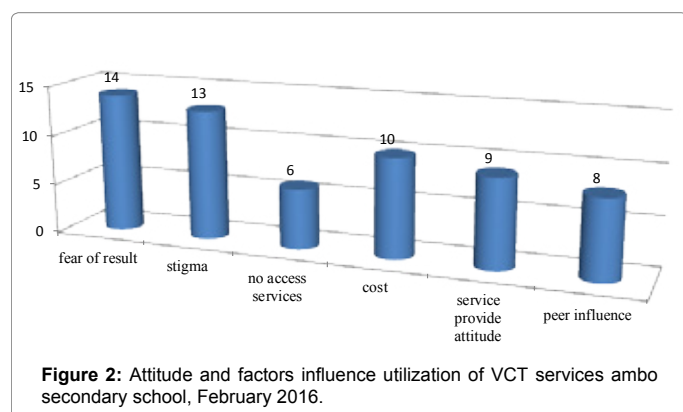
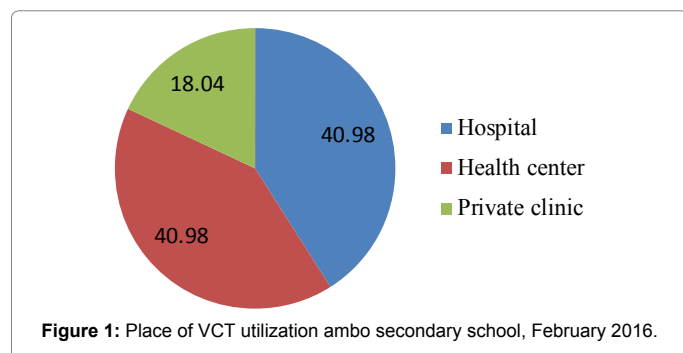
**Table 3:** Knowledge of study subjects about VCT (voluntary counseling and testing) for HIV/AIDS in ambo secondary school, February 2016.

Variables	Response		Number	Percent	Total
Reason for students' decided (tested) for HIV	Was sick	M	13	24.53	24.59
		F	17	24.64	
	Just want to know my HIV status	M	3	5.66	4.92
		F	3	4.35	
	I was at risk	M			1.64
		F	2	2.9	
HIV status at married for visa	M	5	9.43	15.57	
	F	14	20.29		
Choice of the students to accept the results	Face to face	M	27	50.94	48.36
		F	32	46.38	
	Confidentiality by the physicians	M	3	5.66	21.3
		F	23	30.26	
Anonymously(without name or by code)	M	2	3.77	7.38	
	F	7	10.15		
Under gone VCT	Yes	M	23	43.4	48.36
		F	36	52.17	
	No	M	30	56.6	51.64
		F	33	47.82	
Willingness to undergo VCT	Yes	M	32	60.38	69.7
		F	53	76.81	
	No	M	21	39.62	30.3
		F	16	23.19	

**Table 4:** Reason for respondents' decision to test for HIV/AIDS and accept the results ambo secondary school, February 2016.

respondents were not willing to go for VCT this result is higher than the study conducted in Malawi which was Respondents were asked if they had ever gone for an HIV test only 31% reported having ever been tested for HIV [16]. When to camper in Ethiopia, a study conducted in Addis Ababa showed 55% study subject had HIV test, 63% to wish to have HIV testing and 45% who did not have HIV test [13].

The respondents knew the modes of HIV transmission. Unprotected sex with HIV infected individuals was the most common mode of HIV transmission cited by the respondents thus to prevent HIV transmission it is important that young people practice safe sex through the much advocated ABC methods (abstinence, being faithful to one uninfected partner and condom use).



C concerning preferred place of VCT service majority of the respondents preferred hospital and health center.

### Limitations of the Study

Limitation of the study might be study design we utilized, that is a cross sectional study design that have a drawback of measuring cause and effect of relationship it has chicken egg dilemma.

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