A STUDY OF THE KNOWLEDGE, ATTITUDE AND BEHAVIOR OF STUDENTS WITH DISABILITIES ABOUT HIV/AIDS PREVENTIVE MEASURES: THE CASE OF SOME SELECTED SCHOOLS IN ADDIS ABABA

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The Amharic Version of the Interview Guide
Abstract

Author: Bekele Workir,
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Title: A Study of the knowledge, attitude and behavior of students with disabilities about HIV/AIDS preventive measures: The case of some selected schools in Addis ababa.

Key Words: visually impaired, hearing impaired, knowledge, attitude and behavior

The study explored the visually impaired and the hearing impaired students' knowledge, attitude and behavior about HIV/AIDS preventive measures in some selected secondary schools of Addis Ababa. For this purpose, a total of one hundred sixty (80 visually impaired and 80 hearing impaired) respondents were selected randomly. A self-report questionnaire (for the hearing impaired) and a questionnaire read to the visually impaired (a form of interview check-list) were used to gather information from the respondents. Besides, interview guides were used to gather additional information from the school anti-HIV/AIDS club leaders.

The findings indicate that nearly equal proportion of the hearing impaired (62.4%) and the visually impaired (65%) of the respondents have had correct knowledge about the preventive measures of HIV/AIDS. Concerning the hearing impaired respondents' attitude, 48% had unfavourable attitude and 43.8% had favourable attitude about the preventive measures and 40.2% of them didn't take any precautions not to be infected by HIV/AIDS but only 17.8 percent. As regards the visual impaired respondents, 45.8% had unfavourable attitude and 43.5% favourable attitude and 18.5% had practiced and 68.4% didn't have practice of HIV/AIDS preventive measures. The visually impaired and the hearing impaired respondents didn't differ significantly in their knowledge and attitude towards the preventive measures. These groups, however, differ significantly in their behavior about the preventive measures. Moreover, there was a significant relationship among knowledge, attitude and behavior within the above groups. And there was no statistically significant difference of knowledge and behavior between the sexes within the groups. However, there was a statistically significant difference between the sexes within the groups in their attitude towards the preventive measures. Finally, mounting efforts of pertinent bodies were recommended to raise the over all awareness and to develop favourable attitude towards the preventive measures and there by to avoid risky behaviors of HIV/AIDS infection.
CHAPTER I

INTRODUCTION

1.1. Background of the Study

HIV (Human Immune Deficiency Virus)/ AIDS (Acquired Immune Deficiency Syndrome) is not only a problem of an individual person but it is also a problem of the family, society and a nation at large. HIV/AIDS, at present, has far eluded biomedical preventive interventions. The Federal Democratic Republic of Ethiopia, therefore, is duty-bounded to design policies and strategies to halt the spread of HIV/AIDS through accessible information for all citizens and prevent the distraction of the most important resource of the country- human resource. The National AIDS Council was established in April 2000, with the view to launch initiatives for reducing the social, economic and psychological pressures caused by the disease (Diseases Prevention and Control Department (DPCD), 2000). One of such efforts is that of creating HIV/AIDS awareness thereby to develop the proper attitude towards the preventive measures, for it helps to avoid risky behaviors of HIV/AIDS infection.

One may possibly categorize the above initiatives into three: the visual, the aural and the audio-visual approaches. The visual approaches of HIV/ AIDS education include such materials as magazines, newspapers, leaflets, widely displayed posters of HIV/AIDS infected individuals, etc. From these approaches non-disabled and deaf literate individuals (actually, those deaf
individuals who are not visually impaired) typically learn a great deal of information about HIV/AIDS. For the visually impaired individuals, however, the aforementioned are not accessible approaches.

The aural approaches include, different radio broadcasts (for instance, Ethiopia Radio, Radio Fana, FM Addis), awareness raising meetings, anti-HIV/AIDS clubs, questioning-and-answering sessions, inviting guest speakers, etc. Although these approaches give great opportunity to acquire information about HIV/AIDS for non-disabled persons and visually impaired individuals (in fact, for those who are not hearing impaired), they are not accessible for the hearing impaired individuals.

Other approaches include, TV programs, movies, theater presentations, etc, which are audio-visual channels. These approaches are equally accessible and inaccessible for the visually impaired and hearing impaired individuals. For instance, the visual part is inaccessible for the visually impaired persons and accessible for the hearing impaired ones; whereas the audible part is inaccessible for the hearing impaired individuals and accessible for the visually impaired persons.

Information about HIV/AIDS has also been transmitted to the public from the "horse's mouth" in that HIV carriers and AIDS patients are currently engaged in raising the public awareness about disease through narrating their own stories. This approach has paramount importance of polishing misconceptions of some people who consider slim individuals as HIV positive and fat individuals as HIV negative without any clinical evidences in one
hand, and of those who claim that there is no HIV/AIDS at all on the other. This most important approach for educating the public about HIV/AIDS, once again is not fully accessible for hearing impaired and visually impaired individuals. This implies that these individuals might have misconceptions about the deadly disease.

As it is explicitly stated above HIV/AIDS education approaches do not seem to be fully accessible for the visually impaired and hearing impaired individuals. This might lead to doubt their knowledge, attitude and behaviors about HIV/AIDS in general and its preventive measures in particular. This being the fact, there hasn’t been any research conducted (to the researcher’s knowledge) on persons with disabilities (PWDs) in general and visually impaired and hearing impaired individuals in particular in connection to HIV/AIDS preventive measures. Therefore, the concern of this research is to fill this gap.

1.2. Statement of the Problem

Visually impaired and hearing-impaired individuals shouldn’t die of HIV/AIDS as result of ignorance. Therefore, research is immensely needed to clearly surface their knowledge attitude and behavior about HIV/AIDS preventive measures. Hence, the study will attempt to give answers for the following basic questions.

1. Do the hearing impaired and the visually impaired have proper knowledge, attitude and behavior about HIV/AIDS preventive measures?
2. Are there significant differences between the two groups in knowledge, attitude and behavior about HIV/AIDS preventive measures?

3. How do knowledge, attitude and behavior relate with respect to HIV/AIDS preventive measures within the groups of the hearing impaired and the visually impaired?

4. Are there sex differences regarding knowledge, attitude and behavior about HIV/AIDS preventive measures within the groups of the hearing impaired and the visually impaired?

1.3. Objectives of the Study

The objectives of the study are to investigate:

• The knowledge, attitude and behavior about HIV/AIDS preventive measures among the visually impaired and the hearing impaired.

• Whether a significant difference in knowledge, attitude and behavior about HIV/AIDS preventive measures exists between the groups of the visually impaired and the hearing impaired.

• How knowledge, attitude and behavior relate with respect to HIV/AIDS preventive measures within the groups of the visually impaired and the hearing impaired.

• Whether a significance difference exists regarding knowledge, attitude and behavior about HIV/AIDS preventive measures as the function of sex within the groups of the visually impaired and the hearing impaired.
1.4. Definition of Terms

1.4.1. **Knowledge:** A clear and certain awareness of something (in this context about HIV/AIDS preventive measures) (Webster, 1979)

1.4.2. **Attitude:** A tendency to evaluate a particular "Attitude Object" (in this context HIV/AIDS preventive measures) with some degree of favor or disfavor (Stroebe and Stroebe, 1996).

1.4.3. **Behavior:** The practical involvement of an individual in activities which do not expose him/her for HIV/AIDS infection (i.e. using preventive measures against the infection of HIV/AIDS).

1.4.4. **Preventive Measures:** Refers to practicing abstinence, persistent use of condom and being faithful to a single and healthy life time partner.

1.4.5. **Persons with disabilities:** This includes the visually impaired and the hearing impaired persons.

1.4.5.1. Visual impairment:- lack of sufficient vision for the daily activities of life, legally defined as having central visual acuity of 20/200 or less (Vergarson, 1990; Heward and Orlansky, 1988).
1.4.5.2. Hearing impairment: Hearing is disabled to an extent of 70 dB or greater that precludes the understanding of speech through the ear (Moores; 1996; Schelze, Carpenter and Ann, 1991).

1.5. Significance of the Study

A continuous evaluation of any program, including approaches of HIV/AIDS education, has a paramount importance. Accordingly, this study helps to see the knowledge, attitude and behavior about HIV/AIDS preventive measures among the visually impaired and the hearing-impaired individuals. The information presented in this study, therefore, may help as a guide for pertinent bodies to design more conducive approaches of HIV/AIDS education for the visually impaired and the hearing impaired individuals. This is in turn significant for the introduction of long-lasting HIV/AIDS awareness, development of proper attitude towards HIV/AIDS and avoiding risky behaviors of the deadly disease. In short, conducting such a research is a matter of life and death—it is helpful to save the life of the visually impaired and the hearing impaired individuals. Finally, the research may also serve as a springboard for interested researchers in this area.

1.6. Scope of the Study

The study is delimited to the visually impaired and the hearing impaired students in the schools of Region 14 Administration. Specifically, to these students who are enrolled in the regular schools of secondary cycle of
secondary education (Grades 9 and 10) and preparatory grades (Grades 11 and 12). These grade levels’ students are selected, for they are assumed to be found at puberty stage which is the time of uncertainty and a time where different patterns of boy-girl relationship develops. These strains are greatly intensified for disabled individuals (Moores, 1996). And this might have an indication for these grade students to be involved in risky behaviors of HIV/AIDS infection.
CHAPTER II

REVIEW OF THE RELATED LITERATURE

2.1. Introduction

According to Gulliford and Upton (1992), there is a growing evidence that children with special needs are far more vulnerable to being abused, in any of its forms. Hallahan and Kaufman (1988), Werner (1995) specifically indicated that children who are already disabled are more at risk for sexual abuse than are non-handicapped. This might be due to persons with disabilities are powerless to protect themselves from abuses of others. For instance, individuals with visual impairment may never see their perpetrators or even know she/he is there until an assault occurs and individuals with hearing impairment can’t communicate the abuse that have encountered. Persons with disabilities for many reasons which appear to be unidentified, are likely to exhibit greater incidence of sexualized behavior (Gulliford and Upton, 1992) than other person. Moreover, Werner (1994) identified that on the average, disabled children began to mature sexually a little earlier than the non-disabled children.

From the above clearly stated risk factors for HIV/AIDS infection, it seems safe to conclude that persons with disabilities are at a greater risk of HIV/AIDS infection. In line with this idea, Ethiopian Federation of Persons with Disabilities (EFPD) (2001:7) disclosed: Which literally means that due to the
sever situation that they live in, persons with disabilities are exposed for HIV infection more than any other segments of the society.

Therefore, in the following section the nature of HIV/AIDS and empirical studies on knowledge, attitude and behavior about HIV/AIDS preventive measures among the visually impaired and the hearing impaired will be reviewed. However, before this, a theoretical framework (Problem Behavior Theory) that could possibly guide the research will be presented.

2.2. Theoretical Framework of the Study: Problem Behavior Theory

The primary concern of Problem Behavior Theory is with the relation that is obtained within and between three major systems of psychosocial variables- namely, the personality system, the perceived environment system and the behavior system. As causal or explanatory system, they are presumed to be most directly influential on the occurrence and non-occurrence of any particular behavior. Within each system, the variables represent either instigations or controls that together generate a theoretical resultant and dynamic state called proneness, which indicates the likelihood of occurrence of problem behavior. Since proneness to engage in a problem behavior is a system level property, it is theoretically meaningful to speak of personality proneness, environmental proneness and behavior proneness. When proneness in all three systems is taken together, their combination is summarized by the sovereign concept of over all psychosocial proneness.
Psychosocial proneness (also called psychosocial risk) represents the strength of the tendency to engage in a particular problem behavior. Therefore, its likelihood or probability of occurrence, resultant or outcome of balance of instigation towards and controls against engaging in problem behavior. Such instigations and controls have parallel of analogous in the epidemiological notion of risk and protective factors (Jessor: 1991).

In this study, therefore, the researcher is intended to use Problem Behavior in connection with a particular problem behavior of HIV/AIDS infection among the hearing impaired and the visually impaired individuals. Especially, problem behavior of HIV/AIDS infection at the behavior system of this theory is used to guide the research questions of this study. Because, the research questions are more focused on the individual level rather than the environment and the personality system.
Figure 1: The conceptual structure of Problem Behavior Theory:

Social- Psychological Variables

- **Personality System**
  - Motivational - instigation structure
  - Value on achievement
  - Value on independence
  - Expectation for achievement

- **Personal Belief Structure**
  - Social Criticism
  - Alienation
  - Self-esteem
  - Internal- external locus of control

- **Personal Control Structure**
  - Attitudinal intolerance of deviance
  - Moral attitude
  - Religiosity

- **Perceived Environmental system**
  - Distal Structure
  - Parental control
  - Friends control
  - Parents Vs friends influence
  - Perceived life

- **Proximate Structure**
  - Friends' approval of problem behavior
  - Friends models for problem behavior
  - Friends model for religiosity

Behavior System

Problem Behavior Structure
- Problem drinking
- Marijuanal use
- Other illicit drug use
- Cigarette smoking
- General deviant (Sexual) behavior
- Multiple problem behavior

Conventional Behavior Structure
- Church attendance
- Political behavior
- Health behavior

Source: Jessor (1991:118). Beyond Adolescence Problem Behavior And Young Adults Development
2.3. Empirical Research Finding

2.3.1. Basic Features of HIV/AIDS

One of the important aspects of HIV/AIDS prevention is giving correct and up-to-date information about the disease. This is very important because of the knowledge gaps, misconceptions and uncertainty (Beyene and Solomon, 1995) about HIV/AIDS that prevails in many part of Ethiopia.

2.3.1.1. Meaning of HIV and AIDS

AIDS is a medical diagnosis for a combination of illness, which results from specific weakness of the immune system, which defends the body against infections and diseases. This immune deficiency is caused by infections with the virus called Human Immune Deficiency Virus (HIV) (Haring, Mccoromic and Haring, 1990; Gearheart, Weishahn and Gearheart, 1992; Beyene and Solomon, 1995). HIV is a new complex virus, no one knows how it evolved into its present form (Berer, 1993). Some people with HIV infection can live for along period (3 to 10 years) without showing symptoms of falling sick. The period between contracting the virus and developing the symptoms of AIDS is referred to as incubation period (Batshaw, Perret and L.C. S.W, 1993).

According to Integrated Service for AIDS Prevention and Support Organization (ISAPSO, 2001) AIDS is an acronym in which each letter stands for the following
meanings. That is, A: acquired (not born with, get after birth; I: Immune (body's defense system); D: deficiency (not working properly); S: syndrome (group of signs and symptoms).

### 2.3.1.2. Transmission Mode of HIV/AIDS

Information and awareness raising about how HIV/AIDS is and is not transmitted could be amongst the fundamental knowledge of HIV/AIDS. Consequently, sexual contact, of both heterosexual and homosexual (ISAPSO, 2001) is a major mode of transmission of HIV/AIDS. The result of studies indicates that heterosexual contact, which accounts 90 per cent of the infection in Africa (Mboup, Kjanki and Kalengayi, 1994) and 87 per cent of HIV infection in Ethiopia (ISAPSO, 2001; DPCD, 2000). This highest percentage of transmission through heterosexual contact implies that most intervention strategies have to concentrate on promoting abstinence, to be faithful to one partner, and the use of condoms.

A person commonly takes blood from other person when she/he is in need of blood transfusion to replace the low blood level in the body, which occurs as a result of bleeding, severe anemia, etc. A part from heterosexual contact, this blood transfusion is the other means in which HIV/AIDS transmits from an infected person to healthy person (ISAPSO, 2001; Batshaw, Perret and L.C.S.W., 1993; Mboup, Kanki and Kalengayi; 1994).
The other most common way of transmission in children between the ages 1 and 2 (Batshaw, Parret and L.C.S.W, 1993) was through contaminated blood during transfusion. One out of every three new born babies born from HIV positive mothers, two are infected with HIV (ISAPSO, 2001) and a mother with HIV carries a 30% risk of passing HIV to her child (Hutto, Parks, Lai, et.al, 1991 cited by Batshaw, Perret and L.C.S.W, 1993). Further, they stated that there are three possible modes of mother-to-child transmission. First, HIV can cross the placementa and there by infect the fetus. Second, transmission may occur at birth, as a result of exposure to the mother’s vagina secretions and blood. Third, a much small number of children contract HIV from being breast-fed.

Tooth brushes, shavers, razorblades and other sharp instrument used by HIV positive or AIDS patient person transmit the virus to healthy individual is also explained by ISAPSO (2001).

### 2.3.1.3. Ways by Which HIV/AIDS is not Transmitted

The most common causes of transmission of HIV/AIDS must be contrasted with situations, which carry no risk of transmission. This is because Tsehaynesh and Solomon (1998) identified such misconceptions as saliva, body contact and air droplets as transmission means of HIV/AIDS. This implies that many people are doubtful about the modes by which HIV/AIDS is not contracted. In turn, this might be a root cause for stigmatizing HIV/AIDS positive individuals. Many studies, just to mention
few (ISAPSO, 2001; Mboup, Kanki and Kalengayi, 1994; (International Labour Organization) (ILO), 2002; Stine, 1999), however, indicated that kissing, sharing toilets, mosquitoes, breathing droplets, sharing utensils and sharing bed don't transmit HIV/AIDS from positive person to healthy person.

2.3.1.4. Symptoms Related to HIV/AIDS Infection

Many of the symptoms related to the initial HIV infection often go unnoticed. Many people have a "glandular fever like illness" when they are first infected. This consists of a sore throat, fever, swollen glands, skin rash and pain in the arms and legs that get better without showing the signs and symptoms of the disease for a period ranging from 3 to 12 year (ISAPSO, 2001).

AIDS related disease of full-blown AIDS is a late stage in the process of HIV infection. The common symptoms for full-blown AIDS in Africa include: Purple lump on the skin, discomfort on swallowing, right sweat, sever diarrhea, persistent headache, sever weight loss and forgetfulness. The symptoms, however, alone don't constitute diagnosis of HIV/AIDS, and not all people pass through all the symptoms. Blood test, therefore, is necessary to prove the diagnosis (ISAPSO, 2001; DCPD, 2000).

2.3.2. Disability in Ethiopia

Unfortunately enough, data pertaining to the incidence, prevalence and the situation of persons with disabilities in Ethiopia are fragmented, incomplete and some times misleading (Ethiopian Federation of Persons with
Disabilities) (EFPD), 2001; Tirussaw, 2000). However, (World Health Organization) (WHO) (1999) estimates that 10% of the population in developing countries is persons with disabilities.

In our case, the 1984 population census gives a good picture about the magnitude of disabilities and that disability profile best describes the proportional number of the different categories. Accordingly, 42.2% visual impairment from all disable and 1.5% from the whole population; 7.8% hearing impairment from all disabled and 0.28% from the whole population; 6.5% leprosy from all disabled and 0.23% from the whole population; 2.0% epilepsy from all disabled and 0.07% from the whole population and 24.0% others from all disabled and 0.87% from the whole population.

The base-line survey of disabilities was also carried out by Tirusaw, Hannu, Agdew and Daniel (1995) and the survey shows the proportion of different disability categories as follows: 30.8% physical impairment, 30.4% visual impairment, 14.9% hearing impairment, 10.3% chronic illness, 6.5% mental retardation and 7.10% others. The variation of specific disability percentage distribution from both reports indicates the presence of drawbacks to determine the prevalence rate of persons with disabilities in Ethiopia. As it is identified by Kirk and Gallapher (1986); Hallahan and Kaufman, (1988); Toyalr, Sternberg and Richard (1995), this might be due to inadequate definition of the target group and unwillingness of parents to disclose that they have a child with disability. In other cases these were some of the major drawbacks to determine the prevalence rates of persons with
disability. Moreover, Tiresaw (2000) explained that the presence of diversified pre, peri and postnatal disability factors (like infectious disease, difficulties contingent to delivery, under nutrition, civil strafes and periodic episode of draught and famine) and absence of early primary and secondary prophylactics in the country at large has brought the phenomena increase. Therefore, we are compiled to assume that in Ethiopia persons with disabilities comprises 10% of the total population (65.4million). If this much of the population is disabled, there is no denying the fact that it has a negative consequence on he economy of the country. In fact, this is true if and only if when their knowledge, attitude and behavior about the preventive measure of HIV/AIDS is no clearly known.

2.3.3. Knowledge of HIV/AIDS Among the Visually Impaired and the Hearing Impaired

Investigating the knowledge of the hearing impaired and the visually impaired students about HIV/AIDS is critical as it helps to use HIV/AIDS preventive measures effectively and efficiently. From an implied point of view, the existence of knowledge gap about HIV/AIDS means (i.e what is HIV/AIDS? and how could it transmit?) could possibly create knowledge gaps to use preventive measure (i.e abstinence, consistence use of condom and to be faithful to one partner).

Duncan, Dancer, Highly, Detholyn and Gibson (1997), had surveyed 5 state schools of the deaf to probe their knowledge of AIDS. The 129 students in grades 9-12 had extremely limited core knowledge of AIDS, with the
correct answer to only 8 of the 35 questionnaire items designed to measure their knowledge level. Besides high school students, deaf college students' knowledge of HIV/AIDS had also been assessed by Doyle (1995). For his study, a survey was sent to a sample of 500 deaf undergraduate students from Gallaudent University and the study reported that the sample students had relatively high levels of knowledge about HIV/AIDS though the researcher didn't explained it in quantitative terms, for instance, in percentage. From these two survey reports of knowledge about HIV/AIDS (i.e. a survey of adolescents attending 5 state schools and from Gallaudent University) one could observe distinct differences about their knowledge. This difference in knowledge might be attributed to increase in the educational level.

Other researchers had assessed the knowledge level of hearing impaired individuals by presenting a specific knowledge question about the disease. In this connection, the Florida HIV/AIDS Surveillance Data Office (2001) presented the question "What is AIDS?" for 279 hearing disabled individuals. The result had portrayed 53.8% correct answer, 11.8% incorrect answer, 30.5% don't know and 3.9% missing. This shows almost half of the respondents had given a correct answer for this vital knowledge question of the deadly disease. Moreover, the office had asked another question, "What does HIV negative means?" for hearing impaired individuals and the results showed that I have the virus (31.1%), I don't know the virus (19.5%), I don't know (41.3%) and missing (8.2%). This implies that the vast majority of
hearing impaired individuals had misunderstood the diagnostic result of HIV/AIDS. Confirming this misconceptions American Psychologist Association (APA) (1998) stated that when you sign to hearing impaired person that she/he is HIV positive, you may see her/him smile because many hearing impaired people interpreter the signed word "positive" as some thing which is good.

How HIV/AIDS is transmitted and is not transmitted is amongst the fundamental knowledge of HIV/AIDS. With reference to this point, Doreen, who is a deaf professional working with and for the deaf people related her experience of finding out that her sister- in - law had AIDS and in retrospect she realized that family member could be infected by her sister's-in-law perspiration (Collins and Smalley, 1998). From an implied point of view the existence of knowledge gaps (i.e what is HIV/AIDS and how could it transmit) could possibly create knowledge gaps to use preventive measures.

There is no statistical information about the actual number of HIV/AIDS infected visually impaired individuals and to what extent they have reduced risky behaviours of HIV/AIDS infection. This is a very disturbing phenomenon, for this group of individuals are ignored in the increasing spread of HIV/AIDS, which at the present the only viable means to prevent oneself from being infected is through information (knowledge). As a matter of fact, the education of HIV/AIDS for visually impaired individuals is hampered by different factors, which are peculiar only for these groups of individuals, (if not peculiar it may have more adverse effects on their
knowledge level). Reviewing these factors is important partly because it helps to assess to what extent they affected the knowledge level of these individuals. The undergoing discussion, therefore, is concerned with these ends.

Societal attitudes towards persons with disabilities in Ethiopia are generally negative regardless of their sex differences (Tirussaw, 1994; Tibebu, 1995). This negative attitudes towards persons with disabilities in general and visually impaired individuals in particular has an implication for how these persons are treated by other people since attitude are important factors that affect the way how people treat disabled individuals in every walks of life (Hannu, 2000). For instance, many parents (Scholl, 1986) consider educating a blind child is a waste of money since God has cursed them of giving a blind child. This includes the education of disabled individuals about HIV/AIDS. Hundred college age students were asked to complete a sentence regarding their attitudes about the sexuality of the disabled and 82% females and 82% males reported negative reaction about sexual intercourse between a disabled young woman and disabled man (Denney and Quadagno, 1992). This might be due to the society's prejudice about considering disabled individuals as if they were not people with sexual needs. In line with this Briggs (1995) explained that societies’ believe that disabled people are asexual. Moreover, Heward and Orlansky (1988) added that blind students are mistakenly assumed that they are less interested in sex. However, the truth is stated by a disabled person himself as that they all are born sexual beings, every one is
a person first and some of them also happen to have disabilities (Denney and Quadagno, 1992). These prejudice coupled with our societies’ attitude that discussing sexual matters is taboo, may make blind individuals uncomfortable for seeking information about HIV/AIDS and they may grow up with serious knowledge gaps about the disease. Let alone to have knowledge of HIV/AIDS, the visually impaired individuals have difficulty of knowing the anatomical structure of the opposite sex. For instance, in Heward and Orlansky (1988) a blind adolescence had told his counselor that he knows girls have breasts but he didn’t know where they are.

The other factor, which could be cited as hampering for the education of HIV/AIDS for visually impaired individuals, is the visual impairment itself. Ysseldyk and Algozzin (1995), for instance, stated that limitation from visual observations, which is a primary method of learning, is absent for the child with visual impairment. They further stated that information acquired through incidental learning through observation is unavailable to many children with visual disabilities. These authors’ ideas have an implication the visually impaired individuals might have knowledge gaps and misconception about HIV/AIDS.

The other factor, which could also be cited as a barrier for acquiring information about HIV/AIDS, is the social interaction experience of the visually impaired children, which is not commensurate with the sighted counterparts. Over-possessive, over-protective attitudes of parents of blind children may itself become as damaging as the blindness, for it can keep off
from any hope of social interaction with their peers; both visually impaired and fully sighted (Instand, 1995). Concerning the advantages of social interaction, Hendren (1990) stated that the achievement of satisfactory and satisfying sexual adjustment lies at the very center of the web of a good social relationship.

Visually impaired individuals don't have the opportunity to mix with other children with unsupervised way, play games, jokes, stories, songs and private discussions and often mis out one of the most common forms of sex-education (Scholl, 1986). This incomplete knowledge of sex education might imply that they also might have knowledge gaps about HIV/AIDS, for sex education this day is recommended as a means to equip individual with HIV/AIDS information. He also stated that stereotypic behaviors of blind individuals such as body rocking, head swaying and eye-rubbing (which are socially inappropriate) may interfere with the children's ability to be receptive to learning and the children may also become increasingly withdraw from the reality. This idea of Scholl’s has implications for HIV/AIDS education for visually impaired individuals and in turn might have reduced their knowledge about the disease. And again this in turn might affect to use HIV/AIDS preventive measures.

2.3.4. Attitude Towards HIV/AIDS among Hearing Impaired and Visually Impaired Individuals

One of the most typical human traits (i.e. including the visually impaired and the hearing impaired individuals) is the capacity to be modified
as a result of new learning and this capacity is the characteristic of all human beings throughout the entire life cycle (Feverstein, 1979 in Tirusaw, 2001). Based on this premise (i.e. to bring attitudinal change or behavioral change) it seems that at the present a great deal of information about HIV/AIDS preventive measures have been bombarded to the public at large. There is also a research finding (Hannu, 2000) which indicates that the knowledge is a major factor in the process of attitudinal change. A survey made at the university of Western Cape (Kelly, 2001) interestingly witnessed the above finding in that two-thirds of the students surveyed had changed their behavior because of what they had learned about HIV/AIDS. These findings might enable us to suggest that two-thirds of the students had used HIV/AIDS preventive measures.

Research findings on knowledge about HIV/AIDS and the subsequent attitudinal change (Using HIV/AIDS preventive measures) however, didn't lead to similar conclusions. Among young Zimbabwean males (Kelly, 2001) greater knowledge about HIV/AIDS was often associated with unsafe sexual practices. Simkins and Herndrick (1987) also indicated the university students at Missouri came up with high level of knowledge about HIV/AIDS but there has been little change in using HIV/AIDS preventive measures.

Beyene (1997) concluded that students' attitude towards HIV/AIDS and their protective behavior didn't match with the relatively high level of knowledge they have. Moreover, Ashebir (1995) indicated that the change in attitude due to advent of AIDS is very minimal revealing that the message-
based AIDS education used so far is not sufficient to bring behavioral change. By and large, these studies (i.e studies abroad and in our locality) may indicate us how the problem of using preventive measures of HIV/AIDS infection has gone deeper than ignorance. Hadn’t it be a bit paradox to expect an attitudinal change (i.e abstinence from sexual intercourse, consistence use of condoms, or being faithful to one life time partner) from individual who have minimal knowledge (for instance hearing impaired individuals) and from individual whose knowledge levels is not clearly known except the factors which affect the knowledge of HIV/AIDS (for instance the visual impaired) about HIV/AIDS preventive measures? Any how, it will be what we see at the end of this study.

2.3.5. Prevalence of Risk Behaviors for HIV/AIDS Infection Among Hearing Impaired and the Visually Impaired Individuals

The education of HIV/AIDS, among other things, involves to increase awareness about risk factors of HIV/AIDS infection and to motivate individuals to engage in risk-free behavior. There are stumbling blocks, however, to achieve this end to hearing impaired individuals. Firstly, hearing impairment is best described as a communication disability. Because they either use (Briggs, 1995) different communication system or have inferior communication skills. This has implications to educate and enable them take the necessary precautions about risk factors of HIV/AIDS infection. Secondly, physical handicap of any kind directly affects all aspects of the self (Hendren, 1995). And there is strong evidence that healthy sexuality depends
on healthy self-image (Scholl, 1986). Thirdly, children with speech or hearing impairment are vulnerable to child abuse (Briggs, 1995). Fourthly, disabled children have difficulty of understanding health problem (Gulliford and Upton, 1992). These all might have indications to be stumbling blocks for efforts to avoid risk factors of HIV/AIDS infection.

It seems to examine the extent to which the above stumbling blocks affect the education of avoiding risky factors that different researchers initiated to assess the perceived risk of HIV/AIDS in the hearing impaired population. Doyle (1995) for instance, speculates that those in the deaf population may place themselves at a greater risk for AIDS. However, the higher level of AIDS knowledge, among the samples of his study didn't correlate with less risky behavior. To the contrary Zazove, Niemann and Gorenflo (1993) indicated that better health related behavior i.e. less risky behaviors of HIV/AIDS infection such as low use of tobacco, drug, alcohol, and so on use and men sex with men (MSM) Correlate with high knowledge of HIV/AIDS.

On the other hand, the Florida HIV/AIDS Surveillance Office Data (2001) had asked 279 hearing impaired students to determine the prevalence rate of sexual risky behavior of HIV/AIDS infection and the report showed oral sex (45.5%), vaginal sex (63.8%) and anal sex (30.5%). The report also asked the number of partners in the last 6 months and their response revealed the following pattern. That is, no body (29.4%); 1-3 persons (43%); 4-6 persons (12.5%), More than 6 persons (6.5%) and missing (8.6%). Finally,
the surveillance office commented that the hearing impaired are infected by HIV/AIDS it is not because of their disabilities but because the risky behaviors they may engage in. From the literature reviewed under the prevalence of risky factors of HIV/AIDS infection among hearing impaired individuals, it is possible to generalize that whether they are engaged in risky or risk-free behavior of HIV/AIDS infection, there is no consensus on the literature. And these all risky behavior means the hearing impaired individuals didn't modify their behavior to use HIV/AIDS preventive measures effectively and efficiently.

Risk factors are activities that increase the likelihood of HIV/AIDS infection. There are no definite statistics which show the percentage distribution of risk factors (as that of the hearing impaired) in the visually impaired population. This clearly indicates that an important problem has been over looked for a long period of time in the country. Risky behaviors of HIV/AIDS infection are largely pronounced in the disabled population in general and in the visually impaired individuals in particular. Thus it undoubtly will compound the infection rate of the visually impaired persons more than the general population.

It is a common knowledge that the period of adolescence is a difficult time for both young people themselves and their parents. Disability will exacerbate these difficulties and this is certainly true for young people with visual impairment (Varma, 1996). He further stated that the greater vulnerability of the handicapped as a group to emotional disturbance makes
many of them more unstable during adolescence than the non disabled population. This clearly implies that visually impaired students are at greater risk of HIV/AIDS infection at the period of adolescence more than the normal population.

To keep visually impaired individuals from involving risk factors of HIV/AIDS infection, we have to give them the confidence to reject sexual misbehaviors, which exposes them for HIV/AIDS infection. Developing this self-confidence (Briggs, 1995) is the root of all confidence building and self-protection. Further they stated, however, that for persons with visual impairment the self-concept implies magical propensities of power and capability, and since he/she has loss the "wholeness" of his/her person by acquiring a disability. She/he, therefore, in her/his own mind may be less of a person. Reduced self-concept directly affects on individuals assertiveness (Solomon, 1995). According to him persons with low self concept fails to say "no" when one is pressured to do some thing, which he doesn’t want to. That means when visually impaired individuals are requested and/or forced to have sex, without condom or any protective means of HIV/AIDS infection, they couldn't persuade or refuse to the initiative.

There is evidence that the rate of sexual abuse committed against disabled people is far higher than that suffered by the wider community. In line with this, The World Disability Report (1999) stated that disabled individuals experience sexual abuse and they are much more at risk than the general population for HIV/AIDS infection and the report further explained
that most are sexually abused in a cycle of violence from which they cannot escape. For the sexual abuse of visually impaired individuals, the report gave such reasons as they are more dependent on others for assistance and are unable to differentiate between appropriate and inappropriate physical contacts.

### 2.3.6. The Relation of Knowledge, Attitude and Behavior of HIV/AIDS Preventive Measures

There is no established consensus as to how knowledge, attitude and behavior of individuals about HIV/AIDS preventive measure associate to each other. The association between knowledge of HIV/AIDS preventive measures and the subsequent behavioral change to use these preventive measures was studied by Zinabu (1999). Finally, he indicated that there is no relationship (P=0.512) between knowledge of HIV/AIDS preventive measure, for instance, protecting oneself by using condom. Misganaw and Fekadu (1996) also stated that the association between knowledge scores (P=0.056) with attitude scores was not statistically significant. This implies that knowledge of HIV/AIDS didn't translate into actual practice of protecting oneself from HIV/AIDS infection.

However, there was strong relationship (P<0.001) between respondents' perceived risk of HIV/AIDS infection and respondents' use of condoms (Daniel, 1996). Moreover, the association between perception of risk and change in actual behavior (practice) is reported by Abrham (1991). However, Mesganaw and Fekadu (1996) disclosed that the association of attitude
scores (perception of risk) and practice (P=0.07) was not statistically significant. This has a disturbing implication of using HIV/AIDS preventive measures in the rapid spread of HIV/AIDS epidemic.

2.3.7. Sex and HIV/AIDS Preventive Measure

As for the knowledge difference of HIV/AIDS preventive measures (Florida HIV/AIDS Surveillance Office, 2001) stated that it is gender not the disability that is accurate predictor of the knowledge of HIV/AIDS preventive measures. On the other hand, Charles, Mekonnen and Tesfaye (1991) stated that the respondents’ sex, grade, religion and current sexual experience don’t seem to have a significant influence to prevent one self from HIV/AIDS infection.

One common risk reduction behavior advocated for the control of the HIV/AIDS epidemic is consistent use of condoms. The decision whether or not to use condom seems to be affected by gender difference. For instance, Dolan, Corber, and Facour (1990) stated that 50% of girls and 36.9% of boys in grade 7 and 8 said they were afraid that they might get AIDS. Besides, it was stated that they had very positive attitudes and belief towards the promotion of condom use. Moreover, females were more likely to name abstinence and faithfulness as preventive method of the sexually transmitted disease.

On the contrary women seem to be more fatalistic in their attitude than males towards HIV/AIDS. This is because 15% of women and 6% of
men (Werner, 1995) believed that there is no way to avoid contracting HIV/AIDS. This implies that more girls than boys don't know how to protect themselves from HIV/AIDS infection.

2.3.8. Summary

One of the most over-looked segment of the population in face of the growing spread of the disease is the hearing impaired and the visually impaired, for their knowledge attitude and behavior about HIV/AIDS preventive measures is not yet known. The hearing impaired had had gaps for such core knowledge questions as “What is HIV/AIDS?”, “What does HIV negative means?” "How HIV/AIDS transmits?“. However, these questions didn’t present in the literature concerning the visually impaired and there is no statistical information about the core knowledge of HIV/AIDS of these individuals. Any ways, there are such factors as negative attitudes for the education of the visually impaired, the societies' prejudice about considering the visually impaired are asexual and less interested in sex, discussing sexual issues is taboo, lack of incidental learning, over protective attitudes of parents (i.e. didn't play games, jokes, stories, songs, and private discussions) and stereotypic behaviors which negatively affect the knowledge level of visually impaired individuals. The prevalence of knowledge gaps for the hearing impaired and factors which possibility create knowledge gaps for the visually impaired implies the possibility of creating knowledge gaps to use
such preventive measures as abstinence, consistent use of condoms and to be faithful to one partner.

As for the attitudes of individuals to use preventive measures of HIV/AIDS is concerned, some writers indicated that knowledge is a major factor for attitudinal change and cited evidence that two-thirds of students surveyed that changed their behavior because of what they had learned about HIV/AIDS. However, other writers reported that greater knowledge about HIV/AIDS was often associated with little change in using HIV/AIDS preventive measures.

Coming to risk behaviors of HIV/AIDS infection among hearing impaired individuals, these individuals have inferior communication skills, have reduced self-image and healthy sexuality depends on healthy self image, are exposed for sexual abuse, and have difficulty in understanding health problems. These all factors have implication to take necessary precautions (i.e HIV/AIDS preventive measures). As a result different writers speculate that the hearing impaired individuals may place themselves at a greater risk for HIV/AIDS infection. To the contrary, others also reported that health related behaviors (i.e less risky behaviors of HIV/AIDS infection) such as low use of tobacco, drug, alcohol and men sex with men (MSM) correlated with high knowledge of HIV/AIDS among the visually impaired individuals. On the other hand, others reported the prevalence of sexually risk behaviors of HIV/AIDS infection: Oral sex (45%); vaginal sex (63.8%); and anal sex (30.5%). They also reported the number of partners in a six months time:
nobody (29.4%); 1-3 persons (43%); 4-6 persons (12.5%); more than 6 persons (6.5%) and missing (8.6%). These all risk factors imply that the hearing impaired didn't change their behavior to use HIV/AIDS preventive measures.

For the risk behaviors of HIV/AIDS infection among the visually impaired, there is no definite statistical information of risk behaviors of HIV/AIDS infection (as that of the hearing impaired). This clearly indicates that an important problem has been overlooked. However, there are such factors which contribute for engagement of the visually impaired for HIV/AIDS infection. For instance; writers explained that risk behaviors are largely pronounced in the visually impaired individuals than the general population. That is, disability will exacerbate the time of adolescence for the visually impaired, the visually impaired have reduced self-concept, which directly affects their assertive skill to reject sexual misbehavior, and they are exposed for sexual abuse in a cycle of violence. Again these all factors have implication to use HIV/AIDS preventive measures. However, to what extent they affect the visually impaired individuals' intentions of using protective measures are not yet investigated and will going to be determined in this study.

The association between knowledge of HIV/AIDS preventive measures and practice of these measures (for instance condom use) was not statistically significant (P=0.512). However, other reported that strong relationship (P < 0.0001) between respondents' perceived risk of HIV/AIDS
infection and respondents' use of condom. Still others reported the association of attitude scores (perception of risk) and practice (p = 0.07) was not statistically significant. This has disturbing implication to the use of HIV/AIDS preventive measures in the light of the rapid spread of HIV/AIDS. Once again these association in the sensory impaired individuals is not yet supported by empirical studies and the concern of this study is just to fill this gap.

As for the knowledge difference of HIV/AIDS preventive measures between the sexes is concerned (for instance condom uses) 50% of girls and 36.9% of boys were afraid that might get AIDS and had very positive attitudes and belief towards condom use. Moreover, females were more likely to name abstinence and faithfulness as preventive methods of the sexually transmitted diseases. However, 15% of women and 6% of men believe that there is no way to avoid contracting HIV/AIDS.
CHAPTER III

METHOD

3.1. Population of the Study

The first step was to find out the total number of schools, which are found in Region 14 Administration, and to identify the total number of hearing impaired and visually impaired students who were enrolled in their respective schools. According to the information obtained from Special Education Program Expert of the Region 14 Administration Education Bureau, visually impaired and hearing-impaired students were not enrolled in all the schools of the region. Those schools with the high number of enrollment were selected by using purposeful sampling technique and are indicated in the following table.

Table 1. The Total Number of Visually Impaired and Hearing Impaired Students in the Sample Schools

<table>
<thead>
<tr>
<th>Schools</th>
<th>Visually impaired students</th>
<th>Hearing impaired students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Minilik Comprehensive Senior Secondary School</td>
<td>72</td>
<td>53</td>
</tr>
<tr>
<td>Intoto Vocational School</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Yekatit 12 Comprehensive Senior Secondary School</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>Grand Total</td>
<td>94</td>
<td>68</td>
</tr>
</tbody>
</table>
3.2. Respondents of the Study

Visually impaired students and hearing impaired students were stratified according to their sex. After this task was accomplished, from a total of 151 hearing impaired and 162 visually impaired students, 80 students were selected from each disability group by using simple random sampling technique. Here, male and female subjects from each stratum were taken proportionally. Each subject, however, once and for all was enrolled as the respondent of the study, after he/she was screened by the exclusion criteria given below. And an ophthalmologist and audiologist had served these purposes (i.e. an ophthalmologist to screen the central visual acuity file and the audiologist to the hearing acuity file in the school record). Specifically, the criteria used were:

A. Those hearing impaired individuals, whose hearing acuity is below 70 dB.

B. Those visually impaired individuals, whose central visual acuity is greater than 20/200.

C. Those individuals who have additional disabilities.

There were four (one visually impaired and three hearing impaired) respondents who were excluded by the above criteria and another four substitute respondents were selected by employing the same technique as before.
Table 2. Number of Respondents of the Study by their Sex

<table>
<thead>
<tr>
<th></th>
<th>Hearing impaired respondents</th>
<th>Visually impaired respondents</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Total</td>
</tr>
<tr>
<td>Male</td>
<td>46</td>
<td>34</td>
<td>80</td>
</tr>
</tbody>
</table>

3.3. Instruments

3.3.1. Questionnaire

A structured questionnaire was developed to assess hearing impaired and visually impaired individuals' knowledge, attitude and behavior towards HIV/AIDS and its preventive measures. Open-ended items, however, were also included sporadically on the items of the questionnaire to extract further relevant information.

Initially, the questionnaire was prepared in English, translated into Amharic and translated back into English. This was intended to verify whether any discrepancy in meaning exists between the two versions. Finally, the Amharic version was administered to the respondents and this was done on the ground that the Amharic version is easier to comprehend than the English version and respondents give whatever information they have without any comprehension difficulty of the items of the questionnaire.

The questionnaire has three parts. Part one is designed to assess the respondents background information and part two to assess their knowledge about HIV/AIDS and its preventive measures. Therefore, the items have yes
no options concerning the over all causes, symptoms, effects and preventive measures of HIV/AIDS. The third part is designed to assess the respondents attitude towards HIV/AIDS and its preventive measures. The respondents, therefore, were indicated their response on a reduced likert type scale (agree, undecided, disagree). This was intended to avoid the confusions the respondents might have in clearly indicating their response on a 5 point scale ranging from strongly agree to strongly disagree. The last part deals with precautions taken by respondents not to be involved with high-risky behaviors of HIV/AIDS infection.

3.3.2. Interview Guides

In addition to the questionnaire, interview guides for the sample school anti-HIV/AIDS club leaders (because these individuals are responsible for the education of HIV/AIDS prevention method for the students in the school in general and for the visually impaired and the hearing impaired students in particular) were developed in English and translated in to Amharic and translated back in to English (the purpose of doing this was the same as that of the questionnaire). The interview guides generally focus as to how the education HIV/AIDS, including its preventive measures, of the visually impaired and hearing impaired individuals was included in the education program of HIV/AIDS. The interview session was held in Amharic to facilitate mutual understanding between the interviewer and the interviewees.
3.4. Pilot Study

A Pilot study, the purpose of which was to check the appropriateness, understandability, acceptability (by ascertaining politeness of words and phrases since most items deal with the respondents' private life) of the items and to evaluate the completeness and proper recording of responses of each respondent (since the visually impaired and the hearing impaired respondents might have difficulties) was conducted.

For the pilot study, from Adiss Ketema Comprehensive Secondary School and from the Ethiopian National Association for the deaf, 5 visually impaired (2 females and 3 males) and 4 hearing impaired (2 females and 2 males) respondents were selected by random sampling technique respectively. As there is no other comprehensive high schools in which the hearing impaired had attended (except in the schools which were selected for the final study), high school drop out students were approached by the help of the National Association for the Deaf to involve in the pilot study. The exclusion criteria which were stated to screen subjects to involve in the main study were also employed to screen subjects for the pilot study. Based on the results of the pilot study, few items of the questionnaire were corrected, deleted and the process had contributed much for the development of items that were used for the final study.
3.5. Procedures of Data Collection

While interview was conducted with the heads of anti HIV/AIDS clubs of sample schools by the principals investigator, the questionnaire was administered to the hearing impaired respondents by hearing persons who are fluent in sign language. These methods of administering the questionnaire for one thing help to establish rapport easily with respondents and for the other thing when respondents face any difficulty, especially comprehension difficulty (if any) the administrators are capable enough to search for and give immediate solutions. For the visually impaired respondents, however, the questionnaire was presented by reading since they couldn’t read printed materials.

To these ends, a total of ten research assistants (5 for visually impaired and 5 for hearing impaired respondents) were selected by establishing a minimum criteria of fluency in sign language for hearing impaired respondents and distinct reading ability for visually impaired respondents. Training of the research assistants, therefore, was given for three days through lectures, discussions and demonstrations by the principal investigator. Since the study inquires about the respondents' private life, they might be reluctant to give complete answers and this anticipated problem was solved by informing confidentiality of their response.

3.6. Methods of Data Analysis

For the seek of simplicity of analysis, the data that was gathered through questionnaire was given a code. For instance, for those who said
"Yes" or "No" and have correct knowledge of preventive measures; those who said "Agree" or "Disagree" and have positive attitude towards preventive measures and those who said "Always" or "High" to take the necessary care not to be infected by HIV/AIDS and "Not at all" for involvement of risk factors were given a response code of "1". On the other hand, those who didn't give any response for knowledge items, those who said "Undecided" for the attitude items and those who didn't give any response for the attitude items and those who replied "Some times" or "low" for the behavior items were given a response code of "0". Still those who didn't have correct knowledge, positive attitude and behavior (In this sense, those who replied "Not at all" to avoid risk factors of HIV/AIDS infection) were given a response code of "-1".

After these arbitrary numbers were given as code to represent the respondents' response, it laid fertile ground for the statistical analysis of the data. Accordingly, the Mann-Whitney Test (important non-parametric technique, which is used to find-out whether the mean rank scores of the two sample are identical (Masfield, 1986) was used to investigate the presence of significant difference in knowledge, attitude and behavior between the groups of the visually impaired and the hearing impaired. Moreover, Chi-square test (which is a measure of an association and is used to see difference of mean scores within the sample (Hays, 1994) was used to see how the above dependent variable associate within the group of the hearing impaired and the visually impaired. Once more the chi-square test was also applied to see weather statistically significant difference exists between the sexes within the
group of the visually impaired and the hearing impaired. In all statistical test \( \alpha = 0.05 \) was considered to reject the null hypothesis.

To give flesh to the results of the data analyzed though statistical tools, the data gathered through interview guides was analyzed in qualitative terms. Of course, percentage distributions were also used to know the proportion of the visually impaired and the hearing impaired students who have correct knowledge, positive attitude and behavior about HIV/AIDS preventive measures.
CHAPTER IV

RESULTS OF THE STUDY

Items from the questionnaire were selected and grouped together for the simplicity of presenting and analyzing the data. As it is already indicated in the part of definition of terms, knowledge of HIV/AIDS preventive measures means, the sum total of knowledge of abstinence, faithfulness and condom use. By the same taken, the sum total of attitude of abstinence, faithfulness and condom use means the attitude of HIV/AIDS preventive measures and the sum total of behavior of abstinence, faithfulness and condom use gives the behavior of HIV/AIDS preventive measures. The following table shows the thematic classification of items in connection to the above-presented idea (See annex III).
Table 3. Thematic Classification of Items of the Questionnaire in the Knowledge Attitude and Behavior

<table>
<thead>
<tr>
<th>Preventive Measures</th>
<th>Knowledge</th>
<th>Abstinence</th>
<th>2</th>
<th>160</th>
<th>160</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Faithfulness</td>
<td>4</td>
<td>320</td>
<td>320</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Condom use</td>
<td>3</td>
<td>240</td>
<td>240</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>9</td>
<td>720</td>
<td>720</td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>Abstinence</td>
<td>2</td>
<td>160</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Faithfulness</td>
<td>4</td>
<td>320</td>
<td>320</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Condom use</td>
<td>9</td>
<td>720</td>
<td>720</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>15</td>
<td>1,200</td>
<td>1,200</td>
<td></td>
</tr>
<tr>
<td>Behavior</td>
<td>Abstinence</td>
<td>2</td>
<td>160</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Faithfulness</td>
<td>3</td>
<td>240</td>
<td>240</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Condom use</td>
<td>3</td>
<td>240</td>
<td>240</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>8</td>
<td>640</td>
<td>640</td>
<td></td>
</tr>
</tbody>
</table>

4.1. The Respondents' Knowledge, Attitude and Behavior about HIV/AIDS preventive Measures

The following table shows the visual impaired and the hearing impaired students’ knowledge, attitude and behavior about HIV/AIDS preventive measures.
Table 4. The Respondents' Knowledge, Attitude and Behavior about HIV/AIDS Preventive Measures

<table>
<thead>
<tr>
<th></th>
<th>Knowledge</th>
<th>No</th>
<th>%</th>
<th>Attitude</th>
<th>Total</th>
<th>0</th>
<th>1</th>
<th>Total</th>
<th>Behavior</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hearing</td>
<td>Knowledge</td>
<td>271</td>
<td>37.6</td>
<td></td>
<td>449</td>
<td>62.4</td>
<td></td>
<td></td>
<td>720</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Attitude</td>
<td>576</td>
<td>48</td>
<td>98</td>
<td>526</td>
<td>43.8</td>
<td></td>
<td></td>
<td>1,200</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Behavior</td>
<td>257</td>
<td>40.2</td>
<td>269</td>
<td>114</td>
<td>17.8</td>
<td></td>
<td></td>
<td>640</td>
<td></td>
</tr>
<tr>
<td>Visually</td>
<td>Knowledge</td>
<td>252</td>
<td>35</td>
<td></td>
<td>468</td>
<td>65</td>
<td></td>
<td></td>
<td>720</td>
<td></td>
</tr>
<tr>
<td>Impaired</td>
<td>Attitude</td>
<td>549</td>
<td>45.8</td>
<td>128</td>
<td>523</td>
<td>43.6</td>
<td></td>
<td></td>
<td>1,200</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Behavior</td>
<td>438</td>
<td>68.4</td>
<td>84</td>
<td>118</td>
<td>18.5</td>
<td></td>
<td></td>
<td>640</td>
<td></td>
</tr>
</tbody>
</table>

As indicated in the above table, nearly half (62.4%) and below half (37.6%) of the hearing impaired respondents had correct and incorrect knowledge about HIV/AIDS preventive measures respectively. When we closely examine, their attitude below half and almost equal proportion of the respondents had unfavourable (48%) and favourable attitude (43.8%) about the preventive measures. 40.2% of the hearing impaired respondents didn't take any precautions not to be infected by HIV/ AIDS, but only 17.8 percent.

For the visually impaired respondents, the table depicts that 65% had correct knowledge and 35% incorrect knowledge; 45.8% had unfavourable attitude and 43.5% favourable attitude and 18.5% had practice and 68.4% didn't have practice of any of HIV/AIDS preventive measure.
4.2. Knowledge Attitude and Behavior Differences Between the Visually Impaired and the Hearing Impaired about HIV/AIDS Preventive Measures

Table five shows knowledge, attitude and behavior difference of the visually impaired and the hearing impaired about HIV/AIDS preventive measures.

Table 5. Result of Mann-Whitney Test

<table>
<thead>
<tr>
<th></th>
<th>Mean Rank</th>
<th>Test Statistics</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hearing impaired</td>
<td>711.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visually Impaired</td>
<td>730.00</td>
<td>1223.60</td>
<td>0.298</td>
</tr>
<tr>
<td>Attitude</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hearing impaired</td>
<td>1993.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visually Impaired</td>
<td>1207.30</td>
<td>711837</td>
<td>0.594</td>
</tr>
<tr>
<td>Behavior</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hearing impaired</td>
<td>713.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visually Impaired</td>
<td>567.32</td>
<td>15763</td>
<td>0.000*</td>
</tr>
</tbody>
</table>

α = 0.005

The result of the analysis of the Mann-Whitney Test shows that these two groups of respondents do not differ significantly in their knowledge and attitude towards HIV/AIDS preventive measures. The groups mean rank score of behavior (713.68 for the hearing impaired and 567.32 for the visually impaired respondents), however, is significantly different at an alpha level of 0.05.
4.3. The Relation of Knowledge Attitude and Behavior of HIV/AIDS Preventive Measures Within the Visually Impaired and the Hearing Impaired Respondents

The following table presents the relation of knowledge, attitude and behavior of HIV/AIDS preventive measures within the visually impaired and hearing impaired respondents.

**Table 6. The Result of chi-Square Test (Measure of Association)**

<table>
<thead>
<tr>
<th>Response Codes</th>
<th>Value</th>
<th>Df</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1 0 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge</td>
<td>271 -</td>
<td>449</td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>576 98</td>
<td>526</td>
<td></td>
</tr>
<tr>
<td>Behavior</td>
<td>257 269</td>
<td>114</td>
<td></td>
</tr>
<tr>
<td>Hearing Impaired</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge</td>
<td>252 -</td>
<td>468</td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>549 128</td>
<td>523</td>
<td></td>
</tr>
<tr>
<td>Behavior</td>
<td>438 84</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>Visually Impaired</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

α=0.05

The results of the analysis indicate that there is significant relationship (association) in knowledge, attitude and behavior within the group of the visually impaired and hearing impaired students. This significant relationship might indicate the quality of dependence among the dependent variables (knowledge, attitude and behavior).

4.4. Knowledge, Attitude and Behavior Difference about HIV/AIDS preventive, measures Between the Sexes Within the Visually Impaired and the Hearing Impaired Respondents

Table seven is prepared to show whether a significant difference exists in knowledge, attitude and behavior within the visually impaired and the hearing impaired respondents.
Table 7, The Result of Chi-Square Test (Measure of Difference)

<table>
<thead>
<tr>
<th>Preventive Measures</th>
<th>Knowledge</th>
<th>Mean Rank</th>
<th>Test statistics</th>
<th>Df</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hearing Impaired</td>
<td>Female</td>
<td>362.09</td>
<td>0.024</td>
<td>1</td>
<td>0.877</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>359.86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visually Impaired</td>
<td>Female</td>
<td>360.20</td>
<td>0.002</td>
<td>1</td>
<td>0.968</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>360.72</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>Hearing Impaired</td>
<td>Female</td>
<td>653.15</td>
<td>13.946</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>579.17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visually Impaired</td>
<td>Female</td>
<td>634.40</td>
<td>10.383</td>
<td>1</td>
<td>0.001*</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>575.36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavior</td>
<td>Hearing Impaired</td>
<td>Female</td>
<td>328.00</td>
<td>0.496</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>317.47</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visually Impaired</td>
<td>Female</td>
<td>330.43</td>
<td>2.034</td>
<td>1</td>
<td>0.154</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>313.16</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$\alpha = 0.05$

The result of the analysis using $X^2$ test in the above table shows that there is no statistically significant difference in knowledge and behavior between the sexes within the hearing impaired and the usually impaired. For attitude items, a mean rank score of 653.15 and 579.17 were recorded for the hearing impaired females and males respectively. For the visually impaired group, a mean rank score of 634.40 for females and 575.36 for males were recorded for the attitude items. The difference of this attitude scores about HIV/AIDS preventive measures by the sexes within each disability group was statistically significant at alpha 0.05 level. That means there is statistically significance different in attitude towards the preventive measures of HIV/AIDS between the sexes within the hearing impaired and the visually impaired.
CHAPTER V

DISCUSSION

5.1. The Hearing Impaired and the Visually Impaired Respondents' Knowledge, Attitude and Behavior of HIV/AIDS Preventive Measures

Among the research questions, the first was "Do the hearing impaired and the visually impaired have proper knowledge, attitude and behavior about HIV/AIDS preventive measures?" As table 4 shows, nearly equal and above half of the hearing impaired and the visually impaired respondents (62.4% and 65% respectively) had correct knowledge about the preventive measures of HIV/AIDS infection. This percentage distribution is more or less encouraging, especially for the hearing impaired respondents, for these students were marginalized from the education of HIV/AIDS and its preventive measures by anti-HIV/AIDS clubs in the sample schools. This response was given by all anti-HIV/AIDS club leaders of the sample school for the question "Have you tried to address the special needs of the hearing impaired students in connection to the education of HIV/AIDS preventive measures?"

However, respondents’ responses for the question "Please specify how you or any other person can use condoms?" disparity was observed between the visually impaired and the hearing impaired. The hearing impaired respondents replied; they should read the instruction written on the cover of condoms and apply it (76.2%). The rest (23.7%) gave a very general response
that they should apply the education of how to use condom by the Ethiopian National Association for the Deaf. The response given for the very same question by the visually impaired respondents was a bit disturbing in that they replied that it is difficult to use condoms (75%) for two main reasons. First, the instruction about how to use condoms, including the expired date, is written in print form and this is a great burrier to read and apply the instruction. Second, they feel embarrassed to get the help of others in reading instructions and expired dates of condoms. Nevertheless, 25% of the visually impaired respondents simply replied they read instruction written on the cover of condoms with no further justification how to read what is written in print form.

The rest of the respondents, that is 37.6% of the visually impaired and 35% of the hearing impaired have had misconceptions about HIV/AIDS preventive measures. The possible explanation of this knowledge gap might be the societies' prejudice (Briggs, 1995) about considering disabled individuals as if they were asexual. It might be due to this prejudice that there weren't any special attempts made in connection to the education of HIV/AIDS preventive measures by the anti-HIV/AIDS club leaders of the school to address the special needs of the visually impaired and the hearing impaired students. This response was obtained by interviewing the anti-HIV/AIDS club leader of the school. This prejudice coupled with our societies' common attitude of discussing sexual matters is taboo, may make the visually impaired and the hearing impaired individuals uncomfortable for
seeking information on how to protect themselves from HIV/AIDS infection and might have its share for this knowledge gaps of preventive measures.

The other alternative explanation might be the respondents’ response for the question "What are the modes of transmission for HIV/AIDS?" This is because the respondents have had misunderstanding as to how HIV/AIDS could and couldn’t be transmitted. The misunderstandings include: contaminated cloths (1.3% of the visually impaired and 2.5% of the hearing impaired), sharing toilets (2.5% of the visually impaired and 11.3% of the hearing impaired), mosquitoes and insect bites (8.8% of the visually impaired and 12.5% of the hearing impaired) and finally social kissing (2.5%) was mentioned by the visually impaired respondents only. Therefore, these misunderstandings might have contributed for the presence of knowledge gaps for HIV/AIDS preventive measures since clear vision of transmission modes of HIV/AIDS directly related with the application of HIV/AIDS preventive measures.

According to Hannu (2000), knowledge is a major factor in the process of attitudinal change. It might be due to this idea that there was no as such a great difference between the percentage distribution of the respondents’ knowledge and attitude about the preventive measures of HIV/AIDS (see table 4). As this table shows, the respondents were almost equally divided in their attitude about the preventive measures. This is in a sense that 43.8% and 48% of the hearing impaired respondents have had favourable and unfavourable attitude about the preventive measures respectively. For the
visually impaired respondents this proportion was 43.6% for favourable attitude and 45.8% for unfavourable attitude about the preventive measures of HIV/AIDS. A close examination of the table further shows while the respondents correct knowledge about the preventive measures was above average (above 50% percent), there favourable attitude of the preventive measures was below average (below 50%).

Regarding the respondents’ behavior about the preventing measures table (4) doesn't exhibit an interesting and encouraging results. This is because only 17.8% of the hearing impaired and 18.5% of visually impaired respondents had practiced preventive measures not to be infected by the deadly disease- HIV/AIDS. The vast majority of the respondents were at risk of HIV/AIDS infection since they practice HIV/AIDS preventive measures some times (13.1% of the visually impaired and 42% of hearing impaired respondents) and didn’t practice at all (68.4% of the visually impaired and 40.2% of the hearing impaired respondents).

Condom use is among the preventive measures (see the part of definition of terms) and respondents were asked whether their impairment has an effect in their intentions of using condoms or not. In this connection the question "how much effect do you think your visual impairment or hearing impairment has on your intentions of using condoms?" was presented to both groups of respondents. The visually impaired respondents replied high (75%), low (12.5%) and not at all (25%). On the other hand, the
hearing impaired respondents replied high (13.8%), low (26.3%) and not at all (60%).

As it is explicitly stated earlier, the majority of respondents didn't practice preventive measures in general and condom use in particular. This might be due to their impairment, (especially the visually impaired respondents) to protect themselves from HIV/AIDS infection.

5.2. Differences in Knowledge, Attitude and Behavior about HIV/AIDS Preventive Measures Between the Visually Impaired and the Hearing Impaired

The second research question reads "is there a significant difference in knowledge, attitude and behavior between the visually impaired and the hearing impaired about HIV/AIDS preventive measures?". To give an answer for this research question Mann-Whitney Test was employed and the analysis shows the visually impaired and the hearing impaired students don't differ significantly in their knowledge and attitude they have towards HIV/AIDS preventive measures. However, these groups of individuals differ significantly in their behavior they exhibited about HIV/AIDS preventive measures (see table 5).

This finding disproof the worries and regrets the anti-HIV/AIDS Club leaders have in their mind about the education of HIV/AIDS for the hearing impaired. This is because they were interviewed the ways by which they tried to address the special needs of the visually impaired and the hearing impaired students in relation to the education of HIV/AIDS in general and its preventive measures in particular. In all the sample schools the leader
admitted that they really marginalized the hearing impaired students in their education about HIV/AIDS. According to them, there is no any trained individual among the students themselves or any other person who could teach these individuals about the disease and its preventive measures in sign language.

As for the visually impaired students are concerned, the club leaders replied that as the students are integrated in the class with sighted students (for your information, the hearing impaired students were segregated by special classes by the time when the research was conducted). It is a conducive situation to include the visually impaired students in their program of teaching about the disease in the class when the students are free. And the club leaders believe that the visually impaired students have more information than the hearing impaired students concerning how to protect themselves from contracting HIV/AIDS (by abstinence, faithfulness and condom use).

Though there is no empirical research finding (to the researcher's knowledge) which could either confirms or refute with this research, its result indicates the absence of significant difference in knowledge and attitude between the hearing impaired and the visually impaired groups except in behavior. The possible explanation for this difference of behavioral change about preventive measures between the visually impaired and the hearing impaired groups might be attributed to the channel in which the information about preventive measures is presented. The respondents were
asked from where they could get information about HIV/AIDS in general and its preventive measures in particular. Nearly all (i.e. 95%) of the hearing impaired respondents replied that their main sources of information about the preventive measures of disease were: widely displayed posters on the school walls and at different squares of the city. Visually impaired students, however, cited TV programs (only the available part) 60% and for different radio programs (25%). From these source difference of information between the visually impaired and the hearing impaired individuals and on the basis of the difference observed about attitudinal change through statistical test, it seems possible to argue that the visual presentation of information might have more power than the audio channel presentation to elicit the desired behavioral change about the application of HIV/AIDS preventive measures.

5.3. The Relation of Knowledge, Attitude and Behavior about HIV/AIDS Preventive Measures Within the Visually Impaired and Hearing Impaired

Among the research questions, the third question which initially stated was "how do knowledge, attitude and behavior about HIV/AIDS preventive measures relate within the groups of the visually impaired and the hearing impaired?. The result of other researchers finding in this regard, for instance, Zinabu (1999) indicated that there is no association (P= 0.512) between knowledge of HIV/AIDS preventive measure and the subsequent behavioral change to use the preventive measure. Besides, Misganaw and Fekadu (1996) stated that the association between knowledge scores with attitude scores was not statistically significant (P=0.056).
This study, in an attempt to answer the forementioned research question shows contradictory result to the above researchers research finding. This is because the result indicates statistically significant relationship (P=0.000) of knowledge, attitude and behavior about HIV/AIDS preventive measures within the groups of the visually impaired and the hearing impaired students (See table 6). By confirming this idea (Daniel, 1996) disclosed that the presence of strong relationship (P<0.001) between respondents' perceived risk of HIV/AIDS infection and respondents' use of condom. Moreover, the association between perception of risk of the disease and change in actual behavior (practice) was reported by Abrahm (1991).

This significant relationship might indicate that the dependent variables (knowledge, attitude and behavior) don't exhibit the quality independence. This phenomenon might have an encouraging implication to change problem behaviors by increasing knowledge in general and problem behavior of HIV/AIDS infection in particular in to non problem behavior by teaching about it (since the forementioned variables are dependent each other). In connection to this, Feverstein (1979) in Tuirusaw(2000) claimed that one of the most typical traits of all human (i.e. including the visually impaired and the hearing impaired) is the capacity to be modified as a result of new learning. In line with this idea, respondents were asked, "Since you read and/or hear about HIV/AIDS how much change do you think occurred in your behavior that helps you to avoid contracting HIV/AIDS?" The majority of the respondents (67.5% of visually impaired and 75.5% of hearing
impaired respondents) replied "1". The rest of the visually impaired respondents that means 30% and 2.5% replied "0" and "-1" respectively. This percentage distribution for the hearing impaired was 21.3% for "0" and 3.7% for "-1".

From this percentage distribution of responses to this question, one might safely argue that the greater majority of the respondents didn't practice to avoid risk factors (problem behaviors) of HIV/AIDS infection. According to Jessor (1991), proneness to problem behavior in the behavior system consists of the balance between instigations and controls. Proneness in the behavior system of the problem behavior theory, therefore, refers to high involvement in other problem behavior (e.g. Problem drinking, and general deviant behavior) and low involvement in conventional or non-problem behaviors (e.g. church attendance and health behavior). For risk factors of HIV/AIDS infection, the respondents were highly involved in conventional or non-problem behavior than the problem behavior (risk factor for HIV/AIDS infection). For one thing, as it is already indicated the majority of the respondents confirmed that high change has occurred in their behavior that helps them to avoid contracting HIV/AIDS. For the other thing, the respondents were asked to give their response for the question "how often do you use alcohol, elicit drugs and smoke cigarettes?" and the great majority the respondents (97.5% of the visually impaired and 95% of the hearing impaired replied "Not at all" or "1" while the rest of the proportion replied "some times" or "0" and there was no any response for the alternative
"Always" or "-1"). Therefore, it might enable one to debate that there is no as such pronounced behavioral proneness. That is, the likelihood of occurrence of problem behaviors of HIV/AIDS infection in the behavior system of the problem behavior theory) for the visually impaired and the hearing impaired respondents as they were highly involved in such conventional or non-problem behaviors as church attendance and healthy behaviors.

5.4. Difference of Knowledge, Attitude and Behavior about the Preventive Measures of HIV/AIDS between the Sexes Within the Visually Impaired and the Hearing Impaired

The last research question reads, "are there significant difference between the sexes within the groups of the hearing impaired and the visually impaired in knowledge attitude and behavior about HIV/AIDS preventive measures?" The result of the analysis using $X^2$ test shows no statistically significant difference of knowledge and behavior exists between the sexes within of the hearing impaired and the visually impaired. However, there is statistically significant difference between the sexes within the groups about the attitude they have towards HIV/AIDS preventive measures (see table 7).

There are research findings, which have indicated that the presence of knowledge difference is inherited to the sexes than the disability. For instance, Florida HIV/AIDS Surveillance Office (2001) explained that it is gender not the disability which is accurate predictor for knowledge difference of HIV/AIDS preventive measures. The result of this research refutes the surveillance offices’ finding and confirms with the research finding of
Charles, Mekonnen and Tesfaye (1991) who disclosed that the respondents' sex, grade and religion don't seem to have a significant influence of preventing oneself from HIV/AIDS infection, for this result shows no difference between the sexes within each disability group in the behavior they have towards HIV/AIDS preventive measures.

The finding of this research reveals that there is an attitude difference between the sexes. Because female visually impaired and female hearing impaired respondents have more favourable attitude than their respective male counterparts (see table 7). This quiet contradicts the findings of Werner (1995) which has shown that females seem to be more fatalistic in their attitude than males towards HIV/AIDS and explain the rationale in such away that more females (15%) than male (6%) believe that there is no way to avoid contracting HIV/AIDS.

Here are a number of issues worth discussing which could possibly explain the presence of significant difference in attitude between the sexes within the visually impaired and the hearing impaired respondents of the study. As it is already explained earlier, preventive measures of HIV/AIDS infection includes abstinence from sexual intercourse and being faithful to only one sexual partner. In cultural terms, these phenomena, for instance abstinence, have different values attached to females and males. Girls who are abstained from sexual intercourse have been given more prestige and value more than boys. Regarding faithfulness the same holds true for boys and girls in that females will be considered as prostitutes if they have more
than one sexual partner and will be stigmatized by the society more than males. One more thing that is included and defined as HIV/AIDS preventive measure was condom use. This might have different perceptions on females and males as that of abstinence from sexual intercourse and faithfulness to a single sexual partner. Condom use, as a method of contraception may be preferred more by females than boys, for males don't experience pregnancies, abortions and/or birth which is only experience by females and have an effect on their prestige and social status. Therefore, all the formationed factors might be accounted for girls to have better attitude than males towards the preventive measures of HIV/AIDS (Abstinence, faithfulness and condom use).
CHAPTER VI

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1. Summary

The overall objective of the study was to examine the knowledge, attitude and behavior of the visually impaired and the hearing impaired students about HIV/AIDS preventive measures. Accordingly, the following specific questions were raised.

1. Do the hearing impaired and the visually impaired have proper knowledge, attitude and behavior about HIV/AIDS preventive measures?

2. Are there significant differences between the groups of the hearing impaired and the visually impaired in knowledge, attitude and behavior about HIV/AIDS preventive measures?

3. How do knowledge, attitude and behavior relate with respect to HIV/AIDS preventive measures within the groups of the hearing impaired and the visually impaired?

4. Are there sex differences regarding knowledge, attitude and behavior about HIV/AIDS preventive measures within the group of the hearing impaired and the visually impaired?

In order to give an answer for these questions and to accomplish the objective of the study, 80 visually impaired (46 male and 37 female) and 80 hearing impaired (57 male and 23 female) were selected on random basis.
from the schools in Region 14 Administration. From these respondents information was gathered through a questionnaire which was administered through reading (i.e. by the form of interview check-list) to the visually impaired respondents and self-administered questionnaire to the hearing impaired respondents. Moreover, interview guides were employed to gather additional information from directly concerned bodies (for instance, from anti-HIV/AIDS club leaders of the sample school).

Finally, the data was examined through different statistical techniques and the following results were obtained.

- Nearly half and almost equal proportion of the hearing impaired (62.4%) and the visual impaired (65%) have had correct knowledge about HIV/AIDS preventive measures.
- As far as the hearing impaired respondents' attitude and behavior is concerned, 43.8% of them had had favourable attitude, 48% unfavourable attitude about the preventive measures. And 40.2% didn't take any precautions not to be infected by HIV/AIDS except 17.8 percent of the hearing impaired respondents.
- Among the visually impaired respondents, 43.5% had favourable attitude, 45.8% unfavourable attitude about HIV/AIDS preventive measures. Besides, 18.5% had a practice and 68.4% didn't have practice of these preventive measures.
- There was no statistically significant difference (the analysis of Mann-Whitney Test) in knowledge and attitude towards HIV/AIDS preventive
measures between the groups of the hearing impaired and the visually impaired. These groups, however, differ significantly in their behavior about the preventive measures of HIV/AIDS.

- There was statistically significant relationship (using chi-square test) of knowledge, attitude and behavior about HIV/AIDS preventive measures within the groups of the visually impaired and the hearing impaired.

- There was no statistically significant difference (using chi-square test) in knowledge and behavior about HIV/AIDS preventive measures between the sexes within the groups of the hearing impaired and the visually impaired. However, there was statistically significant difference between the sexes within the above groups in terms of their attitude towards the forementioned preventive measures.

### 6.2. Conclusions

Having reservations in mind to draw firm conclusion since the issue of HIV/AIDS is related to the personal sexual habits that may be susceptible to the social desirability bias and lack of adequate literature review (since the research is the first of its kind) the research has drawn the following tentative conclusions from the results of the study.

1. The visually impaired and the hearing impaired students have an average correct knowledge, below average favourable attitude and far less than average right behavior about HIV/AIDS preventive measures.
This means that the disseminated factual information on how to protect one self from HIV/AIDS is not fully accessible to the visually impaired and the hearing impaired students and these students didn't practice health promoting behavior or HIV/AIDS protective meanness (since those who practice protective meanness of HIV/AIDS is negligible).

2. The study revealed that there is no statistically significant difference in knowledge and attitude towards HIV/AIDS preventive measures between the groups of the visually impaired and hearing impaired students, except in their behavior. The hearing impaired students have practiced HIV/AIDS preventive measures better than the visually impaired students. This indicates that presenting an information more on the visual channel (for instance, magazines, news papers leaflets, widely displayed posters HIV/AIDS infected persons, etc) had more power to display a behavioral pattern which enable the persons not to be involved into risk factors of HIV/AIDS infection than presenting an information through aural channels.

3. The presence of statistically significant relationship of knowledge, attitude and behavior about HIV/AIDS preventive measures points out that these variables are dependent to each other and by disseminating factual information (preferably through the visual channels) about the preventive measures will have an influence to change their attitude
and this in turn will help to display a behavioral pattern which is consistent with the belief they have about the preventive measures.

4. The result disclosed that there is no statistically significant difference in knowledge and behavior about HIV/AIDS preventive measures between the sexes within the groups of the hearing impaired and the visually impaired, but in attitude. That means females have more favourable attitude than males towards the preventive measures within the above disabled groups and were expected to practice preventive measures more than males. However, this is not so as there is no significant difference in their behavior about the preventive measures. This might suggest that females from both disability groups are powerless or afraid to challenge practices that may increase the risk for HIV/AIDS or they seem to be unable to defend when their intentions of using protective measures have been disposed by males.
6.3. Recommendations

Finally, from the above conclusions, which were based on the findings, the following recommendations are forwarded.

1. Mounting efforts have to be made to raise the overall awareness, and to develop favourable attitude towards the preventive measures and thereby to void risk factors of HIV/AIDS infection. This might be done by the anti-HIV/AIDS clubs of the schools, the national association for the blind and/or the deaf, the different NGOs which works on PWDS (for instance handicap international and Handicap Nation) etc. through tailoring the general public education about HIV/AIDS in general and its preventive measures in particular to the peculiarities of the visually impaired and the hearing impaired students.

2. People are often more willing to listen to and follow advices from people who have the same commonalities with the audience and/or from concerned professional. Therefore, ways should be designed to include the school psychologists, the visually impaired and the hearing impaired individuals for the education of HIV/AIDS and its preventive measures for the visually impaired and the hearing impaired students.

To this end, arranging educational programmes on how to teach the sever consequence of HIV/AIDS on the nation, a household and an individual, including its preventive measures, shall be given for trainers (the visually impaired and the hearing impaired) of trainees by the concerned bodies, especially by those organizations which have a
mission and a vision of working persons with disabilities in general and the visually impaired and the hearing impaired in particular. This training shall also be extended to school psychologists (by the above mention concerned bodies) to refresh their counseling skills and these trainings might accelerate to bring the desired behavioral changes.

3. Organizing educational programmes to female visually impaired and hearing impaired students to develop their assertive behavior. These programmes help the female students' skill to insist on and reject risk factors of HIV/AIDS infection, for instance unwanted and unprotected sexual intercourse. Parallelly, similar educational programmes shall be given to males which may enable them recognize the importance of females' right and dignity. And to make them recognize that the motivation to prevent HIV/AIDS infection ought to be shared with the females, for both of them are equally at risk.

4. Finally, the writer recommends a more detailed and comprehensive investigation, which includes many more variables in a wider scope in the same area so as to further, strengthen the findings of the study and to give firm conclusions. Because the main task in this small survey is not to give conclusions rather it is a mere an attempt and to serve as a springboard for interested researchers in the area. And in this age of information technology, it is common to see the three letters WWW…, Let WWW be “WE WILL WIN” and our slogan in the fight against HIV/AIDS either by abstinence, faith fullness or condom use.
References


EFPD (2001). **Bright Hope; Abilingual Bulletin Published Annually by EFPD.** December 2001, No. 4.


Appendix I
Addis Ababa University
School of Graduate Studies
Department of Educational Psychology

The aim of the questionnaire is to gather information on knowledge, attitude and behavior of persons with visual and hearing disabilities about HIV/AIDS preventive measures.

In deed, I should make it clear that the questionnaire explores some very personal areas but at the same time the information obtained from you through this questionnaire is very essential to complete this study successfully. I have selected you to fill this questionnaire for I believe that you could give me all the necessary information frankly and honestly.

Finally I can grante you, your responses will be kept in absolute confidentiality and will not affect you and people around you.

Thank you for your sincere cooperation.

PART ONE: BACKGROUND INFORMATION

INSTRUCTION I: Please Fill Your Answer In The Black Space Or Encircle The Number Of Your Choice For The Questions Given Below

1. Age ...........................................
2. Sex ............................................
3. Religion
   1. Orthodox
   2. Catholic
   3. Protestant
   4. Islam
   5. Other, Please Specify

4. Marital Status
   1. Unmarried
   2. Married
   3. Divorced
   4. Widowed

5. Educational level of your parents

5.1. Father’s Educational level
   1. Illiterate
   2. Literate
   3. Elementary School
   4. High School
   5. College and above

5.2. Mother’s Educational level
   1. Illiterate
   2. Literate
   3. High School
   4. Elementary School
   5. College and above

PART TWO: KNOWLEDGE ABOUT HIV/AIDS PREVENTIVE MEASURES

INSTRUCTION II: Please Give Precise Answers For The Following Questions

1. For what does the acronym HIV stands for?
   H ........................................
   I ..................................................
   V .................................................

2. For what does the acronym AIDS stands for?
   A ................................................
   I ..................................................
   D ................................................
   S ................................................
3. What does HIV and AIDS Mean?

HIV ..............................................................
AIDS ..............................................................

4. What is the relation between HIV and AIDS? ..............................................


6. Does HIV/AIDS has a negative effect on a particular individual, family and nation? If yes, how? If not, why not? .................................

7. How wide spread do you think HIV/AIDS is in your area? (Give your answer out of hundred) .................................................................

8. Can HIV/AIDS kill the visually impaired individuals? If yes, how? If not, why not? (for the visually impaired respondents only) .................................................................

9. Can HIV/AIDS Kill the hearing impaired individuals? If yes, how? If not, why not? (for the hearing impaired respondents only).................................


11. If a person is abstained from sex, it means that he/she is free from HIV/AIDS? If yes, how? If not, why not? .................................
13. Could extramarital sex possibly increase one's chance of contracting HIV/AIDS? If yes, how? If not, why not?......................
14. Could being faithful to different persons at different times possibly prevent one from contracting HIV/AIDS? If yes, how? If not, why not?..........................................................................
15. Does the higher the number of sex partners possibly mean the higher the risk of contracting HIV/AIDS? If yes, how? If not, why not?............................................................................................
17. Could condoms possibly protect one from contracting HIV/AIDS? If yes, how? If not, why not?............................
18. Are condoms necessary to have sex only with prostitutes? If yes, how? If not, why not?.............................................
19. Please specify how you or any other person can use condoms? ............................................................................................................
20. How can one tell that a person is free from HIV/AIDS?............
21. What are the modes of transmission for HIV/AIDS?...............
22. What are the preventive measures from contracting HIV/AIDS?..................................................................................................................

PART THREE: ATTITUDE TOWARDS HIV/AIDS PREVENTIVE MEASURES

INSTRUCTION III: Choose That You Think Is The Best For You From The Given

Attitude Scale Alternatives For The Questions Given Below

1. HIV/AIDS is God's Punishment; only praying can stop it.
   1. Agree  2. Undecided  3. Disagree

2. Visually impaired individuals are exposed for HIV/AIDS since they loss their sight that could enable them to identify HIV/AIDS infected individuals (For visually impaired respondents only).
   1. Agree  2. Undecided  3. Disagree

3. Hearing impaired Individuals are exposed for HIV/AIDS since they couldn’t hear disseminated information about HIV/AIDS preventive measures (For hearing impaired respondents only).
   1. Agree  2. Undecided  3. Disagree

4. Visually impaired individuals have to perceive that they could be infected with HIV/AIDS (For visually impaired respondents only).
   1. Agree  2. Undecided  3. Disagree

5. Hearing impaired individuals have to perceive that they could be infected with HIV/AIDS (For hearing impaired respondents only).
   1. Agree  2. Undecided  3. Disagree
6. A persons who looks healthy might be infected with HIV/AIDS.
   1. Agree   2. Undecided   3. Disagree

7. It is possible to be abstained from sex until one gets married.
   1. Agree   2. Undecided   3. Disagree

8. If one don't have the experience of sexual intercourse, It means that he/she is free from HIV/AIDS.
   1. Agree   2. Undecided   3. Disagree

9. It is comfortable to have causal sex with different persons.
   1. Agree   2. Undecided   3. Disagree

10. Having different sexual partners is an indication of modernization.
    1. Agree   2. Undecided   3. Disagree

11. It is all right to have sex with a person who is not a steady boy/girl friend.
    1. Agree   2. Undecided   3. Disagree

12. It is advisable to being faithful to only one healthy partner due to HIV/AIDS.
    1. Agree   2. Undecided   3. Disagree

13. Girls who carry condoms in their bags are prostitutes.
    1. Agree   2. Undecided   3. Disagree

14. Using condom reduces the gratification that one gets from sexual intercourse.
    1. Agree   2. Undecided   3. Disagree
15. Using condom serve no purpose to prevent from HIV/AIDS.
   1. Agree   2. Undecided   3. Disagree

   1. Agree   2. Undecided   3. Disagree

17. It is embarrassing to negotiate for condom use with a partner.
   1. Agree   2. Undecided   3. Disagree

18. It is embarrassing to buy condom from a shops.
   1. Agree   2. Undecided   3. Disagree

19. Although one is extremely a roused sexually, he/she should still insist on to use condom.
   1. Agree   2. Undecided   3. Disagree

20. One shouldn't use condom due to religious values.
   1. Agree   2. Undecided   3. Disagree

21. Every one should feel comfortable to give blood for HIV/AIDS testing before marriage.
   1. Agree   2. Undecided   3. Disagree

22. It is advisable to carry condom always in one's pocket.
   1. Agree   2. Undecided   3. Disagree
PART FOUR: BEHAVIOR TOWARDS HIV/AIDS PREVENTIVE MEASURES

INSTRUCTION IV: Choose That You Think Is The Best For You From The Given Alternatives For The Following Questions

1. How often does the thoughts of infected by HIV/AIDS intrude in to your mind?
   1. Always       2. Sometimes       3. Not at all

2. Since you read and/or hear about HIV/AIDS, how much change do you think occurred in your behavior that helps to avoid contracting HIV/AIDS?
   1. High       2. Low       3. Not at all

3. How often have you experienced desparate events in your life?
   1. Always       2. Sometimes       3. Not at all

4. How often do you use alcohol, elicit drugs and smoke cigarettes?
   1. Always       2. Sometimes       3. Not at all

5. How often do you engage in to causal sex simply encouraged by peers or elicit drags?
   1. Always       2. Sometimes       3. Not at all

6. How much do you believe that whether to be infected by HIV/AIDS or not is within the control of yourself?
   1. High       2. Low       3. Not at all

7. How much control do you feel you have to be abstained from sex until marriage?
   1. High       2. Low       3. Not at all
8. How often have you been forced to have sex against your will?
   1. Always  2. Sometimes  3. Not at all
9. How often have you experienced sex with different partners?
   1. Always  2. Sometimes  3. Not at all
10. How much control do you feel you have to be faithful to only a single partner? 1. High  2. Low  3. Not at all
11. How much effect do you think your visual impairment has on your intentions of using condom? (For visually impaired respondents only)
   1. High  2. Low  3. Not at all
12. How much effect do you think your hearing impairment has on your intentions of using condom? (For hearing impaired respondents only)
   1. High  2. Low  3. Not at all
13. How often do you use condom with your partner? (if you have any).
   1. Always  2. Sometimes  3. Not at all
14. How often do you respect your partners (if you have any) demand for using condom? 1. Always  2. Sometimes  3. Not at all
15. How often do you put condoms in your pocket?
   1. Always  2. Sometimes  3. Not at all
16. Would you please specify how you have been practicing sex?.............
17. Would you please specify how you have been using condom during intercourse? .................................................................
18. Would you please specify what have you been practiced to avoid contracting HIV/AIDS?.................................................................
Appendix II

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   2. T"uw" Sïo %T><M 4. %G=K= Â[Í fUI f ÂO"kk

5.2. %O"fx<i) %fUI f Â[Í
   1. T"uw" Sïo %Tf<iM 3. %"X= Â[Í fUI f ÂO"kk

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1. $\text{?}<\text{?}$. $\text{y} = \frac{\text{?}}{\text{?} - \text{?}}$ $\text{?} = \text{?}$ $\text{?} = \text{?}$

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2. \(\text{KS} \cdot \% \text{å} \cdot \% < \text{å} \cdot \% \text{å}<\)
3. \(\text{MTU}<\)

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1. \(\text{OEtTKG}<\)
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1. \(\text{OEtTKG}<\)
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1. \(\text{OEtTKG}<\)
2. \(\text{KS} \cdot \% \text{å} \cdot \% < \text{å} \cdot \% \text{å}<\)
3. \(\text{MTU}<\)

17. \(\Phi\mathbb{U}_{\text{u-}} \cdot \text{d} \cdot -<\text{-e} \cdot \% \text{å} < \text{å} \cdot \% < \text{å} \cdot \% \text{å}<\):

1. \(\text{OEtTKG}<\)
2. \(\text{KS} \cdot \% \text{å} \cdot \% < \text{å} \cdot \% \text{å}<\)
3. \(\text{MTU}<\)

18. \(\Phi\mathbb{U}_{\text{u-}} \cdot \text{d} \cdot -<\text{-e} \cdot \% \text{å} < \text{å} \cdot \% < \text{å} \cdot \% \text{å}<\):

1. \(\text{OEtTKG}<\)
2. \(\text{KS} \cdot \% \text{å} \cdot \% < \text{å} \cdot \% \text{å}<\)
3. \(\text{MTU}<\)

19. \(\Phi\mathbb{U}_{\text{u-}} \cdot \text{d} \cdot -<\text{-e} \cdot \% \text{å} < \text{å} \cdot \% < \text{å} \cdot \% \text{å}<\):

1. \(\text{OEtTKG}<\)
2. \(\text{KS} \cdot \% \text{å} \cdot \% < \text{å} \cdot \% \text{å}<\)
3. \(\text{MTU}<\)

20. \(\Phi\mathbb{U}_{\text{u-}} \cdot \text{d} \cdot -<\text{-e} \cdot \% \text{å} < \text{å} \cdot \% < \text{å} \cdot \% \text{å}<\):

1. \(\text{OEtTKG}<\)
2. \(\text{KS} \cdot \% \text{å} \cdot \% < \text{å} \cdot \% \text{å}<\)
3. \(\text{MTU}<\)

21. \(\Phi\mathbb{U}_{\text{u-}} \cdot \text{d} \cdot -<\text{-e} \cdot \% \text{å} < \text{å} \cdot \% < \text{å} \cdot \% \text{å}<\):

1. \(\text{OEtTKG}<\)
2. \(\text{KS} \cdot \% \text{å} \cdot \% < \text{å} \cdot \% \text{å}<\)
3. \(\text{MTU}<\)

22. \(\Phi\mathbb{U}_{\text{u-}} \cdot \text{d} \cdot -<\text{-e} \cdot \% \text{å} < \text{å} \cdot \% < \text{å} \cdot \% \text{å}<\):

1. \(\text{OEtTKG}<\)
2. \(\text{KS} \cdot \% \text{å} \cdot \% < \text{å} \cdot \% \text{å}<\)
3. \(\text{MTU}<\)
Appendix III

Thematic classification of item of the questionnaire in to Knowledge, Attitude and Behavior with their respective numbers.

A. Knowledge

10 Could abstinence from sexual intercourse possibly prevent one from contracting HIV/AIDS? If yes, how? If not, why not? ..............

11. If a person is abstained from sex, it means that he/she is free from HIV/AIDS? If yes, how? If not, why not? ..............................


14. Could being faithful to different persons at different times possibly prevent one from contracting HIV/AIDS? If yes, how? If not, why not? ..............................................................

15. Does the higher the number of sex partners possibly mean the higher the risk of contracting HIV/AIDS? If yes, how? If not, why not? ..............................................................


18. Are condoms necessary to have sex only with prostitutes? If yes, how? If not, why not? ....................................................................
B. Attitude Items

7. It is possible to be abstained from sex until one gets married.
   1. Agree   2. Undecided   3. Disagree

1. If one don't have the experience of sexual intercourse, it means that he/she is free from HIV/AIDS. 1. Agree 2. Undecided 3. Disagree

2. It is comfortable to have causal sex with different persons.
   1. Agree   2. Undecided   3. Disagree

3. Having different sexual partners is an indication of modernization.
   1. Agree   2. Undecided   3. Disagree

4. It is all right to have sex with a person who is not a steady boy/girl friend. 1. Agree 2. Undecided 3. Disagree

5. It is advisable to being faithful to only one healthy partner due to HIV/AIDS. 1. Agree 2. Undecided 3. Disagree

6. Girls who carry condoms in their bags are prostitutes.
   1. Agree   2. Undecided   3. Disagree

7. Using condom reduces the gratification that one gets from sexual intercourse. 1. Agree 2. Undecided 3. Disagree

8. Using condom serve no purpose to prevent from HIV/AIDS.
   1. Agree   2. Undecided   3. Disagree

   1. Agree   2. Undecided   3. Disagree

10. It is embarrassing to negotiate for condom use with a partner.
    1. Agree   2. Undecided   3. Disagree

11. It is embarrassing to buy condom from a shops.
    1. Agree   2. Undecided   3. Disagree

12. Although one is extremely a roused sexually, he/she should still insist on to use condom. 1. Agree 2. Undecided 3. Disagree

13. One shouldn't use condom due to religious values.
    1. Agree   2. Undecided   3. Disagree

22. It is advisable to carry condom always in one's pocket.
    1. Agree   2. Undecided   3. Disagree
C. Behavior Items

5. How often do you engage in to causal sex simply encouraged by peers or elicit drags?
   1. Always  2. Sometimes  3. Not at all

6. How much do you believe that whether to be infected by HIV/AIDS or not is with in the control of yourself?
   1. High  2. Low  3. Not at all

7. How much control do you feel you have to be abstained from sex until marriage?
   1. High  2. Low  3. Not at all

9. How often have you experienced sex win different partners?
   1. Always  2. Sometimes  3. Not at all

10. How much control do you feel you have to be faithful to only a single partners?
    1. High  2. Low  3. Not at all

13. How often do you use condom with your partner? (if you have any).
    1. Always  2. Sometimes  3. Not at all

14. How often do you respect your partners (If you have any) demand for using condom?
    1. Always  2. Sometimes  3. Not at all

15. How often do you put condoms in your pocket?
    1. Always  2. Sometimes  3. Not at all
Interview Guides

The aim of this interview guide is to gather information from anti-HIV/AIDS club leader about how they addressed the special needs of the visually impaired and the hearing impaired individuals about the education of HIV/AIDS in general and its preventive measures in particular. The information obtained, therefore, from you is very essential for the successful completion of the study.

Thank you for your sincere cooperation.

1. Have you tried to address the special needs of the visually impaired students in connection to the education of HIV/AIDS preventive measures (for instance, abstinence from having sex? to be fitful to only a single healthy sexual partner? to use condom during intercourse). If yes, in what way? If there are any stumbling blocks in this trial please mention them?

2. What do you comment about the knowledge, the attitude and the behavior of the visually impaired students towards HIV/AIDS preventive measures as the result of your education in particular and the other HIV/AIDS education methods in general?

3. Have you tried to address the special needs of the hearing impaired students in connection to the education of HIV/AIDS preventive measures (for instance, abstinence from having sex? to be faithful to only a single healthy sexual partner? to use condom during intercourse? If yes, In what way? If there are any stumbling blocks in this trial please mention them?

4. What do you comment about the knowledge, the attitude and the behavior of the hearing impaired students towards HIV/AIDS preventive measures as the result of your education in particular and the other HIV/AIDS education methods in general?
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4. Y?<?c,Å,y/=/>?Œe ȘLYÁ ᵃÈ<" fUl\_f O<ÅÅ"<ŠeTf %)X"₉<" }T<– YKSȘLYÁ ᵃÈ<Å ÅT"<" O=Šu? >SK"Ýf" >ŠnkU u}SKY} U" >e}Å%f }K,f: