DOES DISTRIBUTING PAMPHLET MAKE A DIFFERENCE IN KNOWLEDGE AND ATTITUDE TOWARDS VCT AMONG HIGH SCHOOL STUDENTS?

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

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DEDICATION

This thesis research is dedicated to my father, who passed through great sufferings to grow me up, and still wander in hectic situations.

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TITLE **PAGE**

LIST OF ACRONYMS

ABC - Abstinence, Being Faithful or Consistent Condom use

AIDS - Acquired Immune Deficiency Syndrome

ANOVA - Analysis of Variance

ART - Antiretroviral Therapy

BCC - Behavioural Change Communication

BSS - Behavioural Surveillance Survey

CSA - Central Statistics Authority

CI - Confidence Interval

DCH- Department of Community Health

DHS - Demographic and Health Survey

E.C. - Ethiopian Calendar

FGD - Focus Group Discussion

FMOH - Federal Ministry of Health

HAPCO - HIV/AIDS Prevention and Control Office

HE - Health Education

HEC - Health Education Centre, Ministry of Health

HIV - Human Immunodeficiency Virus

IDI - Individual In-Depth Interview

IEC - Information, Education and Communication

MOH- Ministry of Health

MTCT- Mother to Child Transmission

NGO - Non-Governmental Organization

PEP - Post Exposure Prophylaxis

PLWHA - People Living With HIV/AIDS

PMTCT - Prevention of Mother to Child Transmission

TB - Tuberculosis

VCT - Voluntary Counselling and Testing

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ABSTRACT

In order to attain change in knowledge, attitude and behaviour, the community should have access to adequate and factual health information. In Ethiopia, most of the health institutions develop one or more of printed health education materials, majority of which are pamphlets and posters on HIV/AIDS. Although such materials are being distributed, the level of their effectiveness in changing knowledge, attitude and behaviour of the target population is not established in the local context.

The objective of this thesis research was to develop and test the effectiveness of a VCT pamphlet in changing knowledge and attitude of high school students towards VCT in North Shoa Zone, Oromia Region, Ethiopia.

A Randomized Controlled Trial was conducted to test the effectiveness of a VCT pamphlet in changing knowledge and attitude of high school students towards VCT. The intervention and control groups were selected randomly from the two high schools found in North Shoa. Single blinding was employed to avoid the Hawthorn effect. The VCT pamphlet was given only to the intervention group. The pre-and post-intervention knowledge and attitude of students towards VCT were assessed by the use of structured and pre-tested self-administered questionnaire.

The distribution of change in knowledge and attitude were computed. There was a significant difference in change in knowledge between intervention and control groups ($t = -9.12$, $df = 720$, $p < 0.01$), i.e. it was significantly high among the intervention group. On the other hand, change in attitude was not significantly different among intervention and control groups, even though there was an increase in attitude towards VCT. The change in knowledge was significantly associated with some socio-demographic, sexual partner number, stigma and discriminatory attitude, and baseline knowledge and attitude towards PLWHA ($p < 0.05$).

The study shows that it is possible to change the knowledge of the target group through distributing pamphlets, and perhaps not the attitude. It is recommended to consider different factors such as socio-demographic, knowledge and attitude level of the audience before preparation and distribution of pamphlets to attain the intended change.

1. INTRODUCTION

1.1. Background Information

Almost three quarters of the Ethiopian population suffer from one or more of infectious diseases (mainly, HIV/AIDS, TB and Malaria) and nutritional deficiencies, most of which could be avoided through appropriate preventive practices, [1,2].

Education and communication of health information (IEC/BCC) is the most important and priority strategy and method designed by the government that enable the community to protect, and promote their own health. In order to attain change in behaviour to positive health, the community should have access to adequate and factual health information, [2,3].

Health information can be delivered to the target audience through different channels; inter-personal communication, mass media and through different health learning materials. These health learning materials include prints, audio and audiovisual means of communication. Written/print health learning materials include: pamphlets, posters, flip charts, etc. These materials can be used alone or supplemented with various means of communication, [1,4].

In the current situation, all targeted populations cannot be accessed through verbal or audiovisual communications alone. For this and other reasons, printed health learning materials like pamphlets and posters are being widely used to disseminate health information, [2].

Print health education materials are being produced and distributed in our country; most of which are posters and pamphlets about HIV/AIDS (ABC, VCT, care and support, ART, etc).

Voluntary Counselling and Testing (VCT) is regarded as a priority area in strategies to prevent the spread of HIV and to provide care, support and treatment to people living with HIV/AIDS. By allowing people to know their HIV status and get counselled about its implications, VCT helps to curb the further spread of HIV, [5].

VCT also represents a mechanism for referral into care, treatment and support systems. These include treatment for opportunistic infections, prevention of mother-to-child transmission (PMTCT), post-exposure prophylaxis (PEP), access to anti-retroviral treatment (ART), as well as longer-term counselling and support for positive living. VCT may also play a role in promoting greater social acceptance of the HIV/AIDS epidemic, [5,6].

Some have argued that widespread uptake of VCT within communities can help to normalize HIV/AIDS, to reduce AIDS-related stigma, and to raise awareness of the epidemic, [6]. Guidelines on HIV testing recommend that VCT be widely accessible on a voluntary and confidential basis. VCT services should include pre-test counselling to explain the purpose and possible implications of the test, informed consent on the part of the client, and post-test counselling to discuss the test results, [6].

VCT is recommended as the 'standard of care' in any instance where a patient shows signs or symptoms of HIV/AIDS and in routine medical contexts such as antenatal care and the treatment of sexually transmitted infections. Thus, VCT is a recognized means potentially effective and affordable method for reducing transmission of HIV infection in developing countries, [5,6].

1.2. Statement of the Problem

Written health education materials can be valuable communication tools for teaching and reinforcing the verbal message, especially in the climate of today's health service where audiences are in access for such short time. They are only useful if an individual is able to read and understand them, otherwise they become an expensive waste of resources, [7].

The Health Education Center of MOH and other health institutions are practicing development and distribution of health learning materials. However, the demand, acceptance and effectiveness of these materials are not as expected. Review reports of these offices and some scholars show that acceptance and effectiveness of health education materials have declined, [1].

The demand, acceptance and effectiveness of printed health learning materials can be improved through sound assessment of local socio-cultural situations, need assessment and pre-testing the materials before production and distribution, [1,8].

In Ethiopia, about 80 % of health institutions develop one or more of printed health education materials, most of which are pamphlets and posters on HIV/AIDS, [1]. VCT is one of the areas private, governmental and NGOs are operating through various projects and programs. Although such materials are being distributed, the level of their effectiveness in changing knowledge, attitude and behaviour of the target population is not established in local context.

This thesis project was aimed at testing the effectiveness of a VCT pamphlet in changing knowledge and attitude of high school students in North Shoa Zone, Oromia Region, Ethiopia. The pamphlet was prepared based on need assessment and pre-tested before distribution.

The result of the study can be used to identify level of knowledge and attitude change attributed to pamphlet distribution. It will also provide information on factors associated with change in knowledge and attitude towards VCT. These will contribute to the improvement in acceptance and effectiveness of printed health learning materials.

2. LITERATURE REVIEW

Health Learning Materials Production

Health Learning Materials are those teaching aids which give information and instruction specifically directed to a defined group of audience. There are two major types of these materials: printed and audio-visual materials. Printed materials are produced in multiple copies of an original image. They can be used in a number of ways: separately on their own as a means of transmitting message, or as support of other kind of media, [4].

Written educational materials are essential component of a comprehensive health education program. To be effective and useful, educational materials must meet the specific needs of the target population. Many available educational materials may not meet the needs of individuals; therefore efforts to develop appropriate written educational tools may be necessary, [4,8].

Developing quality educational materials includes several steps: conducting a needs assessment, establishing learning objectives, writing the text, and evaluating the piece. The text should be written on a level that is appropriate for the audience. Content and style, layout, colour, and illustrations all influence readability and quality, [8-10].

Effectiveness of Health Education Material

The effectiveness of health learning materials depends largely on the understanding of the target audience. Participating and working with members of target audience through the development of the material ensures that it meets the need of intended target populations. Every health education material development, distribution and effectiveness needs to be supported by research within specific target populations, [1,4].

In an experimental evaluation study done in Potsdam, Germany, the effectiveness of safer sex promotion leaflet in changing cognitive antecedent was tested, [11]. The study revealed that the distribution of the leaflet alone couldn't change knowledge status; rather, the distribution of leaflet plus incentives and systematic presentation resulted in significant change in cognitive antecedent of safer sex.

Although brochures may incorporate a large number of variables that facilitate comprehension, many will not be used to the extent necessary to ensure that readers would be able to read and understand them, [9]. It is recommended that HIV/AIDS-related health brochures be written and used if they can be read, accepted and understood by the target audience.

There are a large number of features that need to be considered when designing, developing and using written health education materials so that they will be suitable and effective for the target audience, [12]. Further research was recommended to explore the contribution of certain features, such as illustrations, to the effectiveness of written materials and the effect of well-designed written materials on patient outcomes.

A study conducted in Oklahoma, USA, [13] to assess the effectiveness of AIDS Video show indicated that students who viewed an AIDS tape showed increased knowledge at immediate and one month post testing ($p < 0.01$); the amount of increase declined over the month, however ($p = 0.012$). Students who saw two of the AIDS tapes showed an increase in compassion toward people with AIDS when tested immediately after the tape ($p < 0.01$); but 1 month later, only those students who had viewed a third AIDS tape showed an increase in compassion ($p < 0.01$). The AIDS tapes failed to bring about improvements in attitudes toward preventive behaviour. The authors concluded that tapes about AIDS can lead to modest changes in knowledge and perhaps in attitudes; more significant changes,

however, probably depend on multimedia interventions that include guided discussions as well as audiovisual and other components.

In a randomized controlled study done in Southampton, England, whether provision of educational leaflets or questions on contraception improves knowledge of contraception in women taking the combined oral contraceptive pill was assessed, [14]. Randomization of women into three groups: control group, leaflet group and leaflet and question group was done. Educational leaflet had significant effect on knowledge of contraception. Asking questions in addition to provision of leaflets further improved knowledge of contraception.

In a study done in the institute of Paediatrics, Catholic University, Rome, Italy, the effectiveness of a booklet on the duration of breast feeding was assessed, [15]. The result showed that there was no statistically significant difference between the intervention group (who took the booklet) and control group (who did not take the booklet). Thus, the information booklet alone didn't seem to increase the duration and the prevalence of exclusive and complementary breast feeding at 6 months of age.

Knowledge and Attitude towards VCT

A cornerstone of HIV prevention in developing countries is voluntary counselling and HIV antibody testing (VCT); only 2 % of the people have been tested, and two out of three people want to be tested, [16,17].

A study done in South Africa examined the relation between HIV testing history, attitudes towards testing, and AIDS stigmas, [18]. Comparisons on attitudes toward VCT, controlling for demographics and survey venue, showed that individuals who had not been tested for HIV held significantly more negative testing attitudes than individuals who were tested, particularly people who knew

their test results. Compared to people who had been tested, individuals who were not tested for HIV demonstrated significantly greater AIDS related stigmas; ascribing greater shame, guilt, and social disapproval to people living with HIV.

A study done in Addis Ababa high school students showed that 92.1 % of respondents have heard of VCT but only 15.8 % said they have used the service [5]. It had also showed that 77.2 % agreed that VCT has an advantage to change behaviour and prevent HIV transmission.

Attitude towards VCT is influenced by knowledge of HIV transmission and prevention method and sexual risk behaviour; in the Ethiopian context, cultural norms are also documented. The main reason for negative attitude and low practice of VCT is also said to be stigma and discriminatory attitude towards people living with HIV/AIDS, [5].

3. OBJECTIVES

3.1. General objective

The general objective of this study was to test the effectiveness of VCT pamphlet in changing knowledge and attitude of high school students towards VCT in North Shoa Zone, Oromia Region, Ethiopia.

3.2. Specific objectives

1. To assess the baseline VCT knowledge and Attitude of the study participants towards VCT.
2. To assess change in knowledge and attitude of the study participants towards VCT as a result of the pamphlet distribution.
3. To assess factors associated with change in knowledge and attitude of the study participants towards VCT.

4. METHODS

4.1 Study Area and Period

The study was conducted in two government high schools, Fiche and Muke Turi, which are found in North Shoa Zone, Oromia National Regional State, Ethiopia in the months of January 2006 to December 2007. North Shoa Zone is found adjacent and to the North of Addis Ababa, with 16 Woredas ranging 40 to 220 km from the centre of the City. There are 15 high schools in the District out of which 8 have preparatory classes. The major means of income for the district population are agriculture and trade.

Fiche Secondary School is found in Fiche Town, which is 115 Km north of Addis Ababa. There were a total of 1609 students in the year 1998 E.C. The high school caters grades 10 to 12. On the other hand, Muke Turi High School is found 80 Km north of Addis Ababa in Muke Turi Town; and has a total of 1,093 students who were enrolled in 1998 academic year in to grades 9 to 12.

4.2 Study Populations

Source population: The source population of this study was high school students in Fiche and Muke Turi Secondary Schools.

Study Subjects: The intervention group were students randomly selected from Muke Turi Secondary School while the control group were students randomly selected from Fiche Secondary School.

4.3 Study Design

A Randomized Controlled Intervention Trial was conducted to test the effectiveness of a VCT pamphlet in changing knowledge and attitude of high school students towards VCT. The intervention and control group were selected

randomly from the two schools. The VCT pamphlet was given to an intervention group, while nothing was given for the control group. Single blinding was employed to avoid the Hawthorn Effect.

4.4 Sample Size

The sample size "**n**" Was determined based on two population means, i.e. mean change in knowledge and attitude of control and intervention groups, with the following assumptions:

Type I error (α) - 5%,

Power (1-β) - 80 %

Expected plausible effect (minimum change the study can detect) – 1.25 (Knowledge), or 0.10 (Attitude)

Intervention: Control ratio - 1: 1

Contingency - 10%,

The Variance of the measurement item were taken from the pilot survey and used for calculation of the sample size. Thus, the following formula was used:

$$n_{1i} = (1+1/r)\,(Z_{\alpha/2}+Z_{\beta})^{2}\,[\sigma^{2} / (\mu 1 - \mu 2)^{2}]$$

$$n_{1i} = (1+1/1)\,(1.645+0.84)^{2}\,[(6.442)^{2} / (1.25)^{2}] = 328 \quad (K)^{*}$$

$$n_{1i} = (1+1/1)\,(1.645+0.84)^{2}\,[(0.37)^{2} / (0.10)^{2}] = 169 \quad (A)^{*}$$

*** K- with Knowledge score, A- with Attitude score**

Where, $Z_{\alpha} = 1.645$ **(one direction test)**

$Z_{\beta} = 0.84$ (Power of 80%)

$\mu 1 - \mu 2$ is the minimum plausible effect, the minimum change in knowledge or attitude the study can detect (**1.25** for knowledge score or **0.10** for attitude)

σ is Variance that was taken from pilot survey, assumed to constant for the control and intervention groups (σ**= 6.442** for knowledge and **0.37** for attitude)

$n1i = n2i = 328$, $ni = n1i + n2i = 656$ *(with Knowledge score)*

$r = 1$, that is the ratio of Intervention to Control, thus, $n_{1f} = n_{2f}$

n_{1f} is Sample Size for Intervention groups (**361**)

n_{2f} is Sample Size for Control groups (**361**)

n_f **is** the total Sample Size, $n_f = n + 10\% x\ n$

$$n_{1i} = (1+1/1)\ (1.645+0.84)^2\ [(6.442)^2 / (1.25)^2] = 328$$

$$n_f = (328 + 328) + 10\ \%(328 + 328) = 722$$

The sample size calculation was done using the variance and mean of knowledge score because it attained larger sample size when knowledge score was used than when attitude score was used.

The pilot study was conducted on 10% of the maximum sample size computed from single proportion in cross-sectional survey, i.e. 385 subjects, assuming 5% desired precision. Hence, the pilot study was conducted on 39 subjects.

4.5 Sampling Method

Two high schools, Fiche and Muke Turi schools were selected purposively from the District because they are more similar in background than others. In addition, they were found to be comparable in socio-economic and climatic conditions; and they are far apart to ensure that pamphlets would not be shared among intervention and control groups. Stratified sampling technique was used to select the study participants randomly from each high school. Using stratified randomization, one school was assigned to intervention group and the other to control group. Accordingly, Fiche high school was assigned to a control group, while Muke Turi high school was designated as an intervention group. Stratified random sampling was used to proportionally select subjects from 10, 11 and 12

grades. Finally, sections (A, B, C…) were selected by cluster sampling technique, and included in the study, [see Figure 1].

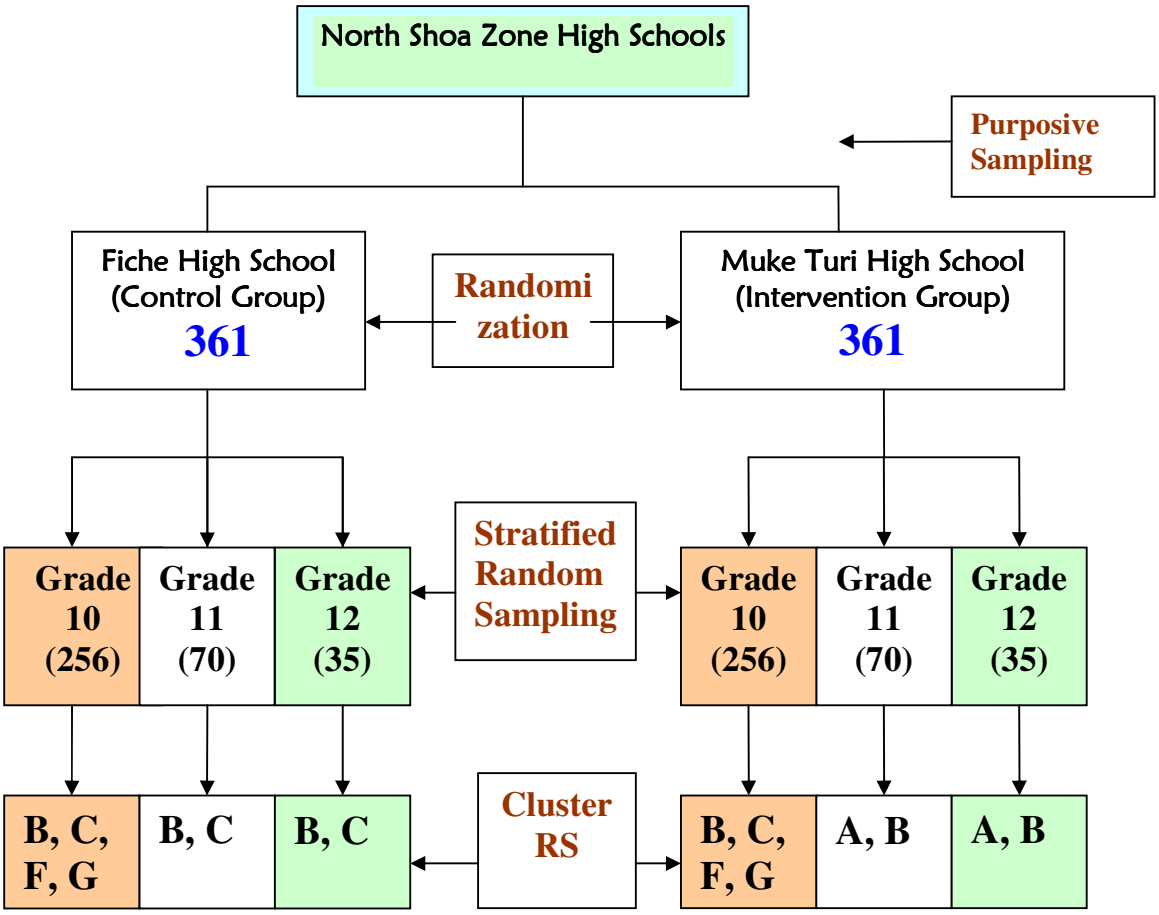

Fig 1: Schematic representation of sampling procedure, Fiche and Muke Turi High Schools, March 2006

4.6 Sampling Procedure

To attain the 361 subjects from each school, subjects were proportionally taken from grades 10, 11 and 12. Accordingly, 256 subjects from grade 10, 70 subjects from grade 11 and 35 subjects from grade 12 were taken. To attain these sample sizes four sections from grade 10, two sections from grade 11 and two sections from grade 12 were randomly selected. Thus, 8 sections from each school were included in the study. Data were collected from all students in the selected class.

But, the total subjects in the class were more than the required sample size; thus, exactly the required number was taken randomly and included in the analysis.

4.7 Inclusion Criteria

The study participants were:

1. Those students whose sections were assigned randomly to either of the study groups, i.e. intervention or control groups.
2. Those who were present on the data collection days (both pre and post intervention data collection days).
3. Those students who were present at the time of pamphlet distribution.
4. Students who were able to fill the questionnaire in the local language.

4.8 Data Collection Methods and Procedures

Data were collected for three main purposes; for developing the pamphlet, pre-testing the measuring item and assessing pre- and post-intervention knowledge and attitude of the subjects.

In-depth interviews and focus group discussions were conducted on Chancho High School students, North Shoa Zone. These generated baseline data for developing the pamphlet. Similarly, pre-testing of the pamphlet and the measurement item were conducted in the same high school.

The knowledge and attitude were measured with self-administered pre-tested questionnaire that was prepared in English and then translated to Afan Oromo. The questionnaires were completed in the classroom; the facilitators were observing them while the subjects were filling the questionnaires; and in addition, the students were instructed not to see the responses of the others. The overall procedures are described bellow.

4.8.1 Developing Pamphlet

1. Need Assessment: Baseline knowledge on VCT and HIV/AIDS related issues was assessed in order to identify gaps in knowledge, to develop a pamphlet. These data were collected by holding 6 in-depth interviews, with three female and three male students who were selected from grades 10 to 12; and 2 FGDs, one with female and one with male students consisting of 6-7 students each. The qualitative data were collected from the selected students using semi-structured questionnaire. It was transcribed, summarized and used to identify gaps in knowledge related to VCT. Lack of appropriate knowledge was found regarding the procedures of voluntary counselling and testing, advantages of VCT or available services after being tested for HIV such as PMTCT and ART.

2. Developing the pamphlet: Based on the findings of the need assessment, the pamphlet was developed. The pamphlet addressed all knowledge related to the processes of VCT, advantages of VCT and available services after being tested for HIV, specifically PMTCT and ART.

3. Pre-testing: The pamphlet was pre-tested on Chancho High School students who did not participate on the interview or group discussion in the need assessment. In this process, six in-depth interviews and two focus group discussions were held to review the content, clearness, style, layout, colour, illustrations and understandability of the material. The data were transcribed, summarized and used for the pre-test. Expert review was made by experts from HEC of FMOH, Addis Ababa University and Oromia Health Bureau who commented on the content, design and linguistic structure of the pamphlet.

4. Developing the material: After incorporating the corrections which were raised in the pre-testing, the pamphlet was edited and printed. Some ideas have been added while others have been removed from the original pamphlet during the

development. Finally, the pamphlet was translated to Afan Oromo, the local language, and duplicated for distribution.

4.8.2 Developing the Item (Questionnaire)

1. Developing the knowledge and attitude measuring item: The item used to measure knowledge status of the subjects was based on the developed pamphlet and review of studies done on knowledge and attitude towards VCT. Yes/No questions were made to measure the baseline and post-intervention knowledge status. A Likert scale type questions for measuring attitude towards VCT were also developed, like "Getting tested for HIV helps people feel better health - I strongly agree, agree, disagree, or strongly disagree." All items (questions) have been addressed on the pamphlet so that those who read the pamphlet could gain the intended knowledge and attitude regarding VCT.

2. Pre-testing the item/Pilot survey: The items were pre-tested on Chancho High School students, to assess the clearness, readability and understandability of the items. Thirty-nine students selected from grades 10 to 12 filled the questionnaire as a pilot survey. Reliability analysis (alpha), mean, median and skewness were calculated for the items. Accordingly, 25 knowledge items, 15 attitude items and 10 stigma and discriminatory attitude items were taken for the study. While HIV transmission and prevention knowledge items were completely removed because HIV transmission and prevention knowledge were very high, mean were greater than 95 %. The variance of this quantitative data of the pilot survey was used for calculating sample size, assuming equal variance among the control and intervention groups.

4.8.3 Measuring Baseline Data

The baseline knowledge and attitude of the subjects were assessed by the self-administered and pre-tested structured questionnaire. Twenty-five yes/no questions or statements were used to assess the VCT knowledge of the study participants. These were added up and formed the baseline score of knowledge status.

A Likert scale type 15 questions/statements were used to assess the attitude of the study participants towards VCT. Each statement was scored out of four: 1 for those who strongly disagree, 2 for those who disagree, 3 for those who agree and 4 for those who strongly agree with positive attitude towards VCT.

Code was assigned for each study subject so that the pre- and post intervention knowledge and attitude of each subject would be matched. It would also be possible to calculate change in knowledge and attitude for each subject; and, associations would be made between changes in knowledge or attitude and other variables. The subjects and facilitators were not told about the purpose of the study, and that post-intervention assessment would be made with similar item.

4.8.4 Distributing the Pamphlet

One week after taking the baseline data, the VCT pamphlets were distributed to the intervention group by the school anti-AIDS club members. The study participants were not told that it has been distributed by the investigator; rather they were told that it was sent from the Regional HAPCO. It was distributed in the class for all sections which were selected to be involved in the study so that all the study participants received the pamphlet. Neither any other pamphlet nor any health learning material related to VCT had been distributed to both study groups in the period between pre and post intervention assessment.

4.8.5 Measuring the outcome status

Using the same items, knowledge and attitude of study participants were measured four weeks after distributing the pamphlet and the previous codes were used.

4.9 Data Quality Control

To improve the quality of the data, the questionnaire has been pre-tested before use to assure that it was clear, understandable and simple. Reliability analysis (alpha), mean, median and skewness were calculated to select the items.

Its English version was translated into Afan Oromo and again back to English to ensure its consistency. This was done by principal investigator and different individuals who have better language ability of both languages.

Home room teachers were trained on how to facilitate the data collection and how to use the questionnaire. In addition, the Principal Investigator made close supervision and guide during data collection. Double entry was made for a random sample of 10 % to check for errors.

4.10 Data Analysis

Data were entered, cleaned and analyzed using SPSS version 11. Descriptive statistics of the baseline data and change in knowledge and attitude were made using frequencies, range, quartiles, mean and standard deviation. X^2 test and t-test were used to compare socio-demographic and background variables among the intervention and control groups. Change in knowledge and attitude were compared among the intervention and control groups by independent sample t-test. Independent sample t-test and ANOVA were also used to compare the change in knowledge and attitude within the categorical independent variables.

Bivariate correlation was also used to compare the change with continuous independent variables. Partial correlation and linear regression was also used to analyze standardized association between independent variables and the change in knowledge and attitude towards VCT.

Analysis by intention to treat was not used because the loss to follow up was not expected to exist as a result of pamphlet distribution, i.e. pamphlet distribution doesn't cause students to discontinue their education, or to be absent from the class.

4.11 Operational Definitions

Knowledge: is the information stored in memory ***that is true***, the person ***believes it is true*** and the person's ***justification*** for believing the truth of that information is correct, [19].

Attitude: is a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour. This tendency can be measured by affective responses towards an object manifest themselves in ***verbal expressions*** of feelings, [20].

Pamphlet: is a single sheet with one or more folds upon which different health information are written to reach large number of target audience, [4].

Effectiveness: Meeting the intended objective; in this study, effectiveness of the pamphlet refers to significant change in knowledge or attitude of the subject for whom pamphlet has been distributed.

Health communication: is crafting and delivery of messages based on consumers research, to promote the health of individual and communities, [1,2].

Information, Education and communication (IEC): is package of planned intervention which combines information, education and motivational processes for health communication, [2].

Behaviour Change Communication: is process of understanding people's situation and concerns; and thus providing appropriate knowledge and skill required to practice new behaviour, [2].

Voluntary Counselling and Testing (VCT): is testing for HIV sero-status with pre- and post-test counselling, on voluntary and confidential basis, [3].

High School: is school provided with the second cycle and preparatory school (intermediate level education between secondary school and college level education, which will prepare students for higher commission education). High school student refers to those who joined classes 9, 10, 11 or 12 grade level educations at high school.

4.12 . Variables

1. **Outcome (Dependent) Variable:** knowledge & attitude towards VCT.
2. **Exposure (Independent) Variable:** pamphlet distribution
3. **Background Variables-** Socio-demographic variables such as age, sex, marital status, ethnicity, religion, grade, address (urban/rural), previous HIV testing history, with whom the students live, baseline knowledge and attitude towards VCT and attitude towards PLWHA.

4.13 Ethical Considerations

The ethical approval and clearance were obtained from the Department of Community Health and Medical Faculty Ethical Committees. Permission was obtained from the concerned bodies of the Regional and Woreda offices. Verbal consent was obtained from school director, teachers and study participants prior to data collection. The study participants were also assured that their responses would not be seen by their friends or by members of staff or any other individual.

5. RESULT

5.1 Socio-Demographic Status of the Respondents

Eight hundred seventy-eight students filled the questionnaire during the baseline assessment, while 817 students were found and filled the questionnaire on the post intervention assessment day. This makes the rate of follow-up of 93.1 % (rate of loss to follow up, all due absentees, was 6.9%). As the collected data were more than the calculated sample size, exactly 100 % (722 subjects) were randomly taken and included in the study.

The age of the study participants ranges from 15 to 28 years, [Table 1]. Majority, 631 (87.6 %) were between the ages 15 and 19 years. Out of the total sample, 504 (69.8 %) were male, and 696 (96.4 %) were single. Seven hundred eight (98.1 %) were Oromo, while 698 (96.7 %) were Orthodox Christian. On the other hand, 483 (66.9 %) were from rural areas and 550 (76.2 %) live with their parents.

Control and intervention groups were comparable with most of the socio-demographic factors. But, age, number of sexual partners and with whom the study participants live were significantly different between the two groups, (with X^2 test, $p < 0.05$). The intervention group was younger in age, had less number of sexual partners, and more live with their parents compared to the control group.

5.2 HIV Test History and Number of Sexual Partners

One hundred eighty-six (25.8 %) of the study participants were tested for HIV, [Table 2]. However, a significantly higher number of the intervention group were tested compared to the control group, 38.8 % and 12.7 %, ($X^2 = 63.99$, df = 1, $p = 0.00$). Five hundred eighty-five (81 %) of the students claimed that they had no sexual contact with anyone, while 84 (11.6 %) said they had sexual contact only with one sexual partner. Fifty three (7.3 %) subjects reported that they had sexual

contact with more than one sexual partner. The intervention group had less number of sexual partners compared to control group, ($X^2 = 15.17$, df = 2. $p < 0.01$).

Table 1: Socio-demographic characteristics of the study participants, Fiche and Muke Turi high schools, October 2006

Variable	*Control Group*	*Intervention Group*	*Total*
Age Group*			
15 - 19	**299** (82.8%)	**334** (92.5%)	**633** (87.7%)
20 - 24	**86** (15.5%)	**27** (7.5%)	**83** (11.5%)
25 - 28	**6** (1.7%)	**0** (0.0%)	**6**◎(0.8%)
Sex			
Male	**260** (72.0%)	**244** (67.6%)	**504** (69.8%)
Female	**101** (28.0%)	**117** (32.4%)	**218** (30.2%)
Marital Status			
Single	**345** (95.6%)	**351** (37.2%)	**696** (96.4%)
Married	**10** (2.8%)	**8** (2.2%)	**18** (2.5%)
Separated	**4** (1.1%)	**1** (0.3%)	**5** (0.7%)
Divorced	**2** (0.6%)	**1** (0.3%)	**3** (0.4%)
Ethnicity			
Oromo	**352** (97.5%)	**356** (98.6%)	**708** (98.0%)
Amhara	**7** (1.9%)	**4** (1.1%)	**11** (1.5%)
Others	**2** (0.6%)	**1** (0.3%)	**3** (0.5%)
Religion			
Orthodox Christian	**343** (95.0%)	**355** (98.3%)	**698** (96.7%)
Protestant	**12** (3.3%)	**4** (1.1%)	**16** (2.2%)
Others	**6** (1.7%)	**1** (0.3%)	**8** (1.1%)
Residence			
Rural	**247** (68.4%)	**236** (65.4%)	**483** (66.9%)
Urban	**114** (31.6%)	**125** (34.6%)	**239** (33.1%)
With whom do live?*			
Parents	**254** (70.4%)	**296** (82.0%)	**550** (76.2%)
Relatives	**37** (10.2%)	**31** (8.6%)	**68** (9.4%)
Friends	**63** (17.5%)	**26** (7.2%)	**89** (12.3%)
Others	**7** (1.9%)	**8** (2.2%)	**15** (2.1%)

*** Significantly different among the study groups with X^2 test, $p<0.05$**

Table 2: HIV test history and number of sexual partners of the study participants, Fiche and Muke Turi high schools, October 2006

Items	*Control Group*	*Intervention group*	*Total*
Have you ever tested for HIV?*			
Yes	**46** (12.7%)	**140** (38.8%)	**186** (25.8%)
No	**315** (87.3%)	**221** (61.2%)	**536** (74.2%)
With how many partners did you ever have sexual contact?*			
None	**272** (75.3%)	**313** (86.7%)	**585** (81.0%)
One	**55** (15.2%)	**29** (8.0%)	**84** (11.6%)
More than one	**34** (9.4%)	**19** (5.3%)	**53** (7.3%)
Total	**361** (100.0%)	**361** (100.0%)	**722** (100.0%)

*** Significantly different among the study groups with X^2 test, $p<0.05$**

5.3 Stigma and Discriminatory Attitude

Large number of study participants had discriminatory attitude towards people with HIV/AIDS. Five hundred ninety-two (82 %) subjects had agreed or strongly agreed with at least one of the items used for measuring stigma and discriminatory attitude. The mean score of stigma and discriminatory attitude towards PLWHA, scored out of four, was 1.88 $\pm$ 0.53. Ninety-one (12.6 %) have average score greater than 2.50, which is discriminatory attitude, [Table 3 and 4]. It is significantly higher among the intervention group than the control group, ($t= 2.12$, $df = 720$, $p = 0.04$).

The average score of items of blaming attitude against PLWHA, scored out four, was 1.79 $\pm$ 0.60; and 74 (10.2 %) of the subjects, on average, agreed with blaming attitudes, [Table 3 and 4]. It was significantly higher among intervention group than the control group, ($X^2 = 2.27$, $df = 720$, $p = 0.02$).

Table 3: Subjects who agree or strongly agree with stigma and discriminatory attitudes by each item, Fiche and Muke Turi High Schools, March 2006

	Stigma and Discriminatory Attitude Items	*Control Group*	*Intervention Group*	*Total*
Blaming Attitudes				
1	People who have AIDS cannot be trusted*	**117** (32.4%)	**87** (24.1%)	**204** (28.3%)
2	Most people become HIV positive by being weak or foolish	**74** (20.5%)	**66** (18.3%)	**140** (19.4%)
3	People who have AIDS are cursed	**52** (14.4%)	**39** (10.8%)	**91** (12.6%)
4	A person with AIDS must have done something wrong and deserves to be punished	**119** (33.0%)	**102** (28.3%)	**221** (30.6%)
	Average score greater than 2.50	***35*** *(9.7 %)*	**39** (10.8 %)	***74*** *(10.2%)*
Avoidant Attitudes				
5	Living with someone who has HIV/AIDS causes problem.	**156** (43.2%)	**155** (42.9%)	**311** (43.1%)
6	It is not safe for children to be taught by HIV positive teachers at school	**47** (13.0%)	**44** (12.2%)	**91** (12.6%)
7	One should not share a meal with a person who is positive for HIV/AIDS	**35** (9.7%)	**40** (11.1%)	**75** (10.4%)
8	One should not buy food from a shopkeeper or food seller who is known to have HIV/AIDS	**66** (18.3%)	**69** (19.1%)	**135** (18.7%)
	Average score greater than 2.50	**35** (9.7 %)	**32** (8.9 %)	***67*** *(9.3%)*
Attitudes against Rights of PLWHA				
9	People with HIV should not get married	**143** (39.6%)	**128** (35.5%)	**271** (37.5%)
10	People who have HIV should be isolated	**154** (42.7%)	**135** (37.4%)	**289** (40.0%)
	Average score greater than 2.50*	**124** (34.3%)	**98** (27.1 %)	***222*** *(30.7%)*
	Total Stigma and Discriminatory Attitude Score	**49** (13.6 %)	**42** (11.6 %)	***91*** *(12.6%)*

Significantly different among the study groups with X^2 test, $p < 0.05$,

Table 4: Mean scores of stigma and discriminatory attitudes, Fiche and Muke Turi High Schools, October 2006

Items	*Control Group*	*Intervention group*	*Total*
Blaming Attitudes *	***1.84***	***1.74***	***1.79***
Avoidant Attitudes	***1.81***	***1.76***	***1.78***
Attitudes against rights of PLWHA	***2.30***	***2.19***	***2.25***
Average Attitude Score*	***1.92***	***1.84***	***1.88***

*** Significantly different among the study groups with t-test, p<0.05**

On the other hand, the average score of the avoidant attitudes was 1.78 $\pm$ 0.62, and 67 (9.3 %) subjects agreed with avoidant attitudes. The average score of negative attitude towards the right of PLWHA was high, 2.25 $\pm$ 0.98, and, 222 (30.7 %) subjects agreed with negative attitude towards the rights of PLWHA.

Two hundred eighty-nine (38.7 %) of the subjects did agree or strongly agree with the statement that stated "People who have HIV should be isolated". Three hundred eleven (43.1 %) of the respondents did either disagree or strongly disagree with the statement that says "It does not cause problem to live with someone who has HIV/AIDS". Similarly, two hundred twenty-one (30.6%) of the study participants agreed or strongly agreed with the statement that stated, "A person with AIDS must have done something wrong and deserves to be punished", detail of each item is annexed, [Annex 8].

5.4 Baseline Knowledge about VCT

The mean baseline score, of the twenty-five questions/statements were used to assess the VCT knowledge of the study participants was 15.71 (62.8 %) with standard deviation of 3.20. The minimum and maximum scores were 8 and 25 respectively. The first, second and third quartile scores were 13, 16 and 18 respectively.

Majority (61.8 %) of the respondents scored between 13 and 18, [Table 5]. Only about 20 % of the respondents scored more than 18.75 (75 %). Categories of the knowledge score is described in Table 5; while the detail of knowledge score for each item is annexed, (Annex 8).

Table 5: Categories of cumulative score of baseline VCT knowledge among the study participants, Fiche and Muke Turi High Schools, October 2006

Categories		*Control Group*	*Intervention group*	*Total*
≤ 12	(less than 50 %, ***Poor***)	**67**(18.6%)	**61**(16.9%)	**128** (17.7%)
13 – 18	(50 – 75 %, ***Fair***)	**218** (60.4%)	**228** (63.2%)	**446** (61.8%)
≥ 19	(greater than 75 %, ***Good***)	**76** (21.1%)	**72** (19.9%)	**148** (20.5%)
Total		**361** (100.0%)	**361** (100.0%)	**722** (100.0%)

5.5 Baseline Attitude towards VCT

The average score of the 15 items, each scored out of four, was 2.46 with standard deviation of 0.30. Four hundred ten (56.8%) of the students either disagreed or strongly disagreed with positive attitude towards VCT, which show the average negative attitude towards VCT, [Table 6]. Almost all (99.3 %) of the study participants scored between 2.00 and 3.00, on the average; categories of attitude score are described in Table 6. The frequency and percent of the study participants, who either agree or strongly agree with positive attitudes towards VCT for each attitude item is annexed, (Annex 8).

Table 6: Categories of average score of baseline attitude towards VCT, Fiche and Muke Turi High Schools, October 2006

	Categories	*Control Group*	*Intervention group*	*Total*
1	1.00 - 1.49 (Strongly Disagree)	**2** (0. 6%)	**2** (0.6%)	**4** (0.6%)
2	1.50 - 2.49 (Disagree)	**185** (51.2%)	**221** (61. %2)	**406** (56.2%)
3	2.50 - 3.49 (Agree)	**173** (47.9%)	**137** (38.0%)	**310** (42.9%)
4	3.50 - 4.00 (Strongly Agree)	**1** (0.3%)	**1** (0.3%)	**2** (0.3%)
	Total	**361** (100. 0%)	**361** (100.0%)	**722** (100.0%)

5.6 Changes in Knowledge about VCT

Change in knowledge status, the difference between the cumulative score of post and pre-intervention knowledge status, has been calculated for each study participant. The mean score of this knowledge change is 1.32 with standard deviation of 3.26, while the 50th and 75th percentiles were 1.00 and 3.00 respectively. It ranges from -7 to 11, [Table 7].

Table 7: Categories of change in VCT knowledge score, Fiche and Muke Turi High Schools, October 2006

No	*Categories*	*Control Group*	*Intervention Group*	*Total*
1	Less than -5	**13** (3.6%)	**6** (1.7%)	**19** (2.6%)
2	-5 to -3	**48** (13.3%)	**18** (5.0%)	**66** (9.1%)
3	-3 to -1	**79** (21.9%)	**52** (14.4%)	**131** (18.1%)
4	-1 to 1	**100** (27.7%)	**62** (17.2%)	**162** (22.4%)
5	1 to 3	**76** (43.7%)	**98** (56.3%)	**174** (24.1%)
6	3 to 5	**37** (10.2%)	**65** (18.0%)	**102** (14.1%)
7	5 to 7	**5** (1.4%)	**36** (10.0%)	**41** (5.7%)
8	Greater than 7	**3** (0.8%)	**24** (6.6%)	**27** (3.7%)
	Total	***361(100%)***	***361(100%)***	***722(100.0%)***

5.7 Changes in Attitude towards VCT

Change in attitude, the difference between average scores of post and pre-intervention attitude towards VCT, was calculated for each respondent. The mean of this distribution is 0.03 with standard deviation of 0.60. The distribution of attitude change ranges from -1.87 to 1.47. The 2nd and 3rd quartiles are 0.07 and 0.40, respectively. Majority (90.9 %) are between -0.9 to +0.9, [Table 8].

5.8 Comparison of Knowledge Scores among Study Groups

The pre- and post intervention knowledge score as well as the change in knowledge score of the control and intervention groups were compared using independent sample t-test, as the subjects were taken randomly. The pre-intervention knowledge score was not significantly different among the groups

(t = -0.92, df = 720 and p > 0.05), while the post intervention knowledge score and the change in knowledge score were significantly different among the control and the intervention groups; with t = -10.43, df = 720, and p<0.01, [Table 9 and Figure 2].

Table 8: Categories of change in attitude score, Fiche and Muke Turi High Schools, October 2006

No	*Categories*	*Control Group*	*Intervention Group*	*Total*
1	<=-1.0	**31**(8.6%)	**9** (2.5%)	**40** (5.5%)
2	-0.9 to -0.5	**42** (11.6%)	**52** (14.4%)	**94** (13.0%)
3	-0.4 to 0.0	**114** (31.6%)	**112** (31.0%)	**226** (31.3%)
4	0.0 to 0.4	**100** (27.7%)	**112** (31.0%)	**212** (29.4%)
5	0.5 to 0.9	**62** (17.2%)	**62** (17.2%)	**124** (17.2%)
6	>=1.0	**12** (3.3%)	**14** (3.9%)	**26** (3.6%)
	Total	***361(100%)***	***361(100%)***	***722 (100.0)***

The mean score of knowledge change of the Intervention and control group with 95 % confidence interval were 1.83 [1.41, 2.24] and 0.26 [-0.22, 0.73] respectively; while the mean post intervention knowledge score were 15.60 [15.18, 16.02] and 17.84 [17.45, 18.23].

Table 9: Comparisons of knowledge scores by t-test, Fiche and Muke Turi High Schools, October 2006

		Mean	*p value (1 tailed)*
Control Group	Pre-Intervention	15.60	0.04*
	Post Intervention	15.88	
Intervention Group	Pre-Intervention	15.82	0.00**
	Post Intervention	18.19	
Pre-Intervention	Control	15.60	0.18
	Intervention	15.82	
Post Intervention	Control	15.88	0.00**
	Intervention	18.18	
Change in Knowledge Score	Control	0.28	0.00**
	Intervention	2.37	

*** Statistically significant difference at 0.05 ** Statistically significant difference at 0.01**

In addition, the pre and post knowledge score were significantly different among the intervention group (t = -13.47, df = 360, and p < 0.01), while not among the control group (t = -1.85, df = 360, and p > 0.05), [Table 9].

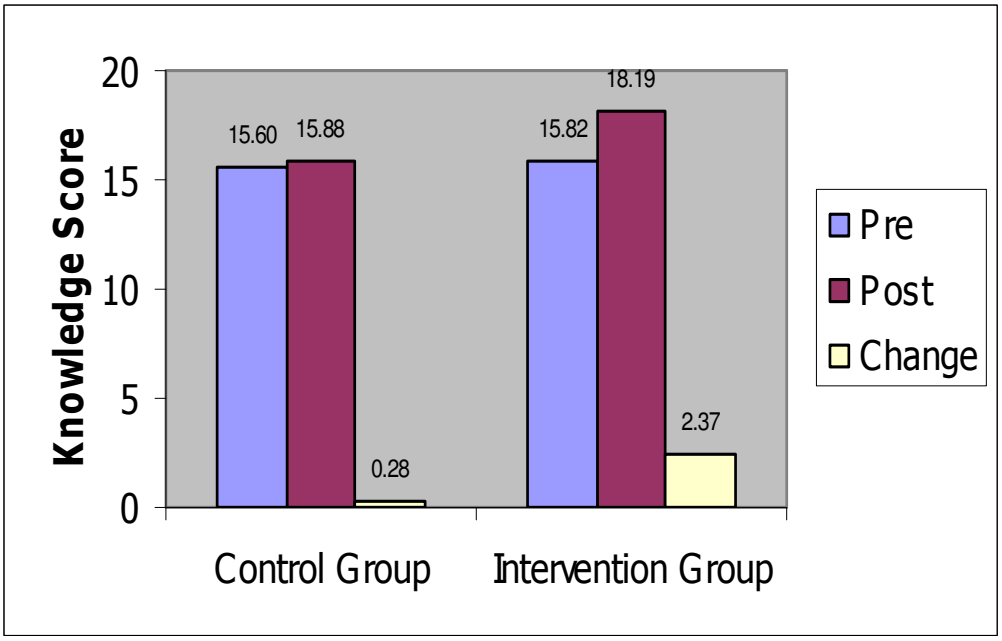

Fig. 2: Comparison of knowledge scores among control and intervention groups, Fiche and Muke Turi High Schools, October 2006

5.9 Comparison of Attitude Scores among Intervention and Control Groups

Similarly, independent sample t-test was used to compare the pre-intervention, post intervention and change in attitude score among control and intervention groups. The baseline attitude score was significantly more positive among the control groups (t = 2.16, df = 720, p < 0.05), [Table 10]. But the post intervention attitude score and change in attitude score were not significantly different among control and intervention groups, even though there was much positive change in attitude among the intervention group than the control group. Here, the pre and post attitude score among the intervention group was significantly different, with mean and 95 % confidence interval of mean of 2.32 [2.27, 2.39] and 2.50 [2.45, 2.55], with t = -2.12, df = 360, and p value of <0.01, [see also fig. 3].

Table 10: Comparisons of attitude scores by t-test, Fiche and Muke Turi High Schools, October 2006

			Mean	*p value (1 tailed)*
1	Control Group	Pre-Intervention	2.48	0.50
		Post Intervention	2.48	
2	Intervention Group	Pre-Intervention	2.43	0.02*
		Post Intervention	2.50	
3	Pre-Intervention	Control	2.48	0.02*
		Intervention	2.43	
4	Post Intervention	Control	2.48	0.35
		Intervention	2.50	
5	Change in Attitude Score	Control	0.00	0.08
		Intervention	0.06	

*** Statistically significant difference at 0.05**

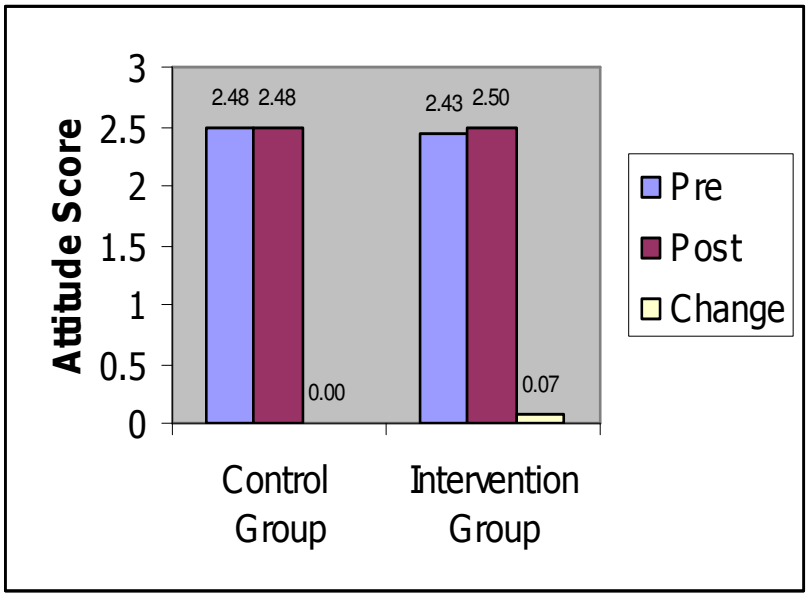

Fig. 3: Comparison of attitude scores among control and intervention groups, Fiche and Muke Turi High Schools, October 2006

5.10 Factors Associated with Change in knowledge

Socio-demographic variables, HIV test history, number of sexual contacts, attitude towards PLWHA, baseline knowledge and attitude scores were associated with change in knowledge score. The knowledge change was significantly associated

with number of sexual partners, attitude towards PLWHA, and baseline knowledge status of the subjects ($p < 0.05$), [Table 11 and 12].

The change in knowledge score was higher: among those who had sexual contact with more than one partner (mean 4.68) than those who had only one sexual partner (mean 2.34) and those who had no sexual partner (mean 1.17), [Table 11].

Table 11: Association between change in knowledge and independent variables among intervention group, by t-test & ANOVA, Muke Turi High School, October 2006

Variables	*Categories*	*Mean*	*p value (2 tailed)*
Grade	10	2.55	0.15
	11	2.21	
	12	1.40	
Sex	Male	2.40	0.83
	Female	2.32	
Residence	Rural	2.58	0.10
	Urban	1.98	
HIV Test	Yes	1.91	0.12
	No	2.66	
Number of sexual partner	None	2.34	0.00*
	One	1.17	
	More than One	4.68	
With whom the study participants live	Parents	2.35	0.20
	Relatives	1.87	
	Friends	3.54	
	Others	1.38	

*** Statistically significant difference at 0.01**

Attitude towards PLWHA has significant positive correlation with change in knowledge score, i.e. those who had more discriminatory attitude have got higher change in knowledge than those who had low discriminatory attitude. On the other hand, baseline knowledge about VCT was negatively correlated with change in knowledge score, i.e. those who had low baseline knowledge score had

significantly higher score in change in knowledge than those who had higher baseline knowledge (Table 12).

Socio-demographic characteristics such as grade, age, sex, marital status, religion, ethnicity, residence, ever test for HIV and with whom the students lived were not significantly associated with change in knowledge score ($p < 0.05$). Similarly, baseline attitude score has no significant association with change in knowledge (Table 11 and 12).

Table 12: Correlation of change in knowledge with continuous independent variables among the intervention group, Muke Turi High School, October 2006

Variables	*Pearson's correlation coefficient, r*	*P value (2 tailed)*
Age	0.02	0.33
Attitude towards PLWHA	0.13	0.01*
Pre-intervention Knowledge score	-0.55	0.00**
Pre-intervention Attitude score	0.02	0.32

*** Statistically significant difference at 0.05** **** Statistically significant difference at 0.01**

5.11. Factors Associated with Change in Attitude Score

Even though there was no statistically significant change in attitude score among intervention and control groups, there was positive change among the intervention group. Thus, the associations between change in attitude score and other independent variables have been computed.

The change in attitude towards VCT among the intervention group was compared with respect to socio-demographic factors, HIV test history, number of sexual partners, attitude towards PLWHA, baseline knowledge and attitude scores. The comparison was done by the use of t-test and one way ANOVA with categorical independent variables and by the use of bivariate correlation with continuous independent variables.

The attitude change was significantly associated with age, residence, number of sexual partner, with whom the study participants live, attitude towards PLWHA, baseline knowledge and attitude scores of the study participants, [Table 13 and 14].

Table 13: Association between change in Attitude and independent variables among intervention group, by t-test & ANOVA, Muke Turi High School, October 2006

Variables	*Categories*	*Mean*	*p-value (2 tailed)*
Grade	10	0.05	0.57
	11	0.12	
	12	0.03	
Sex	Male	0.09	0.20
	Female	0.008	
Residence	Rural	0.02	0.04*
	Urban	0.14	
HIV Test	Yes	0.08	0.53
	No	0.05	
Number of sexual partner	None	0.09	0.02*
	One	0.02	
	More than One	-0.26	
With whom they live	Parents	0.09	0.04*
	Relatives	-0.11	
	Friends	0.08	
	Others	-0.36	

*** Statistically significant difference at 0.05**

Study participants who were single had significantly higher attitude change than those who were married. Similarly, those who are Oromo in ethnic group, Orthodox in religion and urban resident had significantly higher attitude change. Regarding the number of sexual contacts, study participants who had sexual contact with more than one sexual partners had significantly lower score in attitude change than those who had contact with only one sexual partner, and those who had no sexual contact at all, ($p < 0.05$), [Table 13].

Students with higher age and higher pre-intervention knowledge score have scored significantly higher attitude change than those with lower age and lower pre knowledge score with Pearson's correlation coefficient of 0.18 (p value 0.00) and 0.20 (p value 0.00) respectively. On the other hand, study participants who had negative attitude towards PLWHA and negative pre-intervention attitude towards VCT had significantly higher attitude change than those who had positive attitude towards PLWHA and positive baseline attitude towards VCT, with correlation coefficients of -0.28 (p value 0.00) and -0.62 (p value 0.00) respectively, [Table 14].

Table 14: Correlation of change in attitude with continuous independent variables among intervention group, Muke Turi High School, October 2006

Variables	Pearson's correlation coefficient, r	P value (2 tailed)
Age	0.18	0.00*
Attitude towards PLWHA	-0.28	0.00*
Pre-intervention Knowledge score	0.20	0.00*
Pre-intervention Attitude score	-0.62	0.00*

*** Statistically significant difference at 0.01**

6. DISCUSSION

The distribution of printed materials has formed the basis of a wide variety of health education interventions. Print materials have been a primary mode of public education about many health issues. But, the distribution of these print health education materials alone may not bring about knowledge, attitude or behavioural change. In addition, the possession of knowledge does not necessarily result in attitudes or behaviours that reflect such knowledge.

Knowledge about what causes the transmission of the HIV virus, for instance, has only a limited impact on avoiding unprotected sex. Knowing that VCT is good for HIV prevention does not as such result in HIV test. The availability of messages about VCT does not also automatically make people to get tested.

The study showed that the distribution of pamphlet, that was prepared on VCT, had significantly changed the VCT knowledge of the students. On the other hand, the attitude towards VCT was not significantly changed among the students.

The distributions of the study participants with respect to socio-demographic characteristics were comparable among the control and intervention group. Marital status, ethnicity and religion were dominated with single category, (vast majority were single, Oromo and Orthodox Christian); thus, their association could not be done with the dependent variables. The intervention group was younger in age and most lived with their parents compared to the control groups. These could be because the intervention group comprised of more urban residents with access to education at a relatively early age.

The majority of the study participants were Oromo in ethnic group and Orthodox Christian in religion which is an expression of the dominating ethnic group and

religion in the District. Majority of the people reside in the rural area; and similarly, most of the students were from the rural area, and live with their parents.

One hundred eighty-six (25.8 %) have been tested for HIV; this rate was higher than the rate reported in Addis Ababa (16 %) and that of the BSS, [5,16]. The prevalence of HIV test was more among the intervention group, (X^2=63.99, df=1, p<0.01), which could be due to the fact that there had been an outreach HIV test (VCT) among the intervention group in the previous two years. The DHS Ethiopia 2005 also shows VCT utilization of 8 % among men with secondary education, [17]. It is even more than the rate among Addis Ababa men which was 17 %, as reported by DHS.

In addition, 34 (4.7%) reported being tested for HIV in the one month period, (between pre and post intervention assessment); and this was not significantly different among the control and intervention groups (X^2=0.00, df=1, p= 1.00). No print health education material or health education session was given to both of the schools in this period. Therefore, this result shows that distribution of pamphlet alone could not bring about change in VCT practice among high school students within one month period. The result is similar to many studies which show ineffectiveness of distribution of pamphlet alone, [11,15].

Eighty-four (11.6%) of the study participants responded that they had one sexual partner, and 53 (7.3%) had more than one sexual partner; totally, 18.9 % had started sex. These findings are similar to the study done in Addis Ababa, [5].

The prevalence of discriminatory attitude was high among the study participants; 43.1 % of the subjects did not want to live with PLWHA since they were afraid that it could cause problems, and 40 % agreed that people with HIV/AIDS should

be isolated. This figure is higher than that of the number reported in study done in Addis Ababa and that of BSS which could be due to low IEC/BCC in the District, [5,16]. It was, however, comparable with that of DHS 2005 which shows that 50 % of the respondents were not willing to care for their relatives at home, [17].

The baseline knowledge status of the subjects was low compared to the studies done in Addis Ababa high schools [5]. The mean score was 15.68 (about 63 %), whereas it was said that 92.1% knew about VCT in the study done in Addis Ababa. The reason for this difference is the way in which knowledge about VCT was defined. Almost all of the respondents may have heard about VCT, but this study reveals that only 63% of the items concerning the knowledge about VCT were known correctly by all subjects. The other explanation is that the items regarding the knowledge of the subjects about VCT were based on the pamphlet developed on the areas where the subjects have poor knowledge that was based on the need assessment.

The baseline attitude towards VCT was found to be low as compared to studies done in Addis Ababa, and that of BSS, [5,16]. Eighty-six percent agreed that VCT makes people to die quickly; while, 80 % agreed that if one is tested for HIV, he/she becomes out-caste. This could be explained by the high stigmatizing attitude in the area.

There was a change in knowledge about VCT after the distribution of the pamphlet. This implies that significant number of the intervention groups have acquired the knowledge that was contained in the pamphlet. As the post intervention assessment was four weeks later, it is said to be effective in changing the knowledge status of the subjects; while that of control group has not significantly changed. The difference was significant among the control and intervention groups. This result is similar to the study done in Southampton,

which showed that pamphlet developed based on need assessment could change the knowledge of the audience, [14].

The change in knowledge was significantly associated with number of sexual partners, attitude towards PLWHA, and baseline knowledge about VCT. The change in knowledge was significantly higher among those who had more than one sexual partner than those who had one sexual partner and those with no sexual partner. This could be due to the fact that those with high risk of acquiring HIV (multiple sexual partners) could be impressed to read and acquire knowledge regarding the disease and VCT, due to the high perceived risk.

Change in knowledge was also positively correlated with attitude towards PLWHA; those who had high stigmatizing attitude had high change in knowledge. This could also be explained with the idea that people with high stigma and discriminatory attitude probably have low knowledge regarding HIV/AIDS. Thus, those who have low knowledge are likely to accept and acquire new idea or new knowledge.

Similarly, the change in knowledge was negatively correlated with baseline knowledge status. People with low baseline knowledge are likely to read, and acquire the idea which was new for the subjects, while those who have high baseline knowledge might be reluctant to read and acquire knowledge.

There was positive change in attitude among the intervention group, which was not significantly different from that of the control group ($t = -1.40$, $df = 720$, and $p=0.16$). It was also not significantly different from 0.00 ($p>0.05$). Even though the change in attitude was not significantly different among intervention and control groups, attitude towards VCT was significantly increased when pre and post intervention attitude among intervention group was compared. This could be

explained by the reason that attitude change is more complex than knowledge change for it is dependent on environmental, social and psychological factors. There could also be possibility of lack of power in this study to detect such small amount of attitude change.

The change in attitude was found to be significantly associated with age, residence, number of sexual partners, with whom they live, attitude towards PLWHA, baseline knowledge, and baseline attitude towards VCT. Other studies also show similar findings, [5,18].

The age of the subjects was found to be positively correlated with attitude change; those who were older age were more likely to be changed than younger age ($p<0.05$). Older age group may have higher experience to read and gain knowledge; it may be related to skill and maturity.

Subjects who had higher baseline knowledge about VCT had higher change in attitude than those with lower baseline knowledge. And those who had negative baseline attitude towards VCT had higher change in attitude. This could have similar explanation as that of knowledge change, i.e. those who have negative baseline attitude and those who had higher knowledge are likely to be changed than those who already had positive attitude because it would be new and attractive for them.

The result of this study suggests that it is possible to change the knowledge of high school students about VCT by pamphlet distribution alone. But it could not be possible to change attitude of the subjects towards VCT. It is well known that attitude and practice of VCT is not only influenced by knowledge, but also by many social and psychological factors.

7. STRENGTHS AND LIMITATIONS

Strengths

1. The study was randomized and controlled intervention trial; randomization was used to control some known and unknown confounders, while control group was used for controlling over the effect other interventions.
2. Single blinding was employed which minimizes bias (Hawthorn Effect).
3. Qualitative study was conducted to pre-test the pamphlet, and the knowledge and attitude measuring items.
4. There was no study of this type; thus, this study lays baseline and encourage intervention studies to evaluate projects and programs related to IEC/BCC.

Limitations

1. The selected groups may not be completely similar; there may be some unknown confounders which may affect the actual effect of the intervention.
2. The study may not be generalized since it was done only on a selected segment of the population.
3. Randomization at each school could not be done since there could be contamination of information among the intervention and control groups.

8. CONCLUSIONS

Although there could be some limitations mentioned above, the following conclusions have been made from the findings of this study.

1. The mean baseline knowledge score was 15.71 out of the 25 items (about 63%), while the mean score of VCT attitude (scored out of four) was 2.46 (almost half of the subjects disagreed with positive attitude items). These figures are low compared to those in other studies.

2. There was a statistically significant change in knowledge as a result of pamphlet distribution. This shows that it is possible to change the knowledge about VCT among high school students with pamphlet distribution.

3. The attitude of students could not be significantly changed with pamphlet distribution. It needs to consider many factors to change attitude of high school students other than improving knowledge through pamphlet administration.

4. Socio-demographic factors can affect change in knowledge and attitude towards VCT through pamphlet distribution. Baseline knowledge towards VCT, attitude towards VCT and attitude towards PLWHA can also affect change in knowledge or attitude towards VCT.

9. RECOMMENDATIONS

- Pamphlet distribution should be enhanced to increase knowledge. Pamphlet distribution should be targeted towards audience with low knowledge in an intended behaviour.

- In order to make the pamphlet more effective in changing attitude and practice towards VCT, more promotional approach should be designed in addition to pamphlet distribution, for instance, in conjunction with inter personal communication such as education by health workers and multi-media interventions.

- To improve changes in KAB through pamphlet, baseline knowledge and attitude, socio-demographic and other factors which affect knowledge, attitude and practice of the intended behaviour should be studied before the preparation and distribution of the pamphlet.

- IEC/BCC should be strengthened to tackle the low VCT knowledge, negative attitude towards VCT and high stigma and discriminatory attitude towards PLWHA that are highly prevailing among the subjects in the study area.

- There is a need to do similar studies in different settings to generalize to a wider perspective.

10. REFERENCES

1. Research and Evaluation Team. Process evaluation on health learning material of the health education center. Addis Ababa: Health Education Center; July 2005.

2. Health Education Center of MOH. National health communication strategy for 2005-2014. Addis Ababa: Health Education Center -FMOH; 2004.

3. AIDS Institute - FHI. Behavioral change communication for HIV/AIDS: a strategic framework. Arlington, USA: FHI; May 2002.

4. Health Education Center. Guideline on development, production and distribution of health learning materials. Addis Ababa: HEC-MOH; May 2000.

5. Feven Tasew. Knowledge and attitude towards VCT service in Addis Ababa, Ethiopia. Addis Ababa: AAU-MF-DCH; 2005, (Thesis Research).

6. Karen B, Helen H, Zinhl N Warren P. Voluntary counseling and testing (VCT) in South Africa: analysis of calls to the national AIDS helpline. South Africa: Centre for AIDS Development, Research and Evaluation;

   2004. [Online]. [cited 2006 January 12]; [Available from: URL:www.cadre.org.za

7. Mumford ME. A descriptive study of the readability of patient information leaflets designed by nurses. Jour Adv Nurs;1997 Nov;26(5):985-91. [Online]. [cited 2006 January 29]; Available from: URL:http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=9372404&itool=iconabstr&query_hl=5&itool=pubmed_DocSum

8. Farrell-Miller P, Gentry P. How effective are your patient education materials? Guidelines for developing and evaluating written educational materials. Diabetes Education 1989;15(5):418-22. [Online]. [cited 2006 January 29];Available from: URL:http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&list_uids=2776637&dopt

9. Ostfield ML, Romocki LS. Planning and pre-testing: the key to effective AIDS education materials. Network;1991June:12(1):6-8. [cited 2006 January 6]; Available from: URL:http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12316892&itool=iconabstr&query_hl=5&itool=pubmed_DocSum

10. DOH. Guidelines for developing easy-to-read health education material. [Online]. DOH, Washington, USA 2000 June. [cited 2006 January 7]; Available from: URL:http://www3.doh.wa.gov/here/howto/images/easy2.html

11. Krahe B, Abraham C, Scheinberger-Olwig R. Can safer-sex promotion leaflets change cognitive antecedents of condom use? An experimental evaluation. [Online]. J Health Communication 2005 Oct-Nov;10(7):679. [cited 2006 January 7]; Available from: URL:http://www.ingentaselect.com/rpsv/cgi-bin/cgi?body=linker&ini=nlm&reqidx=issn=1359-107Xvl=10is=Pt%202yr=2005mn=Maypg=203

12. Tammy H, Linda W. Designing effective written health education materials. [Online]. Disability & Rehabilitation Publisher, Taylor & Francis Issue 2004;26(19):1166–1173. [cited 2005 Dec 30]; Available from: URL:http://journalsonline.tandf.co.uk/(4f2ocyudr02l2g55b0hlc2iu)/app/home/contribution.asp?referrer=parent&backto=issue,8,8;journal,29,127;linkingpublicationresults,1:102438,1

13. Lipson JM, Brown LT. Do videotapes improve knowledge and attitudes about AIDS? [Online]. J Am Coll Health 1991 Mar;39(5):235-43. [cited 2005 Dec 30]; Available from: URL:http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=1783707&itool=iconabstr&query_hl=3&itool=pubmed_docsum

14. Paul L, Simon G, Joanne K, Nigel D, Carolyn S. Effect of educational leaflets and questions on knowledge of contraception in women taking the OCP: randomized controlled trial. [Online]. BMJ Journal 1998 June;316:1948-1952. [cited 2006 Jan 9]; Available from: URL:http://bmj.bmjjournals.com/cgi/content/full/316/7149/1948

15. Vincenzo Currò, Roberta Lanni, Fanny Scipione, Valentina Grimaldi, Pierpaolo Mastroiacovo. Randomised controlled trial assessing the effectiveness of a booklet on the duration of breast feeding. [Online]. *Arch Dis Child* 1997 June;76:500-503. [cited 2006 March 13]; Available from:URL:http://adc.bmj.com/cgi/reprint/76/6/500

16. Dr Getnet Mitike et al. HIV/AIDS behavioural surveillance survey (BSS) Ethiopia 2002, round one. Addis Ababa; EPHA, FMOF, DCH-AAU, FHI; 2002. p. 16-19.

17. Central Statistics Authority (CSA). Ethiopia demographic and health survey 2005, preliminary report. Addis Ababa; CSA; April 2006.

18. S C Kalichman, L C Simbayi. HIV testing attitudes, AIDS stigma, and voluntary HIV counseling and testing in a black township in Cape Town, South Africa. [Online]. Sex Transm Infect 2003;79:442-447. [cited 2006 Jan 3]; Available from: URL:http://www.ncbi.nlm.nih.gov/entrez/utils/lofref.fcgi?PrId=3051&uid=14663117&db=pubmed&url=http://sti.bmjjournals.com/cgi/pmidlookup?view=long&pmid=14663117

19. AKRI, Applied Knowledge Research and Innovation. What is knowledge? [Online]. 2005 December 13. [cited 2006 Jan 3]; Available from: URL:http://www.akri.org/papers/cw.htm

20. Richard W. S. Attitudes and attitude change. [Online]. University of Rhode Island, Kingston 2002 January. [cited 2006 Jan 23]; Available from: URL:http://www.cba.uri.edu/scholl/Notes/Attitudes.htm

21. Singh J. The readability of HIV/AIDS education materials. [Online]. AIDS Educ. Prev. 2000 June;12(3):214-24. [cited 2006 January 2]; Available from: URL:http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=10926125&itool=iconabstr&query_hl=5&itool=pubmed_docsum

22. A Seow P, T Straughan, E H Ng, H P Lee. A randomized trial of the use of print material and personal contact to improve mammography uptake among screening non-attenders in Singapore. Ann Acad Med Singapore 1998; 27:838-42.

23. C. L. Paul, S. Redman, R. W. Sanson-Fisher. A cost-effective approach to the development of printed materials: a randomized controlled trial of three strategies. [Online]. Health Education Research 2004;19(6):698-706. [cited 2005 Dec 30]; Available from: URL:http://her.oxfordjournals.org/cgi/reprint/cyg090v1.pdf#search=%22Pamphlet%20development%22

24. Hazard Rowland G, Reid Sheila, Haugh Larry D, McFarlane Glen. A controlled trial of an educational pamphlet to prevent disability after occupational low back injury. [Online]. *Spine* 2000 June;25(11):1419-1423. [cited 2005 Dec 30]; Available from: URL:http://www.spinejournal.com/pt/re/spine/toc.00007632-200006010-00000.htm;jsessionid=FTpBJG9NNZyLp9rQGpL2zqSLCsg8jw2DQQQ3dC2TKtv86mGHtNtp!-2083468996!-949856145!8091!-1?startIndex=1

25. Natasha Mack, Cynthiawoodsong, Kathleen M.Macqueen, Greg Guest, Emily Namey. Qualitative research methods: a data collector's field guide. [Online]. FHI 2005. [cited 2005 Dec 30]; Available from: URL:http://www.fhi.org

26. Robert Ferrari, Brian H. Rowe, Sumit R. Majumdar, J. David Cassidy, Sandra Blitz, Susan C. Wright, etal. Simple educational intervention to improve the recovery from acute whiplash: results of a randomized, controlled trial. [Online]. Academic Emergency Medicine 2005 November;12(8):699-706. [cited 2005 Dec 30]; Available from: URL:http://www.aemj.org/cgi/reprint/12/8/699

27. William P. Adelman, Anne K. Duggan, Patricia Hauptman MS, Alain Joffe. Effectiveness of a high school smoking cessation program. [Online]. Pediatrics April 2001;107(4):50. [cited 2006 Jan 23]; Available from: URL:http://pediatrics.aappublications.org/cgi/reprint/107/4/e50

28. Singh J. The readability of HIV/AIDS education materials. [Online]. AIDS Educ. Prev June 2000;12(3):214-24. [cited 2006 Jan 3]; Available from: URL:http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=10926125&itool=iconabstr&query_hl=5&itool=pubmed_docsum

29. Yared Kifle. Social stigma attached to HIV/AIDS and its determinants in Dire Dawa town. Addis Ababa: AAU-MF-DCH Oct. 2001 (Thesis Research).

30. Federal Ministry of Health/National HAPCO. AIDS in Ethiopia: sixth report. Addis Ababa: June 2006.

31. CDC, National Center for Prevention Services, Division of Sexually Transmitted Diseases/HIV Prevention. Guidelines for health education and risk reduction activities. [Online]. CDC 1995 Jan 4. [cited 2006 Jan 3]; Available from: URL:http://wonder.cdc.gov/wonder/PrevGuid/p0000389/p0000389.asp

32. Chernet Hailu. Assessment of knowledge, attitude & practice among mothers about VCT and feeding of infants born to HIV positive women in Jimma Town, Ethiopia. Addis Ababa: DCH, MF, AAU July 2005. (Thesis Research).

33. Getachew Wondimagegn. Factors associated with VCT utilization in Guraghe Zone, SNNPR, Ethiopia. Addis Ababa: DCH, MF, AAU April 2004 (Thesis Research).

34. Joshi M P, Johnson K W, Blum N L, Regmi B, Khakurel B. Research-based development of consumer drug information pamphlet at Tribhuvan University Teaching Hospital in Nepal. Journal of Nepal Medical Association 2002; 41: 468-480.

35. AIDSCAP, Behavioural Research Unit, FHI. Behaviour change -- a summary of four major theories. [Online]. Family Health International 2002 Jan 26. [cited 2006 May 20];Available from: URL:http://ww2.fhi.org/en/aids/aidscap/aidspubs/behres/bcr4theo.html

11. ANNEX

Annex 1: Informed Consent Form

ADDIS ABABA UNIVERSITY
Faculty of Medicine
Department of community Health

This questionnaire is designed to collect data for the research to be conducted on knowledge and attitude of High School Students towards Voluntary Counselling and Testing for HIV. You are kindly requested to fill all questions listed below according to your own knowledge and attitude. Your genuine answer has great importance to the result of the study. Your personal information will not be known because you do not write your name. Thus, you should not worry for confidentiality. Your decision to participate or not is highly respected.

THANK YOU!

Do You Agree to Participate?

Yes ☐ (if yes, you are kindly requested to fill and return back the questionnaire)

No ☐ (if no, you are kindly requested to return back the questionnaire)

CODE: _____

You are requested to write your code number on your note book and remember it so that you will use the same code the other time to fill another questionnaire.

Annex 2: English Version Survey Questionnaire

I. Socio-demographic Characteristics

Put the symbol "X" in the boxes or write the appropriate answer in the space provided to fill your personal information. Read all the choices first. Don't write your name.

1. **Age** (in years, last birth day): _____
2. **Sex:** Male ☐ Female ☐
3. **Marital Status:** Single ☐ Married ☐ Divorced ☐ Widowed ☐
4. **Ethnicity:** Oromo ☐ Amhara ☐ Guraghe ☐
   Others (write) _____
5. **Religion:** Orthodox ☐ Protestant ☐ Muslim ☐
   Others(write) _____
6. **Grade:** 10 ☐ 11 ☐ 12 ☐
7. **Section:** _____
8. **Residence:** Urban ☐ Rural ☐
9. Have you ever **had HIV test,** I don't want to know the result?
   Yes ☐ No ☐
10. With **how many partners**?
    None ☐ One ☐ more than one ☐
11. With whom **do you live** currently?
    With family ☐ With relatives ☐
    With friends ☐ Others (write) _____

II. Knowledge about HIV Voluntary Counselling and Testing (VCT)

Answer the following questions by putting "X" sign under "yes" for right statements or "no" for wrong statements. Multiple answers are possible. Give answers to each choice.

How can one certainly know that he/she has HIV Infection?

		Yes 1	No 2
1	If he/she had unsafe sex		
2	When his/her blood is tested		
3	When signs and symptoms of the disease is examined by a doctor		

What things are done during HIV test (VCT)?

		Yes 1	No 2
4	Blood is taken and examined		
5	The person is examined for signs and symptoms of HIV/AIDS		
6	The person is counselled about HIV/AIDS		

Where can VCT be done?

		Yes 1	No 2
7	At the Clinics		
8	At the Schools		
9	At clients' houses		

Who is benefited from HIV test (VCT)?

		Yes 1	No 2
10	Those who are tested HIV positive		
11	Those who are tested HIV negative		
12	The community		

After reaching the site where HIV test is done, then

		Yes 1	No 2
13	One cannot return home without being tested for HIV		
14	One cannot be tested for HIV without being counselled		
15	One cannot take counselling without HIV test		

Answer the following questions by putting "X" sign under "yes" if the statement is correct or "no" if the statement is wrong.

No	Questions	Yes 1	No 2
16	One can get the result of VCT within one hour after giving blood		
17	The correct procedure during VCT is giving blood, taking counselling and getting the result.		
18	Since HIV transmits to the child, positive mothers should not to get pregnant.		
9	There is no vaccine for HIV		
20	HIV can not be transmitted from mother to child during child birth		
21	HIV positive people can take medicine and prolong life		
22	HIV cannot be transmitted through breast milk		
23	It is not possible to prevent HIV transmission from mother to the child		
24	VCT cannot be done without the willingness of the client		
25	HIV positive mothers can give birth to a child free of HIV infection		

III. Attitude towards VCT

Answer the following questions by putting "X" sign under the appropriate columns according to your opinions. Only one answer is required for each question.

SA= Strongly Agree **D= Disagree**

A= Agree **SD= Strongly Disagree**

No	Question	SA 1	A 2	D 3	SD 4
26	If one tested HIV positive, he/she intentionally transmits the disease to other person (R)				
27	If one is tested HIV positive, he/she dies quickly (R)				
28	It should be a must for all pregnant women to have VCT				
29	It is stressful to wait the result during VCT (R)				
30	I want to speak out the result of HIV test freely to others				
31	Secret is not be maintained at VCT (R)				
32	If one is tested for HIV, he/she can take medicine for the disease				

		SA 1	A 2	D 3	SD 4
33	If one tested HIV negative, he/she becomes reluctant to take care of it (R)				
34	VCT makes the HIV/AIDS prevention more effective				
35	Getting tested for HIV helps people to have good health				
36	If one will get tested HIV positive, he/she becomes outcasted (R)				
37	The result of VCT cannot be correct on a single occasion (R)				
38	If one will get tested HIV positive, he/she becomes anxious (R)				
39	Staffs of VCT respect people				
40	No need of blood test, only counselling is enough for HIV/AIDS (R)				

R= Reversed Item

IV. Attitude towards People With HIV/AIDS

Answer the following questions by putting "X" sign under the appropriate columns according to your opinions. *Only one answer is required for each question.*

SA= Strongly Agree **D= Disagree**

A= Agree **SD= Strongly Disagree**

No	Question	SA 1	A 2	D 3	SD 4
41	People who have AIDS cannot be trusted				
42	It does not cause problem to live with someone who has HIV/AIDS (R)				
43	It is safe for children to be educated by HIV positive teachers at school (R)				
44	Most people become HIV positive by being weak or foolish				
45	One should not share a meal with a person who is positive for HIV/AIDS				
46	People with HIV should not get married				
47	People who have AIDS are cursed				
48	It is safe to buy food or drink from a shopkeeper or food seller who is known to have HIV/AIDS (R)				
49	People who have HIV should be isolated				
50	A person with AIDS must have done something wrong and deserves to be punished				

R= Reversed Item **Thank You!**

Annex 3: Afan Oromo Version Survey Questionnaire

Yuunivarsiitii Finfinnee
Faakaltii Meedikaalaa
Diipartimantii Fayyaa Hawaasaa

Bargaaffiin kuni kan qophaa'e qorannoo beekkumsaa fi ilaalcha barattootni "Gorsa fi Qorannoo HIV Fedhii Irratti Hundaa'e" irratti qaban irratti adeemsifamuuf raga funaanuufi. Gaaffiilee armaan gadi kana tokko tokkoon dubbistanii, akka beekkumsa fi ilaalcha mataa keessaniitti akka guuttan kabajaan isin gaafanna; deebiin sirrii ta'e bu'aa qorannoo kanaa irratti shoora guddaa waan qabuuf. Maqaan keessan waan hin barreeffamneef dhimmi dhuunfaa keessanii hin beekamu ykn namoota birootti hinhimamu; kanaafuu, iccitiin keessan eeggamuu isaatiif shakkii tokkollee akka hin qabaanne. Murtiin isin irratti hirmaachuuf ykn hirmaachuu dhiisuuf qabdan kan kabajamee dha.

GALATOOMAA!

Irratti Hirmaachuuf Fedhii Qabdaa?

Eeyyee ☐ (Eeyyee yoo jettan, gaaffiilee kana guutuudhaan akka nuuf deebistan kabajaan isin gaafanna)

Lakkii ☐ (Lakkii yoo jettan, akka nuuf deebistan kabajaan isin gaafanna)

KOODII _____

Lakkoofsa koodii keessanii yaadannoo keessan irratti barreefadhaa. Yeroo biraa gaaffii biraa yeroo guuttan lakkoofsuma kana fayyadamuun waan barbaachisuuf.

I. Haala Dhuunfaa Keetii Fi Hawaasummaa

Gaaffiiwwan kana baka duwwaa guutuudhaan ykn mallattoo"X" gabatee fuul-dura jiru keessa kaa'udhaan guuti. Otoo hin guutin dura filannoo hunda dubbisi. Maqaa keessan barreessun hin barbachisu.

1. **Umrii** (waggaadhaan, waggaa xumuurameen): _____
2. **Saala:** Dhiira ☐ Dhalaa ☐
3. **Haala Gaa'ilaa:** Hin fuune/Hin heerumne ☐ Kan fuudhe/heerumte ☐
   Kan wal-hiikan ☐ Kan dhirsi/niitiin irraa du'e/duute ☐
4. **Saba:** Oromoo ☐ Amaa ☐ ☐
   Guraagee Kan biroo
   yoo ta'e (barreessi) _____
5. **Amantaa:** Oortoodooksii ☐ Prooteestaan ☐ ☐
   Musliima Kan biroo yoo
   ta'e (barreessi)_____
6. **Kutaa:** 10 ☐ 11 ☐ 12 ☐
7. **Daree(Section):** _____
8. **Iddoo Jireenyaa:** Baadiyyaa ☐ Magaalaa ☐
9. Kanaan dura **qorannoo HIV** taasiftee beektaa?
   Eeyyee ☐ Lakkii ☐
10. Nama meeqa waliin **wal-quunnamtii saalaa** rawwattee beekta?
    Hin Jiru ☐ Tokko ☐ Tokkoo ol ☐
11. Yeroo ammaa **eenyu bira jiraatta**?
    ☐ ☐

Warra bira Fira bira

Hiriyaa bira ☐ Kan biraa yoo ta'e (barreessi) _____

II. Beekkumsa waa'ee Gorsaa fi Qorannoo HIV(VCT)

Gaaffiilee armaan gadii kana jecha sirrii ta'eef "Eeyyee"jalatti, jecha sirrii hin taanef immoo "Lakkii" jalatti mallattoo"X" gochuun deebisi. Gaaffii tokkoof filannoon tokkoo ol Eeyyee ykn lakkii ta'uu ni danda'a. Filannoo hundaaf deebii kenni.

Namni tokko dhukkuba HIVtiin qabamuun isaa akkamitti mirkaneeffachuu danda'a?

		Eeyyee 1	Lakkii 2
1	Wal-quunnamtii saalaa daangaa hin qabne raawwatee jira yoo ta'e		
2	Dhiigni isaa/ishii yoo qoratame		
3	Mallattoon dhukkubichaa dooktoraan yoo mirkanaa'e		

Namni tokko qorannoo HIV (VCT) yeroo geggeessu maaltu godhamaaf?

		Eeyyee 1	Lakkii 2
4	Dhiigni fudhatamee ni qoratama		
5	Mallattooleen HIV/AIDS ni qoratama		
6	Gorsii waa'ee HIV/AIDS ni kennama		

Gorsaa fi qorannoo HIV fedhii irratti hundaa'e eessatti geggeeffamuu danda'a?

		Eeyyee 1	Lakkii 2
7	Kiliinikoota keessatti		
8	Manneen Barnootaa keessatti		
9	Mana jireenyaa tajaajilamtootaa keessatti		

Gorsaa fi Qorannoo HIV gochuudhan kan fayyadamu eeynu?

		Eeyyee 1	Lakkii 2
10	Nama qoratamee HIVn qabamuu isaa beeke		
11	Nama qoratamee HIV irraa bilisa ta'uu isaa beeke		
12	Hawaasa mara		

Iddoo Qorannoon HIV itti geggeeffamu erga gahan booda,

		Eeyyee 1	Lakkii 2
13	otoo qorannoo dhiigaa hin taasisin gara manaa deebi'uun hin danda'mu		
14	otoo gorsa hin fudhatin qorannoo dhiigaa taasisuun hin danda'amu		
15	otoo qorannoo dhiigaa hin taasisin gorsa qofa fudhachuun hin danda'amu		

Gaaffii armaan gadii kana jechoota sirrii ta'aniif "Eeyyee"jalatti akkasumas jechoota sirrii hin taaneef immoo "Lakkii" jalatti mallattoo"X" gochuudhaan deebisi.

Lakk	Gaaffii	Eeyyee 1	Lakkii 2
16	Namni tokko dhiiga ega kenne booda, bu'aa qorannoo dhiigaa hanga sa'aatii tokko keessaatti beekuu ni danda'a		
17	Yeroo qorannoon HIV taasifamu adeemsi sirrii ta'e: Dhiiga kennuu , gorsa fudhachuu fi dhuma irratti firii qorannoo dhiigaa dhaga'uu dha.		
18	HIVn haadhaa gara daa'imaa waan daddarbuuf, haadholiin HIVdhaan qabaman ulfaa'uu hin qaban		
19	Dhukkubni HIV talaallii hin qabu		
20	HIVn haadhaa gara daa'imaa yeroo da'umsaa/ciniissuu hin daddarbu		
21	Namni HIVdhaan qabame, qoricha fudhatee yeroo dheeraa jiraachu ni danda'a		
22	HIVn karaa harma haadhaa hoosisuutiin haadhaa gara daa'imaa hin darbu		
23	HIVn haadhaa gara daa'imaa akka hin dabarre gochuun hin danda'amu		
24	Fedhii tajaajilamaa malee qorannoo HIV taasisuun hindanda'amu		
25	Haati ulfi HIVn qabamte, daa'imni ishii HIV irraa bilisa ta'ee dhalachuu ni danda'a		

III.Ilaalcha Gorsaa fi Qorannoo HIV Irratti Qaban

Gaaffiilee armaan gadii dubbisuudhaan akka yaada keessan garee sirrii ta'e jalatti mallattoo"X" kaa'udhaan deebisi. Gaaffii tokkoof deebii tokko qofa kenni.

BM = Bay'een Morma ***D = Nan Deeggara,***
M = Nan Morma ***BD = Baay'een Deeggara***

La kk	Gaaffii	*BM 1*	*M 2*	*D 3*	*BD 4*
26	Namni tokko qorannoo HIV taasisee HIV dhaan qabamuu isaa yoo beeke osoo beekuu nama biraatti dabarsuu danda'a				
27	Namni tokko qorannoo HIV taasisee HIV dhaan qabamuu isaa yoo beeke dafeet du'a				
28	Haadholiin ulfi hundinuu dirqamaan HIVdhaaf qoratamuu qaban				
29	Namni tokko qorannoo HIVtiif dhiiga isaa kennee hanga firiin isaa gahutti taa'anii eegachuun nama dhiphisa				
30	HIV dhaaf qoratamee bu'aa isaa hiriyoota kiyyatti ifa bahee himuuf fedhiin qaba				
31	Yeroon qorannoo HIV taasisu iccitiin bu'aa isaa nama biraatiin beekkamuu ni danda'a				
32	Namni tokko qoratamee HIV yoo qabaate dhibichaaf qoricha ni fudhata				
33	Namni tokko qoratamee HIV dhaan akka hin qabamin yoo beeke, sana booda of-eeggannoo gochuu dhiisa				
34	Qorannoo HIV taasisuun, HIV/AIDS ittisuuf ni guddisa				
35	Qorannoo HIV taasisuun, irra caalaa fayyaa akka qabaatan nama taasisa				
36	Qorannoo HIV taasisanii yoo HIVn qabaman ta'e, akka hawaasa irraa fagaatan nama taasisa				
37	Firiin qorannoo HIV yeroo tokko qofaan amanamaa dha				
38	Qorannoo HIV taasisanii, yoo HIVn qabaman ta'e dhiphina namatti fida				
39	Namoonni tajaajila qoannoo HIV kennan tajaajilamtoota ni kabaju				
40	HIV/AIDSdhaaf gorsa malee qorannoo dhiigaa				

	barbaachisaa miti				

IV. Ilaalcha Namoota HIV/AIDS Waliin Jiraatanii Irratti Qaban

Gaaffiilee armaan gadii dubbisuudhaan akka yaada keessan garee sirrii ta'e jalatti mallattoo"X" kaa'udhaan deebisi. Gaaffii tokkoof deebii tokko qofa kenni.

BM = Bay'een Morma *D = Nan Deeggara,*

M = Nan Morma *BD = Baay'een Deeggara*

Lakk	Gaaffii	BM 1	M 2	D 3	BD 4
41	Namni HIV/AIDS tiin qabame amanamuu hin danda'u				
42	Nama HIV/AIDS tiin qabame tokko waliin jiraachun rakkoo hin fidu				
43	Barsiisan HIV/AIDS tiin qabame mana barumsaatti ijoollee yoo barsiise rakkoo hinfidu				
44	Namoonni baay'een HIV/AIDS tiin kan qabaman dadhabdoota ykn ejjaitoota waan ta'aniifi				
45	Nama HIV/AIDS tiin qabame waliin nyaata nyaachuun hin barbaachisu				
46	Namoonni HIV/AIDS tiin qabaman, fuudhuu/heerumuu hin qaban				
47	Namoonni HIV/AIDS tiin qabaman, abaarramaadha				
48	Mana daldala nyaataa fi dhugaatii keessatti namni gurguru HIV/AIDS tiin qabamuun isaa/ishee yoo beekame, nyaata fi dhugaatii achii bituun hin barbaachisu				
49	Namoonni HIV/AIDS tiin qabaman kophaatti foo'amanii yoo jiraatan garii dha				
50	Namni HIV/AIDS tiin qabame waan tokko balleessera waan ta'eef adaba isarra ga'e fudhachuu qaba				

Galatoomaa!

Annex 4: The Pamphlet

GORSAA FI QORANNOON HIV FEDHII IRRATTI HUNDAA'E

Voluntary Counselling and Testing for HIV (VCT)

HIV/AIDS IRRAA OF-EEGUUF TOOFTAA ISA SIRRIITI !

Waa'ee HIV/AIDS Kana Beektuu?

- ✓ Mallattoon Dhukkuba HIV/AIDS Qofaa Ta'e Hin Jiru; Kanaafuu, Dhukkubichi Ijaan Ilaaluun Ykn Dooktoraan Qoratamuun Hin Beekkamu.
- ✓ HIV/AIDS n Qorannoo Dhiigaatiin Qofa Beekkama.

Gorsaa fi Qorannoo HIV Fedhii Irratti Hundaa'e maal jechuu dhaa?

Gorsaa fi Qorannoo HIV Fedhii Irratti Hundaa'e (VCT) jechuun dhiiga nama tokkoo keessa Vaayirasiin HIV akka jiru ykn akka hin jirre gorsa qorrannoo duraa fi boodaa waliin ogeessota fayyaa leenjii addaa qabaniin kan geggeeffamuu dha; kunis fedhii fi murtii tajaajilamtootaa irratti hundaa'ee ti.

Kunis sadarkaa 3 qaba

1. Gorsa qorannoo duraa: Buufata qorannoo ega gahan booda dursee gorsi waa'ee HIV fi AIDS, haala HIVf nama saaxilu, haala HIV ittiin ofirraa ittisan, akkasumas haala qorannoon HIV itti adeemsifamu fi ofiin murteessuu ni kennu. Yoo qorannoof hin murteessine ta'e gorsa qofa fudhatanii deebi'uun ni danda'ama. Akkasumas, yoo gorsa hin fedhin, dhiiga qofa qoratamuun ni danda'ama.

2. Qorannoo Dhiigaa: Dhiigni fudhatamee ni qoratama. Firiin qorannoo HIV yeroo tokko qofaan amanamaa fi yeroo hanga sa'aatii tokkoo keessatti kan beekamuudha.

3. Gorsa qorannoo boodaa: Firiin qorannoo ifaan kan namatti himamu, haala gara fuul-duraatti itti jiraatan gorsi kan itti kennamuu, akkasumas bu'aa qorannichaa jaalallee fi hiriyootatti himuudhaan ifa ba'anii akka uummata barsiisan ni gorfamu.

Gorsaa fi Qorannoon Dhiigaa Eessatti Geggeeffamuu Danda'a?

- Kiliinikoota
- Buufataalee Fayyaa
- Hoospitaalota
- Manneen Barumsaa
- Mana tajaajilamtootaa keessatti qorannoon HIV geggeeffamuu ni danda'a.

Hojjettoonni Buufata Gorsaa fi Qorannoo HIV:

- ✓ **Ogummaa gorsuu ni qabu**
- ✓ **Leenjii addaa ni qabu**
- ✓ **Tajaajilamtoota ni kabaju**
- ✓ **Iccitii ni eegu**

Gorsii fi Qorannoon HIV Maaliif Barbaachisaa?

Qorannoo HIV taasisuun namoota HIV dhaan qabamanis ta'ee kan hin qabaminiif fayidaa guddaa kenna. Vaayirasiin HIV dhiiga keenya keessa akka jiruu ykn akka hin jirre beeknee mataa keenya fi hawwsa hunda fayyaduun ni danda'ama. Faayidaa inni qabu keessaa:

1. Tamsa'ina HIV/AIDS Ittisuuf Gargaara

- ✓ Mataa ofii beekudhaan HIV irraa akka of-eegnu gargaara.
- ✓ Hawwasa akka barsiifnu fi akka fakkeenya taanu deeggara.
- ✓ Wal-quunnamtii saalaa daangaa hin qabne irraa akka fagaatan gargaara.

2. Yaadda'uu fi Dhiphina Irraa Bilisa Taasisa

HIVdhaan qabameera moo hin qabamne laata? Jechuudhaan akka hin dhiphanne furtee fi gargaarsa kenna.

3. Fuul-Duraaf Karoora Sirrii Akka Qabaatan Taasisa

- Namoota HIVdhaan qabamaniif, of beekanii haala gaarii fi umrii dheeraa akkaataa itti jiraatan qajeelcha kenna.
- Namoota hin qabaminiif, of beekanii gara fuul-duraatti HIV irraa akka of eegan gargaara.

4. Loogii fi Laguu Namoota HIV/AIDS Waliin Jiraatan Irra Gahu Hir'isa.

- HIV/AIDS akkuma dhikkuba kaaniitti akka ilaalu taasisa.
- Ifa of baasuun hiriyoota, maatii fi ummata akka barsiifnu nu taasisa.
- HIV namoota biraatti akka hin dabarsine akka of- eeggan taasisa.
- Namoota HIV/AIDS waliin jiraatan waliin sodaa malee akka waliin jiraannu gargaara.

5. Qoricha Farra-HIV Yeroon Akka Fudhatan Gargaara

- HIV/AIDSn talaalliis ta'ee qoricha guutumaan guututti fayyisu hin qabu.
- Haa ta'u malee namoonni HIV/AIDS waliin jiraattan qoricha Farra-HIV jedhamu fudhachuudhaan haala gaarii fi umrii dheera jiraachuu ni danda'u.
- Tajaajila kana argachuu kan danda'a garuu yoo qorannoo HIV taasisan qofa dha.

6. HIVn haadha gara daa'imaa akka hin dabarre gochuuf gargaara.

- HIVn haadha dhukkubichaan qabamte irraa gara daa'ima ishii yeroo ulfaa gadaamessa keessatti, yeroo da'umsaa/ciniissuu fi harma hoosisuudhaan dadarbuu ni danda'a.
- HIVn haadha gara daa'imaa akka hin dabarre gochuudhaan daa'ima HIV irraa bilisa ta'e akka dhalatu gochuun ni danda'ma.
- Kunis kan ta'u yoo qoratamanii qoricha farra-HIV jedhamu fudhatan qofaadha.

7.AIDSdhaan Wal-qabatanii Dhukkuboota Dhufan Ofirraa Ittisuu fi Yeroodhaan Yaallamuuf Gargaara.

Namni tokko dhukkuba HIV/AIDS tiin qabamuu isaa qoratamee yoo beeke, dhukkuboota akka durunyoo sombaa(TB) fi dhukkuboota adda addaa akka ofirraa ittisuu fi yeroon yaala barbaachisu akka argatan gargaara. Kunis of-eeggannoo fi qoricha adda addaa fudhachuudhaan ta'a.

Qorannoon HIV Yoom Barbaachisa?

Yeroo ammaa carraa HIVdhaan qabamuutiin ala hawaasni ta'e hin jiru. Kanaafuu, namoonni hundinuu yeroo kamiiyyuu qorannoo HIV geggeessuun barbaachisaa dha.

Keessattuu, gaa'ila dura, yeroo ulfaa, wal-quunnamtii saalaa daangaa hin qabne yoo godhanii jiru ta'e, dhukkuba saalaa fi durunyoo sombaa (TB) tiin namoonni qabamanii turan, qoratamuun faayidaa guddaa qaba.

HAA QORATAMNU!

Bitootessa 1998 A.L.I.

AAU/DCH

EPHA/CDC

Annex 5: FGD and IDI Questions of the Need Assessment

This questionnaire is designed to collect qualitative data on the knowledge and attitude of high school students towards HIV/AIDS/VCT. The result of the data collection is used for developing a pamphlet on VCT. You are kindly requested to participate in the interview or FGD. Your genuine answer has great importance to the result of the study. Your personal information will not be disclosed to any other person.

Thank You!

1. **What is HIV/AIDS?**
   - What is HIV/AIDS? Does it have vaccine or cure?

2. **HIV transmission knowledge**
   - How does HIV transmit from one person to the other? Would you specify each means of transmission?

3. **HIV/AIDS prevention knowledge**
   - What are the means of HIV/AIDS prevention?

4. **Knowledge about VCT**
   - How does one know that he/she has HIV infection?
   - What is meant by HIV voluntary counselling and testing?
   - Where can one get VCT service?
   - What services are given during voluntary counselling and testing? How is it done?
   - What are the advantages of VCT? What benefit does one get from being tested for HIV?
   - What are disadvantages of VCT? What problems does one face if he/she is tested for HIV?

6. **Attitude towards VCT**
   - Are you willing to have VCT in the coming month? Why? Why not? Why do people fear to be tested?
   - Should VCT be promoted? Is it advantageous for the community?
   - How do you judge the way VCT is being delivered? Do you trust the confidentiality of VCT result? How is the behaviour of VCT providers?

Annex 6: IDI and FGD Questions for Pre-testing the Pamphlet

Objective:

To find out whether the pamphlet convey messages about VCT which are clear, convincing, attractive, understandable, believable and acceptable by the students

Methodology:
A total of 2 Focus Groups Discussions and 6 IDI were organized. One female and one male group were organized for the session. Subjects were selected from grade 10-12; who can well communicate with others, and who were not a member of Anti-AIDS Club.

A male moderator and male note taker facilitated the male groups. Similarly, the female groups were facilitated by a female moderator and note taker. Each group was comprised of 6-7 participants.

Procedure

I. Greet the students:

Thank you for joining this discussion. My name is _____ from AAU, Medical Faculty, Department of Community Health. We are in the process of producing pamphlet to promote VCT and make change in knowledge, attitude and practice of VCT. We would like your help to make the pamphlet very good. We are going to look at the pamphlet first and then we will ask you a few questions. Please relax, and feel free to ask any questions you would like to ask.

II. Distribute a pamphlet to each of the participants; give them time to read through the section. After each one of them has finished reading, ask them the following questions:

1. What message do you get from this pamphlet?
2. Who is this pamphlet written for?
3. What do you see in the photograph on the front?
4. Is the picture appealing to students?
5. Is there anything unclear in these two pages? If so, what?
6. What did you like in these two pages?
7. What did you dislike in these two pages?
8. How can these two pages be improved?

Annex 7: Summary of the Results of the Need Assessment

HIV/AIDS Knowledge

All of the participants have heard of HIV/AIDS. Almost all participants have mentioned that it is a viral disease, and it is serious and fatal. They have also mentioned that HIV has no vaccine or treatment that cures it. But, some are not sure that HIV has no vaccine or treatment. "***I think the vaccine of HIV is now becoming evident***", grade 10 female student (she was saying about ART).

HIV Transmission Knowledge

Majority of the participants know at least three means of HIV transmission; namely, through unsafe sex, blood contact by sharing sharp materials and from mother to child transmission. The detail of the chance and mechanism of transmission from mother to child were not known, "***HIV transmits from mother to child through placenta as nutrition passes from mother to her child.***" The majority of the participants did not know the transmission of the virus through breast milk. It was assumed that positive mothers cannot have child free of HIV infection. It was also not known that transmission from mother to child can be prevented.

HIV/AIDS Prevention Knowledge

Abstaining, Being faithful and Condom use were well known ways of preventing oneself from HIV/AIDS. The participants did not mention VCT and care and support as means of prevention.

Knowledge about VCT

Blood testing was mentioned by majority of the participants as the means by which one know his/her HIV status. Some participants said that it is possible to know HIV status by being examined by a doctor. "***If one had done unsafe sex he/she should suspect himself of the disease***", said a participant (male, grade 11 student).

Most of the participants have heard about HIV blood test, and mentioned that it is on voluntary basis. Some were not aware about the counselling that is given during VCT. They mentioned health centre as the place where VCT can be done, almost all were not aware about the out reach VCT service in which VCT is delivered at school, community or clients' houses.

Majority of the participants mentioned two steps in VCT, counselling and then blood testing. There was lack of knowledge regarding the post test counselling and care and support links. Some were not aware about the counselling. "***A person may fall down and die if the result is positive***", grade 12 male student.

The most commonly described reason or advantage of VCT was that a person who tested HIV negative takes care not to acquire the disease in the future. On the other hand, a person who tested HIV positive cares not to transmit the virus to healthy person, and cares for his health; more by taking appropriate nutrition and avoiding substance abuse.

A few participants mentioned the availability of medicine that prolongs life of PLWHA; they did not know how it can be taken, some even do not know its availability in the country, "***I have heard that such drug (ART) have been discovered in the foreign country***", grade 10 male student. No one mentioned about PMTCT, PEP and care and support as advantage of VCT. "***I do not think it is possible to prevent MTCT, let the baby be born and let it feeds breast and live until it dies***", female student from grade 11.

"***Everybody will hate me if I get HIV test and be HIV positive, I don't expect love even from my parents***", a participant (female, grade 10). Stigma and discrimination was mentioned as a reason for not being tested for HIV, by almost all participants. "***I fear to go to health centre for HIV test; it can be known from my facial expression whether the result is negative or positive***", grade 11 male student. "***What shall I do if I will be positive? People will laugh at me, and it is a shame***" female student from grade 10.

Attitude towards VCT

Most of the participants showed positive attitude towards VCT. But they preferred not to be tested in the coming month; rather they claimed the need of VCT before marriage. "***It is not possible to live with my friends as I am now living***", said a student from grade 12, "***so I fear to get tested right now.***" All of the participants said that being tested for HIV is good in general, but people fear stigma and discrimination. But significant number of participants mentioned that they were not willing to be tested in the near future, "***Being tested will not prevent me from dying if I have HIV, I want to be tested after I joined college or just before marriage, now I know means of HIV transmission; I take care for myself***", grade 12 male student.

"***HIV test is being provided free of payment, the problem is people are not volunteer to be tested for HIV***", female participant from grade 11. Majority of participants were okay with the way VCT is being provided. But most of them did not want to rely on the test at only one site or in a single occasion. "***One should be tested at different sites at least three times to get reliable result***", a male student from grade 10. Most of them also complain that there may be leak in confidentiality of the test result.

Annex 8: Additional Tables

Table 15: Subjects who correctly answered the knowledge questions by each item, Fiche and Muke Turi High Schools, March 2006

No	*Knowledge Questions(Items)*	*Freq*	*%*
	How can one certainly know that he/she has HIV Infection?		
1	A. If he/she had unsafe sex (No)	398	55.1
2	B. When his/her blood is tested (Yes)	678	93.9
3	C. When signs of the disease is examined by a doctor (No)	135	18.7
	What things are done during VCT?		
4	A. Blood is taken and examined (Yes)	666	92.2
5	B. The person is examined for signs and symptoms of AIDS (No)	154	21.3

6	C. The person is counselled about HIV/AIDS (Yes)	600	97.0
	Where can VCT be done?		
7	A. At the Clinics (Yes)	654	90.6
8	B. At the Schools (Yes)	416	57.6
9	C. At clients' houses (Yes)	331	45.8
	Who is benefited from VCT?		
10	A. Those who are tested HIV positive (Yes)	513	71.1
11	B. Those who are tested HIV negative (Yes)	612	84.8
12	C. The community (Yes)	534	74.0
	After reaching the site where HIV test is done; then,		
13	A. One cannot return home without being tested for HIV (No)	349	48.3
14	B. One cannot be tested for HIV without being counselled (No)	179	24.8
15	C. One cannot take counselling without HIV test (No)	396	54.8
	Independent Questions		
16	One can get the result of VCT within one hour after giving blood (Yes)	430	59.6
17	The correct procedure during VCT is taking blood, counselling and telling the result. (No)	446	61.8
18	Since HIV transmits to the child it is better for positive mothers not to be pregnant. (No)	246	34.1
19	There is no vaccine for HIV (Yes)	581	80.5
20	HIV can not be transmitted from mother to child during child birth(No)	535	74.1
21	HIV positive people can take medicine and prolong life (Yes)	570	78.9
22	HIV cannot be transmitted through breast milk (No)	569	78.8
23	It is not possible to prevent HIV transmission from mother to the child (No)	394	54.6
24	VCT cannot be done without consent of the client (Yes)	457	63.3
25	HIV positive mothers can give birth to a child free of HIV (Yes)	402	55.7
	Average score greater than 12.5	***594***	***82.3***

Table 16: Subjects who either agree or strongly agree with positive attitude towards VCT by each item, Fiche and Muke Turi High Schools, March 2006

No	*VCT Attitude Items*	*Freq*	*%*
1	If one tested HIV positive, he/she does not intentionally transmits the disease to other person	209	28.9
2	If one is tested HIV positive, he/she does not die quickly	102	14.1
3	It should be a must for all pregnant women to have VCT	391	54.2
4	It is not stressful to wait the result during VCT	464	64.3
5	I want to speak out the result of HIV test freely to others	590	81.7
6	Secret is maintained at VCT centre	279	38.6
7	If one is tested for HIV, he/she can take medicine for the disease	455	63.0

8	If one tested HIV negative, he/she becomes keen to take care of it	116	16.1
9	VCT makes the HIV/AIDS prevention more effective	574	79.5
10	Getting tested for HIV helps people to have good health	622	86.1
11	If one is tested HIV positive, he/she does not become outcasted	145	20.1
12	The result of VCT is correct on a single occasion	117	16.2
13	If one is tested HIV positive, he/she does not be anxious	366	50.7
14	Staffs of VCT respect people	613	84.9
15	Both the blood test and the counselling is necessary	301	41.7
	Average score greater than 2.50	**312**	**43.2**

DECLARATION

This thesis, my original work, has not been presented for a degree in any other university and that all sources of materials used for the thesis has been duly acknowledged.

Name: Tolcha Kebebew (BSc.)

Signature: _____

Place: Addis Ababa

Date of submission: April 5, 2007

This thesis research result is submitted with my approval as University Advisor.

Name: Professor Ahmed Ali

Signature: _____

Date: April 5, 2007