INFLUENCE OF DISABILITY ON ACCESS TO HIV AND AIDS INFORMATION BY STUDENTS WITH DISABILITIES IN INSTITUTIONS OF HIGHER EDUCATION IN RWANDA

BY

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SEPTEMBER, 2015
DECLARATION

This proposal is my original work and has not been presented for a degree in any other university.

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DEDICATION

This thesis is dedicated to my mother Mukankusi Febronia and to my late father Utazirubanda Cleophas. The work is also dedicated to my wife Nyiraneza Alice, my children and my elder brothers.
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ABBREVIATIONS AND ACRONYMS

AIDS: Acquired Immunodeficiency Syndrome
CDC: Centre for Disease Control and Prevention
DFID: Department for International Development
GDP: Gross Domestic Product
HBM: Health Belief Model
HIV: Human Immunodeficiency Virus
IEC: Information Education Communication
KDHS: Kenya Demographic and Health Survey
KNBS: Kenya National Bureau of Statistics
NSP: National Strategic Plan
PMCT: Preventing Mother to Child Transmission
PWD: Persons with Disability
RDHS: Rwanda Demographic and Health Survey
SNE: Special Needs Education
SPSS: Statistical Package for Social Sciences
STD: Sexually Transmitted Disease
UN: United Nations
UNAIDS: Joint United Nations Program on HIV and AIDS
UNICEF: United Nations Children’s Fund
UR: University of Rwanda
VCT: Voluntary Counseling and Testing
WHO: World Health Organization
ABSTRACT

This is a descriptive survey research design which sought to investigate influence of disability on access to HIV and AIDS information by students with disabilities in institutions of higher education in Rwanda. The sample size purposely included 154 students with disabilities, 5 deans of students, 5 medical doctors and 5 heads of HIV and AIDS clubs. Questionnaire focusing on objective of the study was used to collect data from students with disabilities. An interview schedule was used to collect data from deans of students’ services, medical doctors and heads of HIV and AIDS clubs. A pilot study was done to enhance reliability and validity of the research instruments. To measure instrument reliability, the researcher employed test-retest technique. The calculated reliability coefficient using the Pearson correlation coefficient was 0.86. The content validity of the research instruments was ensured through expert judgement using the supervisors and other academic staff from the department. Quantitative data were analysed using descriptive statistics namely frequencies and percentages and inferential statistics of Chi-square at .05 alpha level. The statistics were generated by means of the Statistical Package for Social Sciences (SPSS). Qualitative data were analysed through content and narrative analysis and emerging major themes were identified. The findings revealed that students with disabilities are at increased risk of contracting HIV and AIDS, they are sexually active and they constitute a special group which needs special attention. The study showed that there is incorrect perception on the mode of HIV and AIDS transmission and prevention among students with disabilities. The findings revealed that, there are many sources of information in the community, which some PWDs had access to while others are not disability specific. This study showed the best way of communication about HIV and AIDS for students with disabilities. Based on these findings, it was recommended that the government of Rwanda, the organization of people with disabilities and the organization working with people with disabilities should break down barriers by elaborating specific policy and providing training and workshops to address the various misconceptions about HIV and AIDS transmission and prevention among students with disabilities.
CHAPTER ONE
INTRODUCTION

1.0 Introduction

This chapter presents the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, limitations and delimitations of the study, assumptions of the study, theoretical and conceptual frameworks, and operational definitions of terms.

1.1 Background to the Study

The study on “influence of disability on access to HIV and AIDS information among students with disabilities in institutions of higher education is a current development because young people with disabilities, parents of children with disabilities as well as people working with students with disabilities have raised several concerns regarding access to sources of information about HIV and AIDS (Groce, 2004). In order to reach all categories of the population, adequate measures of sensitization should be taken to access information about HIV and AIDS.

HIV stands for Human Immuno-deficiency Virus. A virus is a tiny particle that attaches itself to a cell of another creature and uses it to multiply, thereby
making copies of itself. HIV is a lentivirus, and like all viruses of this type it attacks the immune system, hence the title of Human Immuno-Deficiency Virus (HIV). The major concern with HIV is that it is responsible for suppressing the body’s immune system, eventually resulting to the Acquired Immuno-Deficiency Syndrome (AIDS) (Mungai, 2000). This author goes on to say that when the virus attacks the person’s immune system and makes it less capable of fighting infections. Thus, the immune system becomes deficient. AIDS is not a disease but a condition because it presents itself as a number of diseases and symptoms that come about as the immune system fails. Hence, it is regarded as a syndrome.

Today, young people with disabilities are at highest risk of contracting HIV and AIDS. It has been estimated that 10% of the world’s population are reported to be people with disabilities and that the majority of persons reported as being with disabilities live in the developing world. Regions in the developing world are most affected by HIV and AIDS in the World (UNAIDS, 2007). According to Wanjama, Kimani, and Lodiaga (2007), half of all new infections occur in people between the ages of 15 and 24 years. Many are likely to die of AIDS before they reach 35. This infection prevalence is regrettable since that age period coincides actually with the age range of university studies in Rwanda.

Nowadays, HIV and AIDS epidemic has left no country untouched and no group of people unaffected. Stine (2009) conducted research to analyze the
infection rate among the young people aged between 13 and 24 years living with HIV and AIDS by region, at the end of 2009. The research was conducted in different regions of the world. The total number of the respondents was 11,700,000 which represent 100% of the populations. Stine’s (2009) findings revealed that Sub-Saharan Africa had the highest infection rate among the youth (62%). It was followed by South/Southeast Asia with an infection rate of 18%. Eastern Europe/Central Asia and Latin America represented 6.3% and 6.1% respectively. East Asia accounted for 3.4% while the Caribbean and North America represented the same rate of 1.3%. North Africa/ Middle East had 1.2%. The lowest rate was found in Western Europe and Oceania with 0.4% and 0.08 % respectively.

Coming to Eastern African context, it is estimated that about 20 per cent of all reported AIDS patients in Kenya are young people in the age range of 15 to 24 years (Republic of Kenya, 2003). In the same country, the population of people with disabilities is about 1.3 million, accounting for 3.5 percent of the total population (Republic of Kenya, 2010). A look at urban areas of Rwanda shows that young women in the range of 15-24 years have 3.9% prevalence versus 1.1% for young men, and 1% versus 0.3% in rural areas (Republic of Rwanda, 2005). In Rwanda, the 2002 Census found out that about 3.8% of the population is living with disabilities. However, it is likely that this figure is too low (SHIA, 2006).
It is unfortunate that there seems to be no clear facts on the prevalence of HIV and AIDS among people with disabilities (PWDs) in the available literature. Little is known about HIV and AIDS infection among the population of people with disabilities (Groce, 2004). For example, Taegtmeyer, Hightower, Opiyo, Mwachiro, Henderson, Angala, Ngare and Marum (2009) reported a 7% HIV prevalence among people with hearing impairment. Touko (2008) reported a 4% HIV prevalence rate among the deaf population in Cameroon.

Results from these studies reveal that the lack of HIV prevalence information may result in some wrong assumption that people with disabilities are sexually inactive and consequently not at risk and thus education is not needed which is also a gap that needs to be addressed. The figures above clearly indicate that HIV and AIDS infection rates have not gone down totally. It should however be noted that despite the reduction of infection rates, effort should be made to provide timely health information in an accessible format (Janssen, 2003).

Most of the time, individuals with disabilities have not been included in HIV and AIDS prevention and AIDS outreach efforts. It is assumed that they are not sexually active and have little or no risk for HIV infection. The Global Survey on Disability and HIV and AIDS conducted by Yale University and the World Bank has proven this assumption wrong. Individuals with disabilities have equal or greater exposure to all known risk factors for infection. For example, adolescents and adults with disabilities are as likely as their peers without disabilities to be sexually active (Groce, 2004).
These findings show that people with disabilities are sexually active and therefore they need to get health information to reduce infection rates which is the gap to be addressed by the current study. People with disabilities were found to be particularly vulnerable because of poverty, difficulty in forming stable relationships and owing to the likelihood of many, particularly girls and women, being at high risk of sexual abuse.

Persons with disabilities have less knowledge about HIV and AIDS as it was confirmed by Munthali, Mvula and Ali, (2004) on Effective HIV and AIDS and Reproduction Health Information to People with Disabilities in Malawi. The research found that 87% of the respondents said that they had ever heard about HIV while 13% said that they had not. Although the size of the sample was small, it can be seen that a higher proportion of people with physical disabilities had ever heard of HIV compared to other forms of disabilities. This is possibly because of their ability to speak and hear. It was however noted that even though some of the respondents had hearing impairments, speech problems etcetera, a higher proportion of them had heard about HIV.

In the research done by Groce, Yousafzai, Dlamini and Wirz (2003) on Knowledge, personal risk and experiences of HIV and AIDS among people with disabilities in Swaziland, participants with disability were less well
informed about HIV and AIDS, listing many more incorrect modes of transmission than their peers without disabilities.

Service providers may lack knowledge about disability issues, or be misinformed or have stigmatizing attitudes towards people with disabilities. Services offered in clinics, hospitals and in other locations may be physically inaccessible. In addition there are no sign language facilities and Braille materials in those health facilities. Confidentiality for students with disabilities in HIV testing and counseling may be compromised, for example, by the need of having a personal assistant or a sign language interpreter wherever HIV and AIDS services are provided (UN, 2011).

Rightly turning to UNAIDS (2009), it is noted that addressing HIV and AIDS among people with disabilities starts with recognizing that all people are sexual, regardless of whether they are living with disabilities or not. The next step is confronting stigma and misconceptions which are barriers. Young people living with disabilities often miss out on sexuality education offered to their peers without disabilities because of the communication strategies that are used to them, a situation which is further compounded by the fact that sexual health education campaigns do not present information in accessible media formats or venues.

In the study on HIV and AIDS and Disability among a Deaf Population in Swaziland by Groce et al. (2003) found that knowledge of HIV and AIDS is directly related to accessible sources of information. The top three sources of
HIV and AIDS information listed by the deaf population were posters (70%), Organizations of people with disabilities (DPOs) (69%) and television (66%). By contrast, the hearing population listed Radio (95%), Relatives (89%) and Newspapers (79%). The survey consistently identified difficulties in communications as the key factor in blocking deaf peoples' access to HIV and AIDS information.

In the study on HIV and AIDS Knowledge, Attitude, Practices and Accessibility by the Steadman group in Kenya, it was concluded that radio programs are the most effective source of information for the blind and physically challenged. Seminars and workshops are the most effective source for the deaf. Disability support groups, family and friends are also effective for the deaf and the blind.

In the Rwandan context, the Republic of Rwanda (2009) established that 2.2% of heterosexual couples were HIV sero-discordant, which puts the HIV-negative members of these discordant couples at high risk for HIV infection. HIV prevalence was much lower for married women (2.5%) than for separated (14.6%), widows (9.7%), single (6.8%), divorced (6.4%), and cohabiting (5.9%) women. It was, however, difficult to characterize the commercial sex industry in Rwanda as the size of the population of sex workers was not known and a high proportion of sex workers who have undergone an HIV test, risk behaviors continue to be prevalent.
The same study by the Republic of Rwanda (2009) examined other population sub-groups that included prisoners, refugees and truck drivers. It was found that though HIV prevalence in prisons did not appear to be significantly higher than outside, there was evidence of sexual activity within prisons. HIV prevalence and risk behaviors were very low in refugee camps, possibly because they were well covered by prevention programs for the most part. HIV prevalence among truck drivers appeared to be higher than in the general population, even though the reported risk behaviors were not particularly high. Continued targeting of truck men should be accompanied by targeting of other high risk men.

Studies that investigated HIV and AIDS prevalence among PWDs in Rwanda were did not portray the issue of information access as among different groups of disabilities nor among students with disabilities. These few studies found that 13% of people with disabilities in Rwanda have been infected with HIV and AIDS. This has been confirmed by disabled informants during the survey got Voluntary Counseling and Testing. In addition 84.3% of respondents were affected by the pandemic. They confirmed of having lost either a brother, parents, a friend, a spouse or living with an HIV positive in the family. Most of respondents in this survey were the physically handicapped (FACHR, 2003).
Sensibly, in the context of Rwanda the focus on risk groups concentrated on groups given above and not assigning an importance to students with disabilities who may need special prevention programs as characterized in appropriate source of information, strategies for communication and knowledge about modes of transmission an prevention and symptoms. This scenario inspired, therefore, a study of this kind.

1.2 Statement of the Problem

Access to information and knowledge about HIV and AIDS is viewed as a strong means to safeguard people including those with disabilities from contracting HIV and AIDS (Chireshe, Rutondoki & Ojwang, 2010). This standpoint was reemphasized by UNAIDS (2012), Silbiger (2006) and Groce (2004) who argued that when people with disabilities have access to HIV and AIDS information through appropriate means of communication and adequate sources of information, they are more likely to be protected from such a pandemic infection. Informed by these views, Rwanda has intensified HIV and AIDS awareness raising among the citizens (CDC, 2014).

While access to information is credited for its paramount role in HIV and AIDS infection prevention, students with disabilities are still at high rate of infection compared to their peers without disabilities (Republic of Rwanda, 2009). This puts into question the extent to which HIV awareness programs
are being adapted to ensure that information reaches students with disabilities.

Factually, if this scenario is not dealt with, it may aggravate the issue of HIV and AIDS prevalence among students with disabilities. An attempt for solution is therefore a study influence of disability on access to HIV and AIDS information among students with disabilities at the University of Rwanda.
1.2.1 Purpose

This study sought to find out influence of disability on access to HIV and AIDS information by students with disabilities in institutions of higher education in RWANDA. The current situation of students with disabilities places them not only at a high risk of HIV and AIDS, but also at a vulnerable position in the absence of adequate public support systems. Thus, there is a need of increasing awareness among students with disabilities.

1.3 Objectives of the Study

The study sought to:

i. Determine disability related barriers to accessing HIV and AIDS information by students with disabilities.

ii. Find out the level of knowledge about HIV and AIDS among students with disabilities in relation to Symptoms, Transmission and Prevention.

iii. Identify the sources of information about HIV and AIDS for students with disabilities.

iv. Establish the communication strategies used to disseminate information relating to HIV and AIDS to students with disabilities.
1.4 Research Questions

i. What are disability related barriers to accessing HIV and AIDS information by students with disabilities

ii. Do students with disabilities have knowledge on HIV, AIDS symptoms, transmission and prevention?

iii. What are the sources of information about HIV and AIDS to students with disabilities?

iv. What communication strategies are used to disseminate information relating to HIV and AIDS among students with disabilities?

1.5 Significance of the Study

This study is hoped to be significant to many people. First, students with disabilities may benefit from the findings of this study in that it revealed barriers to accessing HIV and AIDS information amongst them. The results of this study may help the students to know how to protect themselves against HIV and AIDS because of knowledge in HIV and AIDS prevention. It is also hoped that this study may benefit students to improve their learning, because when these young students with disabilities are not helped, they might experience traumatic situations which hinder their learning. Moreover, this study may help to change the negative attitude towards students with disabilities who are HIV positive.
Second, suggestions from this study could help the policy makers to handle the problem efficiently by involving students with disabilities, which may add value to the programs since the latter are not only beneficiaries but also players. This will make a greater impact especially when students with disabilities are seen in the forefront in the fight against HIV and AIDS. The policy makers might be aware of the importance of improving these services for inclusion of all students because of the valid reliable facts. Their exclusion from accessing HIV and AIDS information limits the success of any health promotion services provided to them.

A large number of students may be obliged to discontinue their education following HIV and AIDS infection at the level of students themselves or their families. This study attempts to show that when students have knowledge in prevention measures of HIV and AIDS, they can change their behaviour and as a result proceed with their education uninterrupted. The study could also serve as reference for further research in this field.

1.6 Delimitations and Limitations of the Study

This section dealt with delimitations and limitations in order to help clarify what limitation might affect the study.
1.6.1 Delimitations

The study on “influence of disability on access to HIV and AIDS information by Students with disabilities in institutions of higher education in RWANDA” only focused on students with physical, hearing and visual impairment.

In Rwanda, there are public and private institutions of higher learning. The study was delimited to public institutions of higher education such as College of Medicine and Health Sciences, College of Business and Economics, College of Science and Technology, College of Arts and Social Sciences, College of Agriculture and Veterinary sciences. College of Education was used for pilot study.

1.6.2 Limitations

The researcher had a limitation related to knowledge of sign language and Braille. The researcher overcame this limitation by having a research assistant who is knowledgeable in sign language and Braille. Additionally, extraneous variables such as respondents’ honest were beyond the researcher’s control. To eliminate this threat, the researcher used respondent triangulation.

Moreover, in Rwanda sex related matters are cultural prohibited but the researcher used all available information to convince the participants to speak freely about sex and the interview for females was facilitated by females while
the interview for males was facilitated by males to avoid inhibiting the participants.

1.7 Assumptions of the Study

The following assumptions were made in the study:

i. Higher learning institutions have adequate teaching/learning materials for special education.

ii. Students with disabilities in higher learning institutions study an inclusive setting.

iii. Higher learning institutions staff provides adequate and appropriate services to the students with disabilities.

1.8 Theoretical Framework and Conceptual Framework

Models in research are important. They help one to gain insight into a phenomenon that one needs to explain (Orodho, 2005).

1.8.1 Theoretical Framework

This study was based on the Health Belief Model (HBM) propounded by Becker in 1974 and revisited by Rosenstock in 1977. The Health Belief Model (HBM) explains health-behaviour in terms of individual decision-making and argues that the likelihood of a person adopting a given health related behaviour
is a function of that individual’s information about the threat to his or her personal health, and their belief that the recommended behaviour will reduce this threat (Becker, 1974). This is in congruence with what was averred by Rosenstock (1977) that an individual takes a positive action that promotes his or her health depending on available information that arouses the desire to avoid health negative outcomes. To put it in other words, the standpoint of this model is that human actions are the result of a rational decision making whereby the decision is based on the available information.

Aside, Karen and Bishop (2010) and Becker (1974) reveal that a person would be more likely to adopt a given behaviour if the adoption of that behaviour is not perceived as a health threat. On the basis of information that a person has, he or she will conduct an internal assessment of the net benefits of changing his or her behaviour and decide whether to act or not. More realistically, people’s possessed information on whether they are at risk of health disease or not constitute the drive for action taking or not taking. For instance, Becker (1974) contends that health promotion message-through mass media, peer education, and other interventions- act as cues to action, translating that readiness into overt behaviour among students with disabilities while Bayat et al. (2013) affirm that possessed information on diabetes and its risk factors constitutes a reliable way for its avoidance.

The proponents of HBM, Janz and Becker (1984); Rosenstock (1974); Rosenstock (1974) and Strecher and Rosenstock (1997), disclose that
individuals will take preventive action if they have information on that (a) they are at risk for developing a health condition, (b) the health condition will have severe negative impact, (c) there exists a preventive health behavior that could be beneficial in either reducing the risk or its seriousness of the health condition, and (d) the benefits of this preventive health behavior outweigh the barriers to or negative consequences of the preventive health behavior.

In the same line of view, Becker (1974) spells out the HBM in terms of four constructs representing the perceived threat and net benefits: perceived susceptibility (Youth believe they can get HIV), perceived severity (Youth believe that the consequence of getting HIV is significant enough to try to avoid), perceived benefits (Youth believe that the recommended action of using condoms would protect them from contracting HIV), and perceived barriers (Youth identify their personal barriers to using condoms (i.e., condoms limit the feeling or they are too embarrassed to talk to their partner about it) and explore ways to eliminate or reduce those barriers. Those concepts were proposed as accounting for people’s “readiness to act.” An added concept, cues to action (Youth receive reminder cues for action in the form of incentives (such as “no glove, no love”; got sex, get tested), would activate that readiness and stimulate overt behaviour. A recent addition to the HBM is the concept of self-efficacy (Youth receive training in using a condom correctly), or one’s confidence in the ability to successfully perform an action.
Realistically, the HBM was chosen to guide the present study because it shows that the avoidance of a risky behaviour relies on the possessed information by individuals. In this case, students with disabilities will be in position to avoid the risky behaviour that may lead to HIV and AIDS infection if they possess information on the modes of transmission, symptoms and prevention. Therefore, this theory is suitable for this study that investigated influence of disability on access to HIV and AIDS information among students with disabilities in the institutions of higher education in Rwanda.
1.8.2 Conceptual Framework

Figure 1.1: Interaction of variables on influence of disability on access to HIV and AIDS information

Source: Researcher's design (2015)

The figure 1.1 above depicts the variables of the study namely influence of disability (independent variable) and access to HIV and AIDS information (dependent variable). Worthwhile, the same figure shows the sub-elements of the identified independent variable. Among these sub-elements, attitudinal...
barriers are those attitudes held by others and the attitudes held by persons with disabilities themselves. These attitudes hinder persons with disabilities from accessing HIV and AIDS prevention programs. According to Silbiger (2006), writing on disability and HIV and AIDS in Sub-Saharan Africa, the first attitudinal barrier is the assumption that persons with disabilities are not at risk of contracting HIV and AIDS. Another attitudinal barrier is that persons with disabilities are not sexually active. The third attitude is that persons with disabilities are not a significant group that would warrant special attention. The last attitude is that people with disabilities do not consider themselves at risk.

According to Silbiger (2006), physical barriers to access to HIV and AIDS information can be physical inaccessibility of the program locations where preventions programs is taking place and the second is inaccessibility of materials. When we remove these physical and attitudinal barriers, we have access to HIV and AIDS prevention information.

The provision to students with visual impairment with appropriate means of communication like Braille, audio and tapes containing HIV information improve knowledge and access to HIV and AIDS information and makes them feel empowered. Provision of information for persons with hearing impairment using sign language interpreter has been used as a tool for fighting HIV
pandemic and contributes to access to HIV and AIDS information (Pronk, 2009).

According to Steadman Group (2007), information about HIV and AIDS to students with disabilities comes from a number of sources and varies across the disabilities. Different sources of information about HIV and AIDS contribute to access to HIV and AIDS information and improve knowledge.

Students with disabilities must be convinced that they can manage the behavioral changes that may be necessary because of knowledge in symptoms, transmission and prevention.

1.9 Operational Definition of Terms

Access: Means ensuring that all students have equal opportunity to find out about and use the full array of services about HIV and AIDS provided by the society.

Accessibility is the degree to which HIV and AIDS information in an environment is available to PWDs including students with disabilities.
**Barriers**: Refers to obstacles that make it difficult — sometimes impossible — for students with disabilities to access HIV and AIDS prevention services because of both attitudinal and physical barriers and so on.

**Disability**: In this study, a disability refers to having a physical, visual or hearing impairment that substantially limits a student in accessing HIV and AIDS information.

**Hearing impairment**: Refers to a condition whereby a student has total loss or reduced hearing capacity and usually needs hearing aids, sign language or both.

**HIV**: Stands for Human Immuno-deficiency Virus. HIV is responsible for suppressing the body’s immune system, eventually resulting to the Acquired Immuno-Deficiency Syndrome (AIDS). HIV prevalence is growing among the most marginalized groups in society such as people with disabilities.

**Physical disability**: This refers to a condition affecting students’ mobility or motor co-ordination in terms of fine and gross motor skills, which has an impact on their lifestyle, work, movement and independence etc. The lack of access to sexual health care services is the greatest impediment to protecting themselves against HIV and AIDS.

**University of Rwanda**: This refers to the seven merged public institutions (National University of Rwanda, Kigali Institute of Education, Kigali Health Institute, Kigali Institute of Sciences and
Technology, Institute of Agriculture and Animal Husbandry, Umutara Polytechnic, School of Finance and Banking).

**Visual impairment:** Refers to limitation imposed by visual loss or reduction on students’ ability to interact with the environment. For students with visual impairments, many common forms of sexual health information such as videos, pamphlets, and visual demonstrations are inaccessible to them.
CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

This chapter presents an overview of the relevant literature on which the study is based. Literature is reviewed against the objectives of the study namely barriers to accessing HIV and AIDS information by students with disabilities in institution of higher learning; knowledge about symptoms, transmission and prevention among students with disabilities; sources of information about HIV and AIDS among students with disabilities; and communication strategies to disseminate information relating to HIV and AIDS to students with disabilities;

2.1 Barriers to Accessing HIV and AIDS Information for Students with Disabilities in Institution of Higher Learning

Literature reviewed reveals that persons with disabilities are prevented from equitably accessing HIV and AIDS prevention services because of both attitudinal barriers and physical barriers (Silbiger, 2006).

2.1.1 Attitudinal Barriers

Silbiger (2006) writing on disability and HIV and AIDS in Sub-Saharan Africa argues that, the first attitudinal barrier is the assumption that persons with
disabilities are not at risk of contracting HIV and therefore do not require access to information about HIV prevention. Another barrier that stems from this is the assumption that persons with disabilities are not sexually active. Silbiger (2006) adds that persons with disabilities are not a significant group that would warrant special attention is another barrier. An indirectly related barrier that usually comes from persons with disabilities themselves is the fear that a HIV positive status would be a double burden, especially for women with disabilities. The double burden of being HIV positive and having a disability is often met with denial or fear.

While it is opined that some individual with disabilities lack access to information about HIV and AIDS due to their attitudes, it remains wanting to empirically establish to what extent attitudes prevent students with disabilities from accessing HIV and AIDS information. This present study went farther and institute how attitudes contribute to the lack of access to information about HIV and AIDS specifically in Rwandan institutions of higher education.

2.1.1.1 People with Disabilities are at Risk

The research done by Philander and Swartz (2006) on Needs, barriers and concerns regarding HIV prevention among people with visual impairment in South Africa revealed that HIV and AIDS affects all sexually active people, including people with disabilities. About 93% of the respondents said that people with visual impairments were more at risk than are those who are
sighted. Contributing factors that they thought made people with visual impairments more vulnerable to HIV and AIDS included the lack of information on the HIV pandemic and preventive measures (87%, n = 13), low socioeconomic status (80%, n = 12), low self-esteem (80%, n = 12) and lack of social skills (which is sometimes the result of overprotection) (80%, n = 12) and fewer personal resources with which to protect themselves (80%, n = 12). A third of the participants believed that the need for acceptance resulted in youths being sexually exploited. One participant said, "It gives a mental boost to a girl with disability to have a partner who is not without disability."

Elwan (1999) writing on poverty and disability showed that persons with disabilities are more likely to be underemployed and unemployed, and poorer than the general population in many countries. Exclusion and marginalization reduce the opportunities for the persons with disability to contribute productively to the household and the community, and increase the risk of falling into poverty.

The above is reemphasized by Eide and Loeb (2006) who contend that attitudinal barriers as well as physical barriers such as lack of adequate or appropriate transportation, physical inaccessibility, and lack of learning opportunities can affect access to education and employment opportunities, reducing the opportunities for income enhancement as well as social participation. Aside, reference made to the World Bank (2004) shows that studies among people with disabilities in various southern African countries
including South Africa, have found that persons with disabilities in these regions are more likely to live in conditions of poverty relative to the general population. Poverty is a factor which predisposes people with disabilities to be at risk of HIV and AIDS. People with disabilities are more likely than others to be poor, poorly educated about sex and vulnerable to sexual abuse.

The two researchers Philander and Swartz (2006) and Elwan (1999) agreed that people with disabilities are at risk of HIV and AIDS infection because of lack of HIV and AIDS information, poverty and other insufficiencies. It is the fundamental right of students with disabilities to have sexual needs met because they are normal like other persons. The society needs to inform them about the risk of contracting HIV and AIDS because there are many barriers which prevent them from accessing HIV and AIDS information. There is a misconception that if a person has a disability in one part, he or she is disabled in all parts. This means that, if a person has hearing impairment, he or she doesn’t have sexual interest.

Nganze and Matonhodze (2004) writing on Disability and HIV and AIDS and reproductive health information to people with disabilities showed that 75% of participants perceived themselves to be at risk. These were also the findings in the study of Phillander and Swartz (2006) in South Africa, where 93% of the 15 blind participants indicated that people with disabilities could be at risk of contracting HIV. Groce (2003) also points out that people with disabilities may be at an increased risk for a range of factors, including the greater likelihood of
being sexually abused and the lesser likelihood of marrying because of social taboos. Groce and Trasi (2004) estimate that people with disabilities have a two to threefold risk of being raped than do those without disabilities, which is in line with what has been revealed by Groce (2003) that people with disabilities may be at an increased risk for a range of factors, including the greater likelihood of being sexually abused and the lesser likelihood of marrying because of social taboos.

In a study on sexual abuse and violence against women with disabilities in Malawi (Kvam & Braathen, 2006), it was found that women with disabilities in many cases entered into a relationship with a man as this was regarded as their only chance. When they became pregnant, the man would in many cases disappear. Munthalie’s study in Malawi (341 PWD) writing on effective HIV and AIDS and reproductive health information on people with disabilities revealed that 17% of the participants were forced into their first sexual encounter, while 7% in Kenya (1704 deaf people) and 22% of Ugandan participants (371 PWD) indicated abuse at first sexual encounters.

To substantiate the above, Groce and Trasi (2004) disclose that persons with disabilities, because of the myth of asexuality, may also be perceived as virgins, putting them at risk for sexual abuse and rape, in contexts where beliefs that HIV and other sexually transmitted diseases can be gotten rid of by having sex with a virgin. Smith et al. (2004) has shown that when it comes to the situation faced by women with disabilities, they may be particularly
disadvantaged in this regard, leading some to turn to transactional sex and prostitution, increasing their risk of sexually transmitted diseases.

From the findings of Nganzi and Matonhodze (2004), Philander and Swartz (2006), Groce and Trasi (2004), Kvam and Braathen (2006), Munthali et al. (2004), Smith et al. (2004) and Groce (2003), people with disabilities are at risk of contracting HIV and AIDS and there is a risk of being sexually abused. Some people can abuse them when they try to help them to overcome barriers in the society or because of lack of information and low self-esteem. For example, a person assisting a person with visual impairment can easily take advantage of that person.

Persons with disabilities may also be excluded from general sex education. Additionally, as persons with disabilities have often been considered as being either asexual or as hypersexual, sex education has been regarded as unnecessary or potentially dangerous (Milligan & Neufeldt, 2001). Parents and care givers may be resistant to providing sex education (Martorella & Portugues, 1998) or feel uncomfortable doing so as they feel inadequately trained (Parritt & O’Callaghan, 2000). Lack of sex education may result in lack of education about safe sex and unhealthy sexual behavior.

The findings from researchers done by Milligram and Neufeldt (2001), Martorella and Portugues (1998), and Parritt and O’Callaghan (2000), revealed that there was lack of sexual education in the various parts of the world where they conducted their research. Sex education was not only lacking among
people with disabilities but also among persons without disabilities. In Africa, sex education is influenced by churches which have opted for abstinence. Studies reveal that people with disabilities perceive themselves as particularly vulnerable to contracting HIV. For instance the Mulindwa survey (2003) on reproductive health and HIV and AIDS among persons with disabilities in Kampala, Katakwi and Raikai districts in Uganda revealed that 371 people with disabilities were at a risk of contracting HIV.

Also, in a Kenyan study on HIV and AIDS knowledge, attitude and practice and accessibility in 1709 deaf people by Steadman Group (2007), 80% perceived themselves to be at risk. The study confirmed that PWD are at risk of contracting HIV through sexual violence particularly the women. Incidence of sexual violence among PWD was 12% for the deaf, 13% for visual impairment, 8% for the mentally challenged and 5% for the physically challenged. The incidence was higher for women at 15%. The study established that most rape cases go un-reported. Only 3% of those who have been sexually violated sought post-exposure prophylaxis.

More to be noted in the Kenyan context, Steadman Group (2007) found that PWDs are engaged in substance abuse which is closely linked to risky sexual behavior and HIV. Twenty five percent of PWD self reported to be current users of at least one substance of abuse. Alcohol is the most abused substance by 12% of PWD, 15% deaf, 10% blind and 9% PWMD. There were indications that
PWDs are also used to peddle drugs. The study indicated a relationship between PWD substance abuse and risky sexual behavior.

All authors agree that people with disability perceive themselves as particularly vulnerable to contracting HIV. This study showed that students with disabilities are at risk and are vulnerable. Thus, accessibility to HIV and AIDS information may help them to live positively and to follow their lessons. Whilst, the reviewed studies instituted how people with disabilities are at risk of HIV and AIDS, the empirical studies are devoid of focus on students with disabilities specifically due to the extent to which information about the modes of transmission, symptoms and prevention reach them. The extent of students with disabilities inclusion in the HIV and AIDS awareness raising campaigns remains not established.

2.1.1.2 People with Disabilities are Sexually Active

The myth that persons with disabilities are asexual (Craft, 1987), or alternatively sexually uninhibited and inappropriate (Craft, 1987) has resulted in a reluctance on the part of carers to provide sex education, as it is either perceived as being unnecessary or potentially dangerous (Craft, 1987; Heyman & Huckle, 1995). The reality is that persons with disabilities are sexually active and at a higher risk of violence and rape (Groce, 2004; Yousafzai & Edouard, 2004; Mulindwa, 2003).
Groce (2004) analysed over a thousand responses from 57 countries and sought to identify the specific barriers experienced by people with disabilities in accessing HIV and AIDS services. Findings from this study suggest that people with disabilities have infection rates comparable to, and quite possibly significantly higher than, rates found in the general public.

According to Mulindwa’s (2003) research on reproductive health and HIV and AIDS among persons with disabilities in Kampala, Katakwi and Rakai districts (knowledge, attitudes and practices) 85% and 82% of women and men in the sample have ever engaged in sex. Women with disabilities aged 16 years than the men aged 18 years had sex earlier. The median age at first sexual activity is 16 years for the rural PWDs compared to 17 years for their urban counterparts.

Mulindwa (2003) also noted that rural women with disabilities in Katakwi District started sexual activity much earlier when they were fifteen years old. The highest proportion (79% of men and 59% of women) started sexual activity just out of desire to have sex. However, 22% of women with disabilities in Kampala and Rakai Districts reported to have been raped on their first sexual encounter. Men with disabilities (22%) than Women with disabilities (16%) had ever engaged in sex for gain. District specific results revealed that this is much higher in Kampala District where 44% of men and 39% of women had ever engaged in sex for gain.
Yousafzai and Edouard, (2004) said that little attention has been given to the risk of HIV and AIDS for individuals who have a physical, sensory, intellectual, or mental health disability before becoming infected. HIV and AIDS Organizations in Rwanda carry out HIV and AIDS general awareness interventions in a wide range or approaches and models but not specifically to people living with disabilities. This is the case of CARE INTERNATIONAL; Concern worldwide, etcetera. But, a large number of studies indicate that people with disabilities are actually at increased risk for every known risk factor for HIV and AIDS.

Reference to the same above authors, Yousafzai and Edouard, (2004), shows that despite the assumption that people with disabilities are sexually inactive, those with disability and women with disabilities in particular, are likely to have more sexual partners than their peers without disabilities. Extreme poverty and social sanctions against marrying women with disabilities mean that they are likely to become involved in a series of unstable relationships. Individuals with disabilities (both male and female) around the world are more likely to be victims of sexual abuse and rape than their peers without disabilities.

Groce and Trasi, (2004) writing on Rape of individuals with disability: AIDS and the folk belief of virgin cleansing, said that the misinformation can be traced to stories reported anecdotally suggesting that having sex with a woman with disability can cure AIDS. Such myths increased the risk rate of abuse and targeted rape on people with disabilities. There have also been reports of
traditional healers who sometimes tell their HIV and AIDS patients that having sex with an individual with disability could potentially free somebody from HIV. This is generally built on the “virgin myths or virgin cleansing where a individual with disability and a newly born baby girl are considered “pure”.

The opinion of Groce (2004); Yousafzai and Edouards (2004); Mulindwa (2003) and Groce and Trasi (2004) was that people with disabilities are sexually active and are at high risk of violence and rape. In fact, when a person lives with hearing impairment or visual impairment, the other parts of the body like genital organs are not affected. For hearing impairment, the most crucial problem is their inability to obtain information due to communication difficulties. For persons with visual impairment, the disability itself does not inhibit genital functioning. The persons with visual impairment lack adequate sex knowledge because of lack of social integration. Persons with visual impairment must be taught verbally because our society hinders tactile exploration of the body.

While it is sometimes thought that PWD are not sexually active, a study by Munthali et al, (2004), writing on effective HIV and AIDS and reproductive health information to people with disabilities in the University of Malawi revealed that 76% of the respondents were or has been sexually active. Dawood, Bhagwanjee, Govender and Chohan (2006) focusing on Knowledge, attitudes and sexual practices of adolescents with mild mental retardation, in
relation to HIV and AIDS adolescents in the Kenyan study, revealed that 29% of people with disabilities had had sex before the age of 16. Touko’s study on Sexual behaviour and prevalence rate among the young deaf population in Cameroon in 2008 (126 deaf participants) revealed that the average age for first sexual encounters in deaf people in Cameroon was about a year earlier than the national average (16.5 years).

Empirically, studies show that young people with disabilities are sexually active in similar ways to people without disabilities. In fact, large Swedish studies report an earlier age of sexual debut for adolescents with disabilities than their peers without disabilities: 57 per cent of girls had had sex and 39 per cent of boys with disabilities (2007 study of 15-16-year –old participants in mainstream education, N= 2839): it was even higher for girls (60 per cent) and boys (50 per cent) with two or more disabilities (Brunnberg, Bostrom & Berglund, 2009).

The studies done by Munthali et al. (2004); Dawood et al. (2006); Touko (2008) and Brunnberg et al. (2009) also indicated that people with disabilities are sexually active and sex education is important for people with disabilities. Students with hearing impairments have difficulty sharing with their parents about sexual information when the parents are not using sign language. Students with visual impairment need audio-tactile resources to supplement their knowledge obtained through peers and others. A study from Sierra Leone
found that 71 per cent of people with mild to moderate disabilities and 58 per cent of people with severe disability had been sexually active in the previous year, as compared to 92 per cent of adults without disabilities (Trani et al., 2010).

Summarily, people with disabilities are sexually active and a prevention program relevant to students with disabilities will bridge the gap created by different misconceptions since sometimes prevention programs for students without disabilities are devised without taking into consideration those with disabilities. Hence, the current study sought to establish how information access interventions include the status of students with disabilities.

2.1.3 People with Disabilities are a Vulnerable Group

According to Amuyunzu-Nyamongo (2001), people with disability form a category of vulnerable groups yet they are rarely considered in reproductive health discourses. The vulnerability of these members of the society emanates from their inability to access services such as education, health and career development. The researchers found that sexual abuse of people with mental disability was high and yet the abusers were never apprehended.

People with disabilities are a vulnerable group due to a number of factors, some of which have been mentioned in the world survey on HIV and AIDS.
and disability, conducted by Groce (2004): Are more likely to believe in wrong modes of transmission; Are less likely to receive information and resources to ensure “safer sex” because common prevention programs do not include disability-specific approaches; Are more likely to be excluded from or deprived of education, particularly sex education; Are at increased risk of violence and rape and have less access to testing and treatment because transport and medication might be unaffordable, clinics might not be not accessible, voluntary counselling and testing might not be disability specific, or counselling may violate basic requirements of confidentiality.

People with disabilities are often assigned a low social status and in some cases are considered worthless. Their access to reproductive health care is minimal and as a result they suffer greater vulnerability to reproductive health problems. There is a lack of awareness regarding women with disabilities and reproductive health needs. More often than not, it is assumed that they do not form part of the target groups because being persons with disabilities is associated with being sexless (DFID, 2000).

Munthali et al, (2004) writing on Effective HIV and AIDS and reproductive health information to people with disabilities and Department for International Development (DFID), (2000) state that, there is lack of knowledge of disability and awareness of disability issues among AIDS workers, government ministers and NGOs. These groups are unfamiliar with disability issues and, as already
mentioned, they are unaware that people with disabilities are sexually active or otherwise at risk. Most of these groups view individuals with disabilities largely as a medically dependent, childlike population, isolated from the real world.

The preceding discourse regarding researches done by Amuyunzu-Nyamongo (2001); Groce (2004); Munthali et al. (2004) and DFID (2000) confirmed the vulnerability of people with disabilities because of lack of information and services about HIV and AIDS and the risk of violence and rape. People with disabilities have difficulty in obtaining information because there is no transcription of written material to audio-tape or to Braille, and films for hearing impaired are not captioned. This is a shared view with Mulindwa (2003) who contends that some people with disabilities, with some exceptions, are aware of HIV in most countries and perceive themselves as particularly vulnerable to contracting HIV.

Findings from Mulindwa (2003) indicate that PWDs in Uganda are faced with a number of reproductive health problems some of them rendering them more vulnerable to HIV and AIDS, while others exacerbate their already low socio-economic status in the community. Results from this study indicate that the blind, and the deaf and dumb are very vulnerable to forced sex and rape. The former cannot identify the assailants particularly strangers while the latter cannot effectively communicate and thus find it hard to obtain protection when faced
with such situations. This predisposes them to a high risk of contracting HIV and AIDS and other STIs. Other persons with other forms of disability are also often raped because they are weak and cannot fight their assailants.

Mulindwa (2003) also found that traditional practices, which predispose women with disabilities to a number of reproductive health problems, are classified among the causes of HIV and AIDS infection. Such practices include visits to shrines, forced marriages, widow inheritance and sharing of wives among brothers. Key informants also cited tattooing as a cultural practice in some PWDs lack general awareness and information on reproductive health mainly because they have been excluded from these programs by both government and development partners. Information generated reflects on the lack of knowledge regarding protective measures like condom use, family planning/contraception and sexually transmitted infections.

In the research done by Steadman group (2007) on HIV and AIDS knowledge, attitude and practice an accessibility study in Kenya, they found that 10% PWDs (blind, deaf and physically challenged) have ever been a victim of rape in the lifetime. Women are more vulnerable to rape with an incidence of 15% compared to men at 6%. However, given that the general perception that men are not sexually violated, men with disabilities reported that they have been a victim of rape, with deaf rated at 13%, blind 12% and PWPD at 5%. The research substantiates that PWD are engaged in substance abuse which is
closely related to risky sexual behavior. They are also vulnerable to be used as drug supply agents. Some communities in Western Kenya carry out cleansing ceremonies after death of a man leaving behind a window who cannot be remarried. The Steadman group (2007) instituted that part of the cleansing ceremony entails engaging in sex with the window. In the past some community members used to carry out the ritual. But with increased awareness on the dangers of contracting HIV through such rituals, community members are hesitant to be involved. Persons with disability are taken advantage of by the society to facilitate cleansing ceremonies making them vulnerable to HIV infection.

The two studies done by Mulindwa (2003) and Steadman group (2007) were congruent with the findings of other researches reviewed in these study that observed that PWDs are vulnerable because of many factors like drug abuse and rape, which leads to why accurate information about sexuality should be given to them. However, the studies seem wanting in terms of assessment of the vulnerability of students with disabilities and ways through which information about HIV and AIDS should reach them.
2. 1.1.4 People with Disabilities Consider Themselves at Risk

Kanyesigye, Anguria and Mbabazi (2007) unveil that a study done in Uganda focused on the extent to which individuals with disabilities think they are at risk and their perception of PWDs vulnerability to HIV as a social category in general. It was established that at individual level, PWDs had a high conviction that it is possible for them to contract HIV and AIDS (63%) yet at the same time viewed PWDs as a social category to be at a low risk (22%). There was a small percentage of 13 who could not tell whether PWDs were at risk or not. If people with disabilities do not consider themselves to be at risk, then directed programming is likely to fail. When persons with disabilities were asked if they believed that they were at risk for HIV and AIDS, 89.7% of males and 86.8% of females said ‘No’ (Munthali et al., 2004).

In Mulindwa’s study (2003) on reproductive health and HIV and AIDS among persons with disabilities in Kampala, Katakwi and Raikai districts in Uganda, the results showed that 56% of males and 45% females did not believe themselves to be at risk. However, further on in the Munthali et al. Study (2004), on Effective HIV and AIDS and reproductive health information to people with disabilities in Malawi, a total of 33% of respondents felt that there was a possibility of contracting HIV and AIDS because they did not know their partners’ past lifestyle. This contradiction seems to demonstrate that there is confusion among some persons with disabilities as to their perceived risk. For some persons with disabilities, failure to recognize that they are at risk stems
from denial and fear. Some people with disabilities worry that an HIV positive status would become a ‘double burden’ (Groce, 2004). The findings of Kanyesigye, Anguria and Mbabazi (2007); Munthali et al. (2004) and Mulindwa (2003) revealed that PWDs are at risk of contracting HIV and AIDS and consider themselves at risk; that is why access to information for PWDs is of paramount importance.

Groce (2003) puts out that many people believe that persons with disabilities are not sexually active. However, people with disabilities may be at an increased risk for a range of factors, including the greater likelihood of being sexually abused and the lesser likelihood of marrying because of social taboos. This is stressed by Groce and Trasi, (2004) and Groce et al. (2004) in that people with disabilities have a two to threefold risk of being raped than do those without disabilities. According to Rohleder’s (2008) study on HIV and AIDS and disability in South Africa, the respondents said that persons with disabilities were at risk of contracting HIV, with half stating that they thought there was an increased risk of contracting HIV.

As reviewed above and established by different scholars, people with disabilities recognize that they are at risk of HIV and AIDS. But these studies fell short of information on how students with disabilities feel about being at risk or not vis-à-vis HIV and AIDS pandemic, which motivated the current study. Collecting information on students with disabilities feel about this
pandemic would help develop and disseminate a robust set of interventions for such category of students.

2.1.2 Physical Barriers

According to Silbiger (2006), HIV and AIDS prevention measures can be inaccessible in two major ways. One is the physical inaccessibility of the program locations that prevent persons with disabilities from being able to reach or enter the buildings (SAFAIDS, 2003; Kaya, 1999). The second is inaccessibility of materials. For many persons with disabilities, their inability to access HIV and AIDS prevention information is related to the formats in which this information is supplied. One common method for providing information about HIV and AIDS in Sub-Saharan Africa is through radio campaigns. Radios are more accessible to people living in rural areas, and are more affordable than televisions. Through both radio programs and TV commercials, mass-media campaigns using radio are the most common measures used by African governments. Unfortunately, many people with disabilities are unable to afford radios (Yousafzai & Edwards, 2004; Mulindwa, 2003). Also, radio campaigns cannot reach people with hearing impairments (Groce, 2004; Munthali et al., 2004).

Munthali et al. (2004), writing on Effective HIV and AIDS and Reproductive Health Information to People with Disabilities in University
of Malawi, said that while a lot of information, education and communication activities are taking place in the country, aiming at informing Malawians about HIV and AIDS so that they can make informed and appropriate decisions about the pandemic, access to information on HIV and AIDS by people with disabilities seems to be very limited. People with physical disabilities fail to access information and education due to physical barriers, among other things.

The results from the above study by Munthali et al. (2004) show that the majority of the respondents (98.2%) said that they communicated with others through speech because they were able to talk and hear while 1.8% said that they use sign language and this was mainly because they had hearing and speech problems. Ninety four percent of the respondents said that it was easy to communicate with others while the rest said that it was not. For those who said that it was not easy, they explained that it was mainly because they had hearing and Speech problems. Radio, television, drama, posters, print and electronic media etc. constitute some of the very common ways of communicating messages of HIV and AIDS. The study showed that approximately 84% of the respondents had access to the radio and this was mainly those respondents with physical impairments, 5.9% had access to television, 45.2% to drama, 44% posters, 27.9% to the print media.
Other studies for example Mulindwa (2003) and Hanass-Hancock (2008) revealed that people with disabilities experience barriers to prevention, interventions and treatment. In the study of Phillander and Swartz (2006) on Needs, Barriers, and Concerns Regarding HIV Prevention among South Africans with Visual Impairments, the majority of participants (67%) believed that concern about HIV infection is growing among people with visual impairments. All respondents highlighted their frustration with workshops that are designed for sighted people, which, they said, marginalized the needs of people with visual impairments and offered materials in inaccessible formats. Some participants (27%) stated that many people with visual impairments are in denial, believing that their disability protects them from HIV. All the participants thought that HIV and AIDS prevention programs that are tailored to the needs of people who are visually impaired are essential. They further contended that people with visual impairments should participate in the design of interventions for their own community. Only 20% were aware of any HIV and AIDS prevention initiatives for people with visual impairments.

In a study done by Phillander and Swarts (2006) on Needs, barriers, and concerns regarding HIV prevention among South Africans with visual impairments, participants emphasized that Braille and audiotapes are necessary to make AIDS services accessible to people with visual impairments. This implies that appropriate means of information are necessary to allow students with disabilities get HIV and AIDS information.
Yousafzai and Edouard, (2004) writing on a situation analysis of HIV and AIDS and young people with disabilities in Rwanda and Uganda said that people with physical disabilities experienced barriers such as inaccessible HIV testing and counseling centres. The results of the survey indicated a high level of concern about HIV and AIDS as a risk for persons with disabilities. These results were in tandem with what was found by Otte, Maas, de Boer (2008) when the established that the majority of organizations and schools were involved in providing HIV prevention education. However, most organizations and schools felt that persons with disabilities were excluded from general HIV prevention campaigns, and were thus receiving less information. Clinics are physically inaccessible, and transport unaffordable or not suitable for wheelchair users.

In the research done by Groce (2004) writing on HIV and AIDS and disability, he found that People with disability were not being reached because lack of education inhibits ability to obtain and process information. The information is also in inaccessible formats where radio campaigns miss the deaf, billboards do not reach the blind, complex or vague messages do not reach those with intellectual impairments and clinics/services are inaccessible.

According to Langford, Summer and Yamin (2013), physical barriers to facilities in which HIV prevention, voluntary counselling and testing (VCT), treatment, and care are provided limit access for persons with mobility impairments. Likewise, transport may be unavailable or inaccessible to persons...
with disabilities. Communication barriers limit deaf persons’ access to HIV and AIDS messaging, such as radio programming.

The studies done by Langford, Summer and Yamin (2013) and Silbiger (2006) emphasized that there was lack of appropriate infrastructure for enabling PWDs to access buildings and other places with ease. These researchers also observed that there was increasing inaccessibility of materials. Other researchers like Groce (2004) and Philander and Swartz (2006) found out that some materials were in format which was inaccessible to PWDs. Munthali et al. (2004), Yousafzai and Edouard (2004) and Otte, Maas, and de Boer (2008) indicated that PWDs fail to access information and education due to physical barriers. The services should be accessible to individuals with disabilities and all physical barriers should be corrected.

The above studies concentrated on physical barriers for people with disabilities in general. However, these barriers are different for various categories of people with disabilities including students who in turn include students with visual, hearing and physical disabilities. Thus, the current study sought to address the gap concerning disability-specific HIV and AIDS prevention programmes in accessible format for each type of disabilities among students.
2.2 Knowledge about HIV and AIDS among Students with Disabilities in Relation to Symptoms, Transmission and Prevention

Students with disabilities have limited access to information about HIV and AIDS in relation to symptoms, transmission and prevention. Available surveys on HIV and AIDS knowledge, attitudes and practices conducted in Ethiopia, show that unlike a high level of awareness about HIV and AIDS, many people lack adequate know-how about HIV preventions and transmission as well as have misconceptions (Mehajeb, 2007). Research among youth with physical disabilities in South Africa and key informants working with persons with visual impairments, suggests that there is limited knowledge about HIV and AIDS (Philander & Swartz, 2006).

2.2.1 Knowledge of HIV Transmission

Surveys, not surprisingly, reveal that people with disabilities have less knowledge about HIV and AIDS than other people. Part of the world survey provided data indicating that deaf participants are more likely to believe in incorrect modes of transmission ($P < 0.05$), like kissing, hugging, touching or sharing dishes (Groce et al., 2003).

Likewise, Otte et al. (2008) in a study on Comparison of knowledge and accessibility to information sources of HIV and AIDS between blind and
sighted populations in Nigeria including a comparison group revealed similar data about blind adolescents in Nigeria. The study found that blind adolescents are prone to believing in wrong modes of transmission and prevention ($P = 0.001$).

The studies done by Groce et al. (2003) and Otte et al., (2008) indicated that adolescents believed in incorrect modes of HIV and AIDS transmission. This shows that there is a gap in accessibility to information and lack of accessibility to programs within the community.

Giros’s study (2004) about three HIV and AIDS prevention programs for people with disabilities in Kenya reveals that although 86% of the deaf respondents were aware of HIV and AIDS and its transmission, some still believed in false modes of infection: “41% named biting of mosquitoes, kissing (39.6%), and sharing of eating and drinking utensils with HIV positive persons (26.4%) as possible ways of transmission”.

According to a report by Steadman group (2007), “Sexual transmission through unprotected sex with infected partners and using unsterilized piercing/sharp objects are the most known mode of transmission (97% and 95% respectively). Awareness of these two modes is similar across region, age, gender and type of disability. Other ways of HIV and AIDS transmission are through unsafe blood transfusion (47%), Mother to Child Transmission (MTCT) (21%) and kissing (6%)”. The study noted that 35% of people with disabilities have a
misconception that HIV can be transmitted through sharing bowls/utensils with infected persons. This misconception may lead to discrimination against persons living with HIV and AIDS. It clearly appears that some people with disabilities have the right knowledge about HIV and AIDS transmission as in Nigeria and Kenya where probably the policy about people with disabilities is very well streamlined, however in the case of Rwanda there is still a long way to go and this justifies the raison d’être of this study.

2.2.2 Knowledge about HIV and AIDS among Students with Disabilities in Relation to Prevention

Touko’s study in Cameroon in 2008 (126 deaf participants) related to prevention of HIV and AIDS indicates that about 47% of deaf people used condoms the last time they had sex. A study done in Uganda by Mulindwa (2003) reveals that only 24% of men and 10% of women with disabilities use condoms. As a result, not only HIV, but also other sexually transmitted infections (STIs), have become a problem.

The two studies of Touko (2008) and Mulindwa (2003) revealed that the knowledge about the prevention of HIV and AIDS among people with disabilities was still low. The problem is that when media and health organizations disseminate information to the general population, there is an assumption that people with disabilities will also get that information. However, among the general public, there are people with hearing impairment,
visual impairment and physical disabilities. For example students with visual impairment will get information given in Braille, in large print, or audio format.

According to Philander and Swartz (2008), writing on Needs, Barriers, and Concerns Regarding HIV Prevention among South Africans with Visual Impairments said that all the participants considered HIV and AIDS to be a serious problem, and all believed that prevention is crucial. Furthermore, they thought that inadequate education, the lack of accessible information, and the ignorance of sighted people of the sexuality of people with visual impairments foster conditions that are conducive to risky behavior.

The author above, Philander and Swartz (2008), goes on to say that illiteracy, the inability to read Braille, impoverishment, and different levels of development are areas that need attention, as does mistrust of sighted people by people who are visually impaired, which is understandable, given their history of exploitation and marginalization. The participants stressed the needs of women and girls for enhanced self-esteem and relationship skills.

In this South African context, people with visual impairments as insufficiently concerned about the risks of HIV—risks that are exacerbated by myths that are held both by the general population (for example, virgin cleansing) and by people with visual impairments (such as that only prostitutes, homosexuals, or prisoners contract HIV and AIDS). Sixty percent of the participants (most of
whom were visually impaired) apparently believed what is often regarded as a stigmatizing myth about people with visual impairments—that increased communication based on touch leads to greater promiscuity. Such beliefs must be addressed in interventions (Philander & Swartz, 2008).

In their research, Eide et al., (2011), give a number of questions about known ways of preventing HIV infection: can you tell me all the ways you know that HIV infection can be prevented?”, with answer category ‘yes’ confirmed knowledge, and ‘no’ implied that they did not know. Respondents confirmed knowledge in the following consecutive order (n, %): (1) Using condoms (220, 77.2%), (2) Abstaining from sex (122, 42.8%), (3) Sticking to one partner (132, 46.3%), (4) Avoid contact with blood, using gloves when touching blood (101, 35.4%), (5) Not having sex before marriage (74, 26.1%), (6) Not sharing toothbrushes (48, 16.9%), (7) Using drugs to prevent transmission from mother to child (48, 16.8%), (8) Taking antiretroviral drugs (48, 16.8%), (9) Having fewer sex partners (30, 10.6%), (10) Male circumcision (18, 6.3%).

University students have unique risk factors for infection. They are often away from their families, leading to decreased supervision, with greater exposure to peer pressure and stress as they transition into adulthood and sexual maturity (Arowojolu & Ilesanmi, 2002). At the same time, condom use is low; a survey in Madagascar found that only 5.7% of sexually active students were using condoms regularly (Rahamefy, Rivard & Ravaoarinoro, 2008). Testing is also a challenge, as studies in Tanzania found that students were concerned about
confidentiality and stigmatization (Maswanya, Brown & Merriman, 2009). There is a gap of lack of accessibility to HIV and AIDS information because condom use is low and testing is also a challenge.

2.2.3 Knowledge about HIV and AIDS among Students with Disabilities in Relation to Symptoms

Many individuals with disability are not reached with HIV and AIDS messages, are unaware of the symptoms of HIV and AIDS, and do not understand the implications of these symptoms, should they appear. Many who depend on others for transportation or sign language interpretation report delaying seeking testing or care even after symptoms appear because of reluctance to disclose personal sexual history. There is anecdotal evidence from many countries of individuals with disability coming to clinics with full-blown AIDS only days before death; many others die without diagnosis or care (Groce, 2005).

Beyond this, Groce (2005) affirms that accessing medical, social, or legal services is often beyond the capability of ailing individuals with disability who lack education, communication skills, and support networks. Finally, where access to AIDS medications or health services are not sensitive to human rights considerations and are prioritized in terms of "quality of life" or "contribution to society," individuals with disability are too often placed at the bottom of the list.
Groce et al. (2003) state that the respondents described a range of HIV symptoms. Both groups reported a set of common symptoms such as weight loss, sores, weakness and vomiting as well as tuberculosis, diarrhoea and hair thinning. Interestingly, deaf respondents listed an additional set of symptoms that were largely descriptive in nature: pimples, swelling, hot urine, penis falling off and liver rotting. By contrast, the hearing respondents listed specific clinical diagnoses: thrush, pneumonia and fluid loss. None of the hearing respondents reported the list of symptoms described by the deaf.

Apparently, there are still gaps in prevention and lack of professional literature available on the subject in Rwanda. In Rwanda, the 2009-2012 National Strategic Plan (NSP) identified several categories of population at risk, including female sex workers, truck drivers, prisoners, men having sex with men and HIV sero-discordant couples but not people with disabilities in general and particularly among students with disabilities.

2.3 The Sources of Information on HIV and AIDS among Students with Disabilities.

Knowledge of HIV and AIDS is directly related to accessible sources of information. There are many sources of information on HIV and AIDS such as radio, television, newspapers, seminars, health centers, church, school, family. Source of information varies across the disability (Steadman Group, 2007).
Figure 3.1: Sources of information on HIV and AIDS among students with disabilities

According to Yousafzai and Edouards (2004), the information about HIV and AIDS come from a number of sources. By far the most popular source was the radio. Although radios were the most commonly cited source of information, poorer and particularly people with disabilities (i.e. deaf people) had no access to radios. HIV and AIDS organizations have to develop Audio/sound materials that have been well elaborated in collaboration with persons with visual impairments organizations, and produce audio cassette tapes.

In a research done by Dawood et al. (2006) writing on Knowledge, attitudes and sexual practices of adolescents with mild mental retardation, participants indicated a high degree of exposure to various sources of information,
particularly media messages. Dawood et al. (2006) spotted out preferred sources of information on HIV and AIDS included television (84%), teachers (39%), friends (32%) and parents (28%), with a minority of participants preferring print media (20%), radio (12%) and siblings (11%). The majority of learners indicated that their parents (45%) and their doctor (38%) served as their primary sources of support, with a minority indicating that friends (10%) and siblings (7%) served as their preferred sources of support. The majority of participants indicated a preference for medical experts (31%) and teachers (30%) as the prime medium for the delivery of school-based HIV and AIDS educational interventions, with less than 1 in 10 favoring films (9%), peers (8%) and exposure to people living with HIV and AIDS (7%) as preferred channels for school-based HIV and AIDS education interventions.

According to Kanyesigye, Anguria and Mbabazi (2007), writing on promotion of disability into Uganda’s National HIV and AIDS response, the findings showed that PWDs are exposed to numerous sources of information on HIV and AIDS. The main sources of information mentioned were radios accounting for 79%, friends (49%) and health workers (31%). Other significant sources included parents (18%), community meetings (15%), sensitisation workshops (14%), burial ceremonies and newspapers (12%) and schools (10%). While friends were among the second largest source of HIV and AIDS information among PWDS, analysis of district level data revealed that it was higher in Masaka and Soroti but quite low in Gulu. In these findings, there is an undertone of the fact that PWDs are exposed to many sources of information.
According to Steadman Group (2007), the source of information varies across the disability. Radio is dominantly a major source of information for the blind (84%) and the PWPD (83%). This also compares to radio ownership of 72% for the blind and 76% for physically challenged. During the interviews some PWPD had radios tied to their wheel chair. Disability support groups (42%) and family/friend (41%) are popular across the disability category but more so for the deaf. PWPD had a higher proportion mention of TV at 38% compared to blind (12%) and deaf (24%). Unique to other disabilities 27% of the deaf mentioned seminars/workshops which was far higher compared to the blind (3%) and physically challenged (1%).

When asked to prioritize the most important source of HIV and AIDS information, Steadman Group (2007), goes on to say, the study participants revealed that there is a clear preference of the radio by the blind (41%) and the physically challenged (35%). However, the deaf prefer several modes of information which are mainly person to person communication; disability support group (15%), seminars (15%) and family/friends (13%). Family and friends was considered the most important source of HIV and AIDS information by 15% of the blind.

A research done by Munthali et al. (2004), writing on effective HIV and AIDS and reproductive health information to people with disabilities showed that most of the respondents first heard about HIV and AIDS
through the radio and this was followed by health facilities and friends. The other sources of information included teachers, peer groups, religious leaders and NGOs. Only one person had heard about AIDS from sign language. People who were visually impaired never heard about HIV and AIDS through printed material.

In actual fact, there exist many sources of HIV and AIDS information on which some people with disabilities had access to while others did not. Nevertheless, the spotted gap is no reviewed study sought to establish which source of information are appropriate to different types of disabilities among PWDs in general and specifically among students with disabilities in higher education. The use of preferred sources of HIV and AIDS information has been identified as a potential powerful tool in future HIV and AIDS prevention efforts and the effectiveness of channels to disseminate knowledge depending on the type of disabilities.
2.4 Communication Strategies used to Disseminate Information on HIV and AIDS to Students with Disabilities

There are several types of disabilities. The communication strategy concerning information about the HIV and AIDS pandemic may be different depending on the disability.

According to Pronk (2009), in a study on Practices regarding HIV and AIDS for people with disabilities, there are successful approaches utilized by various programs to enhance awareness including peer education (peer led informal discussions on sexuality, decision-making and sex negotiation skills and use of diverse techniques, for example through condom demonstrations) and behaviour change communication (BCC) such as posters, banners for the hearing impairment and Braille, large print, audio CDs and tapes with a recording of HIV information.

For many people living with physical disabilities, lack of access to sexual health care services is the greatest impediment to protecting themselves against HIV and other sexually transmitted infections. Transportation to and from health care providers can present significant obstacles. Structural modifications in existing HIV service delivery stations to facilitate ease of movement are needed (Pronk, 2009).
Kochung and Were (2010) did a study examining implications of communication formats on HIV and AIDS information to persons with disability in Kenya. Data for this study was collected specifically from blind and deaf students through interview and focus group discussion. Results indicated that people who are blind or deaf do not access HIV and AIDS information given to the general population and that language used is complicated and technical. HIV and AIDS information should be provided through accessible disability-friendly communication formats such as talking computers, Braille, sign language and symbols.

In research done by Groce et al. (2003), writing on HIV and AIDS and Disability among a Deaf Population in Swaziland, they said that a unique aspect of deafness is the barrier in communication that forms a profound gulf in communication with peers without disabilities. Sign language acquisition usually does not take place however, until a deaf individual enters school, unless family members are deaf and already use sign in the home.

Groce et al. (2003) comments on the above findings saying that the acquisition of the local spoken language is significantly delayed for deaf individuals and their ability to speak and read the local spoken language is frequently restricted. Because of this, discussion with hearing family and friends is often limited (unless they are sign language users), and the everyday discussions that are overheard on the streets and in the marketplaces – places where remarks about HIV and AIDS often create an awareness and a concern – are missing.
As a result, deaf populations tend to have low levels of literacy, to be poorly educated and highly marginalized. Low literacy levels result in little reliance on newspapers, magazines and billboards. This is particularly problematic because other sources of information, such as AIDS messages carried over television and radio, often do not reach deaf individuals. Furthermore, Groce et al. (2003) uncovered that the use of sign language fosters intense relationships within the deaf community, thus fueling an often highly inbred social network that complicates the picture.

Additionally, the "deaf grape vine," the tight network of stories, gossip and folklore that are part of all deaf communities, further complicates discussion of AIDS, where as is the case in similar small, closed networks, misinformation can be repeated and reinforced. Finally, confusion caused by the actual translation of HIV and AIDS messages into sign language without adequate understanding of the local sign language or deaf community is also of concern because of potential inaccuracies. For example, there are recent reports that "HIV positive" is being misinterpreted by deaf individuals in a number of countries as a good (positive) diagnosis (Groce, et al., 2003).

The findings of Pronk (2009); Kochung and Were (2010) and Groce et al. (2003) indicated that PWDs are not receiving HIV and AIDS information like persons without disabilities. Some of these authors further observed that students with hearing impairment have barrier in communication while other authors suggested
that the solution to the communication barrier lay in peer education and behavior change communication.

According to Groce (2004), persons who are deaf or blind normally cannot access information through vision or hearing. While those who are blind do not benefit much from the information given through prints, large billboards, internet and televisions, the deaf do not gain from information given through radios verbal lectures and televisions.

In the research done by Phillander and Swartz (2006) concerning Needs, barriers and concerns regarding HIV and AIDS prevention among South Africans with visual impairments, the participants emphasized the need for accessible formats, such as braille and audiotapes. All respondents highlighted their frustration with workshops that are designed for sighted people, which, they said, marginalized the needs of people with visual impairments and offered materials in inaccessible formats.

According to Hanass-Hancock (2008), on the notion of disability in the context of HIV and AIDS in Kwazulu-Natal, the researcher said that” there is a lack of appropriate material that can provide for the special needs of people with disabilities. There is either no sign interpreter available or the material is too visual for blind people or too complex for people with learning disabilities. For people with physical disabilities the question of condom use
can be a problem, as their condition can make it impossible to use a female or male condom on their own”.

Logically different means of communication of HIV and AIDS information among people with disabilities were discussed by above studies. Yet, the researcher identified that no particular attention was given to students with disabilities focusing on different types of disabilities in institutions of higher learning, which inspired the present study. Students with visual, hearing and physical impairments may need being communicated about HIV and AIDS in different ways if the fight against such a pandemic is to succeed among these categories of students.

2.5 Summary and Gaps Identification

This chapter reviewed the scholarly works on influence of disability on access to HIV and AIDS information among students with disabilities. Summarily, it was found that there exist attitudinal and physical barriers that hinder access to HIV and AIDS information among PWDs. It was also found that knowledge about HIV and AIDS in relation to transmission, prevention and symptoms and source of information and communication strategies to disseminate information about HIV and AIDS vary across different types of disabilities.

However, some gaps were identified and the researcher attempted to bridge them in the current study. First, it was identified that though it was established
that attitudes constitute barriers to access of information about HIV and AIDS among people with disabilities, the extent to which attitudes prevent students with disabilities from accessing HIV and AIDS information was not empirically instituted. This motivated the present study with intent to go farther and institute how attitudes contribute to the lack of access to information about HIV and AIDS focusing on Rwandan institutions of higher education.

Secondly, despite the fact that the reviewed studies showed how people with disabilities are at risk of HIV and AIDS, which needs being adequately informed about this pandemic so as to secure them from infection, the empirical studies did not give room to students with disabilities that specifically focuses to the extent to which information about the modes of transmission, symptoms and prevention reach them. It remains not established how the inclusion of students with disabilities in the HIV and AIDS awareness raising campaigns was given attention.

Thirdly, studies established that PWDs are vulnerable, which raised suggestions that accurate information about sexuality should be given to them. However, the studies did not assess the vulnerability among students with disabilities and ways through which information about HIV and AIDS should reach them.

Fourth, scholars undertook studies to determine the feeling of being at risk of HIV and AIDS among PWDs and the findings revealed that these people
recognize they are at risk. Nevertheless, studies of this kind with special focus on students with disabilities were not given attention, which motivated the current study.

Fifth, studies on physical barriers to accessing information about HIV and AIDS examined this phenomenon among PWDs in general without special focus on students with disabilities neither within academic milieu nor on various types of disabilities such as students with visual, hearing and physical disabilities. Consequently, the current study was an endeavour to bridge this gap concerning disability-specific HIV and AIDS prevention programmes in accessible format for each type of disabilities among students.

Additionally, studies on the sources of information revealed that there are many sources by means of which PWDs can access information about HIV and AIDS. However, these studies lack focus on the appropriateness of the sources of information according to different types of disabilities neither among PWDs in general and nor specifically among students in higher education.

The same, different means of communication of HIV and AIDS information among PWDs were identified by the previous studies. Yet, the researcher spotted the lack of attention peculiar to students with disabilities considered in terms of the different types of disabilities, which triggered the present study.
Last but not least, there is a dearth of professional literature available on the subject in Rwanda. In Rwanda, the 2009-2012 National Strategic Plan (NSP) identified several populations at risk, including female sex workers, truck drivers, prisoners, men having sex with men and HIV sero-discordant couples but not people with disabilities in general and particularly students with disabilities.
CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the research design, variables, location of the study, target population, sampling techniques and sample size, construction of research instruments, pilot study, validity and reliability, data collection techniques, data analysis and logistical and ethical considerations.

3.1 Research Design

The study used a descriptive survey design to investigate influence of disability on access to HIV and AIDS information by students with disabilities in institutions of higher education in Rwanda. In fact, the survey is the most frequently used research design to collect information to describe a behaviour, type of subject, people’s attitudes, opinions, habits or any of the variety of education or social issues (Orodho, 2009); as it is the case for the present study without manipulating any variables (Amin, 2005; Mugenda & Mugenda, 2003).

The choice of descriptive survey design in this study was also justified by the fact that the researcher was interested in gathering information, summarize, present and interpret them for the purpose of clarification (Orodho, & Kombo,
2002) about the influence of disability on access to HIV and AIDS. This is moreover in light of Borg and Gall (1989) who pointed out that descriptive survey research is intended to produce statistical information about aspects of education that interest policy makers and educators.

3.1.1 Variables

There are many types of variables but the most important, for the vast majority of research methods, are the independent and dependent variables.

3.1.1.1 Independent Variables

The independent variables in the current study are influence of disability which is attitudinal and physical barriers; knowledge about symptoms, transmission and prevention; sources of information about HIV and AIDS and provisions of communication strategies used to disseminate information relating to HIV and AIDS to students with disabilities in institutions of higher education in Rwanda.
3.1.1.2 Dependent Variable

The dependent variable is access to HIV and AIDS information.

3.2 Location of the Study

The study was carried out in the University of Rwanda whose Colleges are located in Kigali City, Huye, Musanze, and Nyagatare districts. Musanze district is in the North Province, Nyagatare district is in the East province, Kigali City is the capital and at the centre of Rwanda while Huye district is in south Province of Rwanda. The location was chosen because these institutions have been enrolling students with disabilities since 2008.

According to Sommers (2012), Rwanda is a sovereign state in East Africa. Rwanda is bordered by Uganda in the North, Tanzania in the East, Burundi in the South, and the Democratic Republic of the Congo in the West. The principal language is Kinyarwanda. In 2012, estimates placed Rwanda’s population at 11,689,696. The population is young: an estimated 42.7% are under the age of 15 years, and 97.5% are under 65 years. The annual birth rate is estimated at 40.2 births per 1,000 inhabitants, and the death rate at 14.9. The life expectancy is 58.02 years.

The industrial sector is small, contributing 14.3% of GDP in 2010. Products manufactured include cement, agricultural products, small-scale beverages,
soap, furniture, shoes, plastic goods, textiles and cigarettes. Rwanda’s mining industry is an important contributor, generating US$93 million in 2008. Minerals mined include cassiterite, wolframite, gold, and coltan. Coltan is used in the manufacture of electronic and communication devices such as mobile phones. Economy is based mostly on subsistence agriculture by local farmers using simple tools. An estimated 90% of the working population farms, and agriculture comprised an estimated 42.1% of GDP in 2010 (Sommers, 2012).

3.3 Target Population

The target population of this study was made of 169 respondents who comprised 154 students with disabilities, 5 deans of students, 5 medical doctors and 5 heads of HIV and AIDS clubs from the University of Rwanda in the academic 2013/2014. All colleges of the University of Rwanda have clinics with full time nurses, doctors and lab technicians who take care of sick students. Medical doctors and deans of students’ services were selected because they have much information about students with disabilities (Mugenda & Mugenda, 1999). Different informant strata are summarized in the table 3.1 below.
### Table 3 - 1. The target population of the study, academic year 2013-2014

<table>
<thead>
<tr>
<th>Colleges</th>
<th>PI</th>
<th>VI</th>
<th>HI</th>
<th>TOT</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Arts and social sciences</td>
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<td>8</td>
<td>16</td>
<td>5</td>
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<tr>
<td>Science and Technology</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>Medicine and Health Sciences</td>
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<td>32</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Business and Economics</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Agriculture, Animal Sciences and Veterinary Medicine</td>
<td>16</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Total of Students with disabilities 65 48 20 7 11 3 96 58 154

Deans of students 5
Medical doctors 5
Heads of HIV and AIDS clubs 5

Total of the target Population 169

Source: UR (2013)

In the Table 3.1 above, depicts how the respondents are represented in different university colleges. The three colleges (Arts and Social Sciences, Business and Economics, Medicine and Health Sciences) have students with physical, visual and hearing impairments. One college (Science and Technology) has students with physical and hearing impairments while the Colleges of Agriculture, Animal Sciences and Veterinary Medicine, have enrolled students with physical disabilities only.
3.4 Sampling Techniques and Sample Size

3.4.1 Sampling Techniques

This study has used two sampling techniques. Primarily, since study had to include different groups or quotas (students, deans of students, medical doctors, heads of HIV and AIDS clubs) of the population of the study based on some criteria, it used quotas sampling. Secondly, purposive sampling allowed the researcher to purposely include all the subjects from the identified quotas because their size was manageable. According to Mugenda and Mugenda, (1999), purposive sampling is a sampling technique that allows a researcher to use cases that have the required information with respect to the objectives of his or her study. Cases of subjects are therefore handpicked because they are informative or they process the required characteristics.

3.4.2 Sample Size

The sample size for this study consisted of 169 informants of whom 154 were students with disabilities, five (5) deans of students, five (5) medical doctors (working in colleges) and 5 heads of HIV and AIDS clubs for each college.
Table 3 - 2. The sample size

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. students</td>
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</tr>
<tr>
<td>Arts and social sciences</td>
<td>43</td>
</tr>
<tr>
<td>Science and Technology</td>
<td>12</td>
</tr>
<tr>
<td>Medicine and Health</td>
<td>63</td>
</tr>
<tr>
<td>Sciences</td>
<td></td>
</tr>
<tr>
<td>Business and Economics</td>
<td>15</td>
</tr>
<tr>
<td>Agriculture, Animal</td>
<td>21</td>
</tr>
<tr>
<td>Sciences and Veterinary</td>
<td></td>
</tr>
<tr>
<td>Medicine</td>
<td></td>
</tr>
<tr>
<td>2. Others</td>
<td></td>
</tr>
<tr>
<td>Deans of students</td>
<td>5</td>
</tr>
<tr>
<td>respondents</td>
<td></td>
</tr>
<tr>
<td>Medical doctors</td>
<td>5</td>
</tr>
<tr>
<td>Heads of HIV and AIDS</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>169</td>
</tr>
</tbody>
</table>

Source: UR (2013)

3.5 Construction of Research Instruments

The questionnaire was adapted from a research report of Munthali, Mvula and Ali (2004) in the University of Malawi entitled Effective HIV and AIDS and Reproductive Health Information to People with Disabilities.
The researcher used questionnaires to collect students’ data from the field. Closed-ended and open-ended questions were used to provide needed information for the study. To supplement the questionnaires, interviews were conducted to gather more in-depth information from the deans of students, medical doctors (working in colleges) and heads of HIV and AIDS clubs.

Sensibly, the questionnaire constituted an impersonal technique used to elicit data from the informants (Leedy, 1993) while also allowing the informants to express their views without fear and answer the question on their pace (Ng, 2004). Additionally, the questionnaire is credited to offer diversified understanding from the study subjects (Hussey & Hussey, 1997).

Logically, there was need to triangulate the quantitative data gathered by means of questionnaire (Creswell, 2012). This required that the researcher utilize an interview guide to collect qualitative data (Creswell, 2012, 2007) that in turn were sided with quantitative data to take the edges off the shortcomings that could originate from the utilization of the questionnaire only (Cohen et al., 2011).

3.5.1 Questionnaire for Students

The questionnaire comprised five sections. The first section was about demographic information of the respondents; the second section consisted of six items relating to research question one; the third section had three items
related to research question two; the fourth section had three items relating to research question three; and the fifth section had two items relating to research question four. According to Orodho (2012), each item in the questionnaire should be developed to address a specific objective and research questions of the study.

3.5.2. Interview for Deans of Students, Medical Doctors and heads of HIV and AIDS clubs

A structured interview schedule was used to collect data from deans of students’ services, medical doctors and heads of HIV and AIDS clubs. This interview schedule comprised five questions meant to solicit information from the deans, medical doctors and heads of HIV and AIDS clubs about lack of HIV and AIDS information among students with disabilities. The interviewer asked structured questions and then probed accordingly in order to obtain more complete data (Orodho, 2009).

3.6. Pilot Study

The questionnaire was pre-tested using a selected sample of students with disabilities. The sample used in the pre-test was similar to the actual sample used in the study. This enhanced reliability of the instruments. Pre-testing enabled the researcher to modify, restructure and remove ambiguous items in the instruments. During test-retest technique, the researcher found an error in
numbering in section one, three, four and five. The question three of section one was changed. Instead of the question “which types of disability do your parents have”? The researcher found it better to set another question “which types of disability do you have”? The question four a, b, c of section one was changed into a closed ended question. The question 4 of section two, the question one and two of section three and question one of section four were changed into a closed-ended questions and SPSS program generated ‘yes’ count only.

The pre-testing group was not included in the main study. The researcher conducted the pilot study in the College of Education. The conditions and the respondents in the College of Education were the same as those in University of Rwanda. The same questionnaire was administered to the same subjects (those in first pilot study) after a period of two weeks. A comparison between the first and the second test was drawn and obtained the correlation coefficient of 0.86 was obtained in order to determine the consistency of the test results among the students given to ensure reliability of the tools.

<table>
<thead>
<tr>
<th>Types of disability</th>
<th>PI</th>
<th>VI</th>
<th>HI</th>
<th>TOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutions</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
</tr>
</tbody>
</table>
| College of Education| 3  | 0  | 15 | 3   | 1  | 0   | 19 | 3

Source: UR (2013)
As it is seen in Table 3-2 above, the College of Education had three students with physical disabilities, eighteen students with visual impairments and one student with hearing impairment. The information obtained from the pilot study was important in determining validity and reliability of the research instruments. The researcher used this information to make appropriate adjustments to the instruments before using them to collect data for the main study.

3.6.1 Validity

The content validity of the research instruments was ensured through expert judgement after which adjustments to the instruments carried out (Polit & Beck, 2006; Amin, 2005) using the supervisors and other academic staff from the department of Special Needs Education, School of Education, Kenyatta University. These helped ascertain that the instruments were adequate measures of the phenomenon under study (Golafshani, 2003).

3.6.2 Reliability

To determine the reliability of the instruments, a test-retest technique was used in four phases. The first phase was the test and recording data the data from the test. The second phase was to analyse the data and to obtain X value. The third phase was that after 2 weeks from the test, the retest of the instruments on the same people was carried out and the recording of collected data. The last phase
was to analyse the retest data to obtain Y value and therefore calculating the Pearson Product Moment Correlation Coefficient (r) to establish the relationship between the test and retest, which gave the correlation coefficient of 0.86. Being superior to the pledged lowest coefficient (0.75) (Orodho, 2009), the researcher claimed that the instruments were reliable.

3.7 Data Collection Techniques

The researcher first trained the research assistant who helped in the pilot study, administration and retrieve of the questionnaire during the full-scale study. The questionnaire was given to students with physical and hearing impairment for filling. The same questionnaire was given to students with visual impairment transcribed into Braille and they used computers equipped with Jaws for windows to write and then print their answers.

A structured interview schedule with deans of students, medical doctors and heads of HIV and AIDS clubs was conducted by the researcher using an audio recorder then afterwards the researcher wrote answers from the recorder. All questionnaires were distributed and filled on the spot to avoid any loss and cross sharing of information between the respondents.

Data collection was done on three consecutive months. The first day the researcher went to Kigali city where we have three colleges, the second day he
went to Huye district where we have one college and the last day he went to Umutara district where we have one college. After completion of questionnaires by the students, the researcher gave interviews to selected persons.

3.8 Data Analysis

Since quantitative and qualitative data were collected, the analysis was carried out using descriptive statistics of frequencies and percentages and inferential statistics of Chi-square for quantitative data while both content and narrative analysis were applied to qualitative data. Content and narrative analysis helped the researcher to group the qualitative data under different underlying themes and then siding them with quantitative data under specific research objectives. Worthwhile, the inferential statistic of Chi-square was established at 0.05 alpha level of significance. All the required statistics were computed by means of the Statistical Package for Social Sciences (SPSS).

3.9 Logistical and Ethical Considerations

Before proceeding to the field for data collection, the researcher submitted a research proposal to the Graduate School, Kenyatta University for examination and approval through the Department of Special Needs Education. After receiving an approval and an introduction letter from the Director, Graduate School, Kenyatta University, it was presented to the Ministry of Education,
Rwanda for the researcher to be granted permit to go to the field for data collection. The researcher sought consent of the participants through a preliminary visit to the selected colleges. The researcher explained the importance of the study and their participation before they could sign the informed consent letters. Respondents were explained that they could ask questions related to the study at any time, refuse to respond to any questions, stop an interview at any time, or withdraw from the study. Respondents participate willingly and were assured of confidentiality. Names of the respondents were not reflected anywhere in the report of the findings. The research held on respect of intellectual property by acknowledging the sources of information utilized (Tichapondwa, 2013).
CHAPTER FOUR
FINDINGS, INTERPRETATION AND DISCUSSION

4.0 Introduction

This chapter has two sections: section one presents general and demographic information and section two presents the findings, interpretations and discussions according to the objectives. The objectives designed to guide the study were:

i. Determine disability related barriers to accessing HIV and AIDS information by students with disabilities.

ii. Find out the level of knowledge about HIV and AIDS among students with disabilities in relation to Symptoms, Transmission and Prevention.

iii. Identify the sources of information about HIV and AIDS for students with disabilities.

iv. Establish the communication strategies used to disseminate information relating to HIV and AIDS to students with disabilities.

4.1 SECTION ONE: General and Demographic information

The main objective of the study was to investigate influence of disability on access to HIV and AIDS information by students with disabilities in institutions of higher education in Rwanda. This chapter describes general and demographic information.
4.1.1 General information

The researcher missed three students in the College of Arts and social sciences because of illness of the students. A total of 151 out of 154 students with disabilities completed questionnaire. The students and this gave a return rate of 98%. The study’s findings were presented using descriptive statistics, frequencies and percentages, chi-square based on the above-mentioned thesis objectives. Each category of the information in tabular form is followed by interpretation and discussion.

Data collection was done during three months because medical doctors and deans of students were sometimes absent and the researcher had to look for them many times. When the researcher arrived at the College of medicine and health sciences, he found more students with physical disabilities because they had a laboratory department and students with physical disabilities preferred this area of study.
4.1.2 Demographic data

Table 4 - 1. Demographic information (age)

<table>
<thead>
<tr>
<th>Type of disability</th>
<th>50 and above</th>
<th>40-49</th>
<th>30-39</th>
<th>20-29</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical disability</td>
<td>Frequency</td>
<td>1</td>
<td>5</td>
<td>45</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>.7%</td>
<td>3.3%</td>
<td>29.8%</td>
<td>41.1%</td>
</tr>
<tr>
<td>Visual impairment</td>
<td>Frequency</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>.0%</td>
<td>.0%</td>
<td>4.6%</td>
<td>12.6%</td>
</tr>
<tr>
<td>Hearing impairment</td>
<td>Frequency</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>.0%</td>
<td>.0%</td>
<td>.0%</td>
<td>7.9%</td>
</tr>
<tr>
<td>Total</td>
<td>Frequency</td>
<td>1</td>
<td>5</td>
<td>52</td>
<td>93</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>.7%</td>
<td>3.3%</td>
<td>34.4%</td>
<td>61.6%</td>
</tr>
</tbody>
</table>

Source: Primary data

As it is shown in Table 4-1, two thirds of respondents with physical disability, visual impairment and hearing impairment were aged between 20-29 years old, nearly one third of the respondents were aged between 30-39 years, and few respondents were aged between 40-49 years while very few respondents were aged from 50 years and above. All respondents with hearing impairment were aged between 20-29 years while none respondents with visual impairment and hearing impairment were aged 40-49 years, and above 50 years.
**Table 4 - 2. Demographic information (Gender)**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Physical disability</th>
<th>Visual impairment</th>
<th>Hearing impairment</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td></td>
<td>48</td>
<td>8</td>
<td>8</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>% within type of disability</td>
<td>42.5%</td>
<td>30.8%</td>
<td>66.7%</td>
<td>42.4%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>31.8%</td>
<td>5.3%</td>
<td>5.3%</td>
<td>42.4%</td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td>65</td>
<td>18</td>
<td>4</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>% within type of disability</td>
<td>57.5%</td>
<td>69.2%</td>
<td>33.3%</td>
<td>57.6%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>43.0%</td>
<td>11.9%</td>
<td>2.6%</td>
<td>57.6%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>113</td>
<td>26</td>
<td>12</td>
<td>151</td>
</tr>
<tr>
<td></td>
<td>% within type of disability</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>74.8%</td>
<td>17.2%</td>
<td>7.9%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: Primary data

As it is shown in Table 4-2 above, there were more males than females, who were approximately half and two fifth respectively. Similarly, nearly two thirds of respondents with physical disability and visual impairment were male while two thirds of the respondents with hearing impairment were female.
### Table 4.3: Marital status

<table>
<thead>
<tr>
<th>type of disability</th>
<th>Marital status</th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Married</td>
<td>Single</td>
<td>Separated</td>
<td>Re-married</td>
<td></td>
</tr>
<tr>
<td>Physical disability</td>
<td>Frequency</td>
<td>31</td>
<td>80</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>% within type of disability</td>
<td>27.4%</td>
<td>70.8%</td>
<td>.9%</td>
<td>.9%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>20.5%</td>
<td>53.0%</td>
<td>.7%</td>
<td>.7%</td>
</tr>
<tr>
<td>Visual impairment</td>
<td>Frequency</td>
<td>4</td>
<td>22</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>% within type of disability</td>
<td>15.4%</td>
<td>84.6%</td>
<td>.0%</td>
<td>.0%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>2.6%</td>
<td>14.6%</td>
<td>.0%</td>
<td>.0%</td>
</tr>
<tr>
<td>Hearing impairment</td>
<td>Frequency</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>% within type of disability</td>
<td>.0%</td>
<td>100.0%</td>
<td>.0%</td>
<td>.0%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>.0%</td>
<td>7.9%</td>
<td>.0%</td>
<td>.0%</td>
</tr>
<tr>
<td>Total</td>
<td>Frequency</td>
<td>35</td>
<td>114</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>% within type of disability</td>
<td>23.2%</td>
<td>75.5%</td>
<td>.7%</td>
<td>.7%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>23.2%</td>
<td>75.5%</td>
<td>.7%</td>
<td>.7%</td>
</tr>
</tbody>
</table>

Source: Primary data

In the Table 4-3 above, three quarters of the respondents were single followed by married respondents with one fifth. Very few respondents were re-married and separated. All students with hearing impairment were single. The majority of students with visual impairment were single while around two thirds of respondents with physical disabilities were single. Additionally there were neither separated nor re-married respondents under visual impairment cases.
Table 4 - 4. Respondents whose family members have disabilities and have experienced AIDS related death or illness in the family

<table>
<thead>
<tr>
<th>type of disability</th>
<th>Total (YES)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
</tr>
<tr>
<td>Physical disability</td>
<td></td>
</tr>
<tr>
<td>Family members with</td>
<td>47</td>
</tr>
<tr>
<td>disabilities</td>
<td></td>
</tr>
<tr>
<td>Having a boyfriend/girlfriend</td>
<td>61</td>
</tr>
<tr>
<td>Having experienced AIDS-</td>
<td></td>
</tr>
<tr>
<td>related death or illness in the family</td>
<td>82</td>
</tr>
</tbody>
</table>

Source: Primary data

Note: (SPSS program generated ‘yes’ count only)

In the Table 4-4 above, thirds of the respondents among physical disability, visual impairment and hearing impairment had family members with disabilities while two thirds of the respondents had no family members with disabilities. However, nearly half of the respondents indicated that they had boyfriends or girlfriends while half of the respondents had no boyfriend or girlfriend. More than half of the respondents said they had experienced HIV and AIDS related deaths or illness among their family members.

According to Heward and Orlansky (1988), the causes of hearing impairment are usually classified as to whether they are exogenous or endogenous. Exogenous causes stem from factors outside the body (such as disease,
toxicity, or injury) and reduce the auditory system’s ability to receive and transmit sounds. Endogenous hearing impairment is inherited from the parents’ genes.

The more you are exposed to many boyfriends or girlfriends, the higher chance of getting HIV and AIDS. According to Steadman Group (2007), information concerning HIV and AIDS is acquired from many sources like radio, brochures, TV etc. The knowledge is also acquired through experience related to deaths or illnesses in the families of persons who are HIV and AIDS positive.

### Table 4 - 5. Status on number of boyfriend/girlfriend

<table>
<thead>
<tr>
<th></th>
<th>No boy/girl friend</th>
<th>One boy/girl friend</th>
<th>Two boy/girl friend</th>
<th>More than two</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frequency</strong></td>
<td><strong>Table N</strong></td>
<td><strong>Table N</strong></td>
<td><strong>Table N</strong></td>
<td><strong>Table N</strong></td>
</tr>
<tr>
<td>Physical disability</td>
<td>79</td>
<td>34</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Visual impairment</td>
<td>25</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hearing impairment</td>
<td>7</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total %</strong></td>
<td>111</td>
<td>40</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Primary data

In Table 4-5 above, nearly three quarters of the respondents had no boyfriend/girlfriend while none of the respondents had neither two boyfriends/girlfriends nor more than two boyfriends/girlfriends. On the other
hand, nearly quarters of the respondents had one boyfriend or girlfriend. This showed that they were in interaction with others. At the University adolescents interact with their colleagues through games and sports, sitting on the same desk when studying and feeding, sleeping on the bed with others, discussing with friends; there is a need for prevention programs. This was also proved by the research done by Groce and Trasi, (2004) and Mulindwa, (2003).

Groce and Trasi (2004) said that, individuals with disability are presumably at risk both because they are, incorrectly, often assumed to be sexually inactive, hence virgins, and because they might be easy targets. Even before the advent of AIDS, women and men with disability suffered an equal, or up to three times greater, risk of rape by a stranger or acquaintance, than their peers without disabilities. Many individuals with disability are physically vulnerable. Some must relegate part or all of their care to attendants, family members, or others, or live in institutions; situations in which abuse is rife worldwide. Additionally some researchers argue that individuals with disability are often psychologically vulnerable.
SECTION TWO: Findings, interpretation and discussions

Objective 1: Determine disability related barriers to accessing HIV and AIDS to students with disabilities.

This study sought to find out the disability related barriers to accessing HIV and AIDS information by students with disabilities. It therefore presents the findings about barriers to accessing information about HIV and AIDS, students with disabilities considering themselves at risk of HIV and AIDS and students with disabilities failure to be tested because of location.

4.2 Disability related barriers to accessing HIV and AIDS information by students with disabilities

4.2.1 Barriers to accessing HIV and AIDS information

Students with physical disabilities, hearing impairment and visual impairment were asked to indicate if disability increases ones risk of contracting HIV, if people with disabilities are sexually active and if people with disabilities constitute a special group which needs special attention. The results are indicated in Table 4-6.
Table 4 - 6. Barriers to accessing HIV and AIDS information

<table>
<thead>
<tr>
<th>Type of Disability</th>
<th>Frequency</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical disability</td>
<td>97</td>
<td>64.2%</td>
</tr>
<tr>
<td>Visual impairment</td>
<td>11</td>
<td>7.3%</td>
</tr>
<tr>
<td>Hearing impairment</td>
<td>8</td>
<td>5.3%</td>
</tr>
<tr>
<td>Total</td>
<td>116</td>
<td>76.8%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Disability</th>
<th>Frequency</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical disability</td>
<td>96</td>
<td>63.6%</td>
</tr>
<tr>
<td>Visual impairment</td>
<td>20</td>
<td>13.2%</td>
</tr>
<tr>
<td>Hearing impairment</td>
<td>10</td>
<td>6.6%</td>
</tr>
<tr>
<td>Total</td>
<td>126</td>
<td>83.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Disability</th>
<th>Frequency</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical disability</td>
<td>96</td>
<td>63.6%</td>
</tr>
<tr>
<td>Visual impairment</td>
<td>26</td>
<td>17.2%</td>
</tr>
<tr>
<td>Hearing impairment</td>
<td>12</td>
<td>7.9%</td>
</tr>
<tr>
<td>Total</td>
<td>134</td>
<td>88.7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Disability</th>
<th>Frequency</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical disability</td>
<td>113</td>
<td>74.8%</td>
</tr>
<tr>
<td>Visual impairment</td>
<td>26</td>
<td>17.2%</td>
</tr>
<tr>
<td>Hearing impairment</td>
<td>12</td>
<td>7.9%</td>
</tr>
<tr>
<td>Total</td>
<td>151</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: Primary data

(Note: SPSS program generated yes frequency)

Three quarters of the respondents said that disability increases the risk of contracting HIV and AIDS while a quarter of the respondents indicated that disability does not increase the risk of contracting HIV and AIDS.

The majority of the respondents stated that people with disabilities are sexually active while one fifth of the respondents said that people with disability are not sexually active. The majority of the respondents indicated that people with disabilities constitute a special group, which needs special attention.

From the findings, some respondents expressed that disability does not increase the risk of contracting HIV and AIDS while others said that people with disabilities are not sexually active. There are also respondents who stated that
students with disabilities do not constitute a special group which needs special attention. All these are attitudinal barriers.

Therefore from the results of this research, there is a barrier to prevention caused by attitude. The findings show us that students with disabilities are at increased risk of contracting HIV and AIDS, they are sexually active and they constitute a special group which needs special attention contrary to what people said that students with disabilities are not sexually active, are not at risk, don’t constitute a special group and do not consider themselves at risk. This finding showed us that these attitudes were wrong.

The findings of this research confirm the research done by Groce (2004); Yousafzai and Edouard (2004); Munthali et al., (2004) who said that persons with disabilities are sexually active and are a vulnerable group.

According to Groce (2004), writing on HIV and AIDS and Disability, there is an incorrect assumption among the general public, and within the HIV and AIDS research community as well that individuals with disability are not sexually active. Adolescents and adults with disability are as likely to be as sexually active as their peers without disabilities. Adolescents with many types of disability reach puberty at the same age as their peers. Homosexuality and bisexuality occur at the same rate among individuals with disability as among the individuals without disabilities. However, individuals with disability are less likely to
receive messages about AIDS and are less likely to have access to condoms or other prevention methods.

Yousafzai and Edouard (2004), writing on double burden, said that there are a lot of myths and misconceptions that sex with a female with disability child cleanses HIV. The common assumption is that individuals with disabilities are not at risk. They are incorrectly thought to be sexually inactive, unlikely to use drugs, and at less risk for violence or rape than their peers without disabilities. Despite the assumption that people with disabilities are sexually inactive, those with disability and women with disabilities in particular are likely to have more sexual partners than their peers without disabilities. Individuals with disabilities (both male and female) around the world are more likely to be victims of sexual abuse and rape than their peers without disability.

Munthali et al.,(2004) writing on effective HIV and AIDS and reproductive health information to people with disabilities showed that most people with disabilities are sexually active with 76% reporting that they have had sexual intercourse and 24% of the respondents stating that they have never had sexual intercourse.
4.2.2 Students with disabilities consider themselves at risk

Students with physical disabilities, hearing impairment and visual impairment were asked to indicate how much they considered themselves at risk of HIV and AIDS. The results are indicated in Table 4-7.
### Table 4 - 7. Risk of HIV and AIDS

<table>
<thead>
<tr>
<th>Type of disability</th>
<th>Physical disability</th>
<th>Visual impairment</th>
<th>Hearing impairment</th>
<th>TOTA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freqency</td>
<td>Colume N %</td>
<td>Table N %</td>
<td>Freqency</td>
</tr>
<tr>
<td>rape/ sexual abuse</td>
<td>92</td>
<td>81.4%</td>
<td>60.9%</td>
<td>12</td>
</tr>
<tr>
<td>not being sexually active</td>
<td>1</td>
<td>.9%</td>
<td>.7%</td>
<td>3</td>
</tr>
<tr>
<td>drug taking</td>
<td>59</td>
<td>52.2%</td>
<td>39.1%</td>
<td>3</td>
</tr>
<tr>
<td>medical procedures</td>
<td>67</td>
<td>59.3%</td>
<td>44.4%</td>
<td>8</td>
</tr>
<tr>
<td>lack of information concerning HIV and AIDS</td>
<td>47</td>
<td>41.6%</td>
<td>31.1%</td>
<td>20</td>
</tr>
<tr>
<td>lack of access to prevention programs</td>
<td>43</td>
<td>38.1%</td>
<td>28.5%</td>
<td>16</td>
</tr>
<tr>
<td>Refusal of the family to participate in programs</td>
<td>59</td>
<td>52.2%</td>
<td>39.1%</td>
<td>8</td>
</tr>
<tr>
<td>Refusal of service by the police if the victim has a disability</td>
<td>59</td>
<td>52.2%</td>
<td>39.1%</td>
<td>1</td>
</tr>
<tr>
<td>refusal of accommodation in an institution</td>
<td>66</td>
<td>58.4%</td>
<td>43.7%</td>
<td>4</td>
</tr>
<tr>
<td>lack of following prevention programs</td>
<td>69</td>
<td>61.1%</td>
<td>45.7%</td>
<td>25</td>
</tr>
<tr>
<td>Other (Poverty)</td>
<td>47</td>
<td>41.6%</td>
<td>31.1%</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: Primary data

Majority of the respondents stated that rape or sexual abuse constitutes the greatest risk of contracting HIV and AIDS among students with disabilities while more than half stated the following risk: lack of following HIV and
AIDS prevention programs, lack of medical procedures and lack of information concerning HIV and AIDS contribute to risk of contracting HIV and AIDS.

Two fifths of the respondents stated the following risk: refusal of accommodation in an institution, refusal of the family members to participate in the programs, lack of access to prevention programs, refusal of services by police if the victim has a disability, and drug taking.

Very few of the respondents said that not being sexually active constitutes risk of contracting HIV and AIDS. However, a third of the respondents indicated that others specified as poverty by the majority of respondents contributed to the risk of contracting HIV and AIDS. This coincides with Elwan (1999) who said that PWDs are more likely to be underemployed and unemployed, and poorer than the general population.

This finding indicated that students with disabilities are at risk and are vulnerable of contracting HIV and AIDS like any other persons without disabilities. The reviewed studies and the researcher finding indicate that there is not deviation; students with disabilities are at risk of contracting HIV and AIDS. The most important factors that contribute to the risk mentioned by students with disabilities were rape/sexual abuse, lack of not following HIV and AIDS prevention programs, medical procedures and lack of information concerning HIV and AIDS.
This lack of HIV and AIDS information and lack of access to prevention are due to lack of appropriate means of communication like sign language, body language, written materials for hearing impairment and Braille, large sized letters, resource materials such as audio CD and cassettes which contain HIV/ AIDS information for visual impairment. This was confirmed by the research done by Philander and Swartz (2008) who said that there is inadequate education and lack of accessible information. Vulnerability to rape /sexual abuse is the highest risk of contracting HIV and AIDS among students with disabilities.

The research done in Uganda by Kanyesigye, Anguria and Mbabazi (2007), revealed that some PWDs feel at risk. The research finding of Munthali et al., (2004) on effective HIV and AIDS and reproductive health information to people with disabilities in Malawi concluded that there was a high risk to contract HIV and AIDS among people with disabilities.

Groce (2004) writing on HIV and AIDS and disability said that there is elevated risk for violence and rape and lack of legal protection in specific relation to this risk. Individuals with disability are up to three times more likely to be victims of physical abuse, sexual abuse, and rape. Most individuals with disability have little or no access to police, legal counsel, and courts for protection. Individuals with disability have less access to medical interventions, including psychological counseling and prophylactic care, than their peers without disability.
In the findings of Philander and Swartz (2006), about 93% of respondents said that people with visual impairments were more at risk than are those who are sighted. Contributing factors that they thought made people with visual impairments more vulnerable to HIV and AIDS included the lack of information on the HIV pandemic and preventive measures (87%, \( n = 13 \)).

### 4.2.3 People with disabilities could not be tested because of location

The task of this study was to analyze barriers encountered by students with disabilities. The first question was about the location where the activities of prevention take place and the second question was about the format the prevention measures are presented in. The results are indicated in Table 4-8

<table>
<thead>
<tr>
<th>Do you know any person with disabilities who.....</th>
<th>type of disability</th>
<th>Physical disability</th>
<th>Visual impairment</th>
<th>Hearing impairment</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Could not be able to be tested for HIV and AIDS because of location where this activity took place?</strong></td>
<td>Frequency</td>
<td>84</td>
<td>25</td>
<td>11</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>55.6%</td>
<td>16.6%</td>
<td>7.3%</td>
<td>79.5%</td>
</tr>
<tr>
<td><strong>could not access health care programs for people with HIV and AIDS because of the formats the prevention measures are presented in,</strong></td>
<td>Frequency</td>
<td>87</td>
<td>25</td>
<td>11</td>
<td>123</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>57.6%</td>
<td>16.6%</td>
<td>7.3%</td>
<td>81.5%</td>
</tr>
</tbody>
</table>

Source: Primary data

Note: SPSS program ‘generated ‘yes’ frequency.
Majority of the respondents indicated that they could not be tested for HIV and AIDS because of the location where this activity was taking place while nearly a quarter of the respondents said they could be tested for HIV and AIDS within the location where this activity took place.

Majority of the respondents stated that they could not access health care programs for people with HIV and AIDS because of the formats the prevention measures were presented in while one fifth of the respondents said that they could access health care programs for people with HIV and AIDS because of the formats the prevention measures were presented in.

The finding of this research revealed that PWDs are not tested for HIV and AIDS because of location. Some students told the researcher that they tried to carry their colleagues with physical disabilities to the laboratory due to lack of ramps. PWDs could not access health centre when the testing room was upstairs with wheelchair persons. This was a physical barrier.

This confirmed the research by Rohleder (2008), Otte, Maas and de Boer (2008) who showed that PWDs could not be tested due to clinics that are physically inaccessible and transport unaffordable or not suitable for wheelchair users.

The researcher found that the information could not reach students with disabilities because there was no sign language interpreter who could tell them
when and where testing will take place. The researcher also found brochures in many institution of higher education but none of them were translated into Braille. This physical barrier related to format the prevention measures are presented in so that people with disabilities is unable to process the information being presented to them. Among six institutions only two had a resource room equipped with learning materials (College of Education and College of Arts and social sciences).

The results agree with previous research of Munthali et al.,(2004) where he said that 98.2% of members of your family communicated with others through speech because they were able to talk while 1.8% of members of your family said that they used sign language because of hearing impairment. This was also showed by Groce (2004) who said that information was in inaccessible formats like radio campaigns which missed the deaf and billboards which did not reach the blind.
Table 4-9. Students who could not be able tested for HIV and AIDS because of barriers (interview)

<table>
<thead>
<tr>
<th>No</th>
<th>Items/modalities Barriers</th>
<th>Students with disabilities</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>Yes</td>
<td>%</td>
</tr>
<tr>
<td>1</td>
<td>Physical</td>
<td>1</td>
<td>4</td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>2</td>
<td>Information</td>
<td>2</td>
<td>3</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40%</td>
</tr>
<tr>
<td>3</td>
<td>Attitudinal</td>
<td>2</td>
<td>3</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>5</td>
<td>10</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Primary data

In the interview given to the deans of students, medical doctors and Head of AIDS club, the majority of them accepted that there are barriers as indicated in Table 4-9 above.

Majority of the respondents stated that, they had students with disabilities who could not be tested because of physical barriers. More than two thirds of the respondents said that, they had students with disabilities who could not be tested because of attitudinal and information barriers.

They provided an example of students with physical disabilities who remained at home instead of going to seminars because of distance. There are some who could not be tested. There are many barriers which prevented them from having access to health centres such as testing room which is upstairs while
they were wheelchair persons. The following interview quotes from one dean of students from one college appear to convey these statements clearly:

“We have problems related to infrastructure. The laboratory is on the second floor while we admit students with disabilities for instance those who graduated from Gatagara secondary school as a school that teaches laboratory to students with disabilities at secondary level. Their classmates lift them there to reach the laboratory when it comes to class attendance. They overcome the challenge in that way.

A dean of students in another college revealed that students with disabilities face challenges related to accessing HIV and AIDS information as quotes here below:

“In my knowledge, I don’t know any person but I assume that for hearing impairment they cannot reach information, they do not know when and where they can be tested”.

4.3 The level of knowledge about HIV and AIDS among students with disabilities

Objective 2: Find out the level of knowledge about HIV and AIDS among students with disabilities in relation to Symptoms, Transmission and Prevention. Students with disabilities were asked to indicate the transmission, the prevention and the symptoms of HIV and AIDS. The results are indicated in Table 4-10, 4-11 and 4-12.
4.3.1 Knowledge about HIV and AIDS among students with disabilities in relation to transmission

The first task of the second objective of this research was to find out the level of knowledge about HIV and AIDS among students with disabilities in relation to transmission. The students with disabilities were asked to indicate the transmission of HIV and AIDS. The results are indicated in Table 4-10

Table 4 - 10. Transmission of HIV and AIDS

<table>
<thead>
<tr>
<th>Mode of HIV and AIDS transmission</th>
<th>Physical disability</th>
<th>Visual impairment</th>
<th>Hearing impairment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency (yes)</td>
<td>Total N %</td>
<td>Frequency (yes)</td>
</tr>
<tr>
<td>Sexual intercourse with a condom</td>
<td>94</td>
<td>62.3%</td>
<td>23</td>
</tr>
<tr>
<td>sex with a condom</td>
<td>61</td>
<td>40.4%</td>
<td>0</td>
</tr>
<tr>
<td>mosquito bite</td>
<td>4</td>
<td>2.6%</td>
<td>0</td>
</tr>
<tr>
<td>sharing tooth brush</td>
<td>24</td>
<td>15.9%</td>
<td>2</td>
</tr>
<tr>
<td>Kissing</td>
<td>15</td>
<td>9.9%</td>
<td>0</td>
</tr>
<tr>
<td>sharing clothes/bedding</td>
<td>10</td>
<td>6.6%</td>
<td>5</td>
</tr>
<tr>
<td>blood transfusion</td>
<td>107</td>
<td>70.9%</td>
<td>20</td>
</tr>
<tr>
<td>sharing razor blades</td>
<td>76</td>
<td>50.3%</td>
<td>20</td>
</tr>
<tr>
<td>Unsterilized needles</td>
<td>97</td>
<td>64.2%</td>
<td>17</td>
</tr>
<tr>
<td>mother to child</td>
<td>96</td>
<td>63.6%</td>
<td>26</td>
</tr>
<tr>
<td>Promiscuity</td>
<td>26</td>
<td>17.2%</td>
<td>3</td>
</tr>
<tr>
<td>caring for people living with HIV and AIDS</td>
<td>32</td>
<td>21.2%</td>
<td>3</td>
</tr>
<tr>
<td>sharing food</td>
<td>16</td>
<td>10.6%</td>
<td>2</td>
</tr>
<tr>
<td>eating with an HIV+ person</td>
<td>8</td>
<td>5.3%</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>62</td>
<td>41.1%</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Primary data
In Table 4-10, the majority of the respondents stated that the mode of HIV and AIDS transmissions is through blood transfusion and mother to child transmission. Three quarters of the respondents expressed that using unsterilized needles, Sexual intercourse without a condom, and sharing razor blades can transmit HIV and AIDS.

The results agreed with the known way through which HIV and AIDS can be transmitted from one person to another which are sexual intercourse without a condom with an infected person, blood transfusion, sharing razor blades, using unsterilized needles from an HIV infected person and from an HIV-infected mother to child.

The study showed that there is incorrect perception on the mode of HIV and AIDS transmission. A few of the respondents said that HIV and AIDS can be transmitted through mosquito bite, eating with an HIV+ person, kissing, sharing clothes, sharing food, sharing tooth brush, promiscuity, and caring for people with HIV and AIDS. However, 41.8% of the respondents selected others, but they did not specify any mode of HIV and AIDS transmission.

From the findings of this research, students with disabilities have knowledge about the transmission mode but there a big proportion of students with disabilities who don’t know the transmission mode which justifies the raison d’etre of this study.
The results agree with previous research done by Giros's study in Kenya which reveals that although 86% of the deaf respondents are aware of HIV and AIDS and its transmission, some still believe in false modes of infection: "41% named biting of mosquitoes, kissing (39.6%), and sharing of eating and drinking utensils with HIV positive persons (26.4%) as possible ways of transmission”.

Mehajeb (2007) in Ethiopia said that people lack adequate know-how about HIV and AIDS preventions and transmission as well as have misconception. Groce et al. (2003) expressed that people with disabilities have less knowledge about HIV and AIDS. Otte et al., (2008), said that the adolescent is prone to believing in wrong modes of transmission and prevention. Steadman group (2007) said that 35% still have misconception.

The persistence of myths about transmission within students with disabilities indicates that sex education is not consistent and lacks information about disability specific interventions.

4.3.2 Knowledge about HIV and AIDS among students with disabilities in relation to Prevention

The second task of the second objective of this research was to find out the level of knowledge about HIV and AIDS among students with disabilities in
relation to prevention. The students with disabilities were asked to indicate the prevention mode of HIV and AIDS. The results are indicated in Table 4-11.

**Table 4 - 11. About HIV and AIDS Prevention among people with disabilities**

<table>
<thead>
<tr>
<th>Mode of HIV and AIDS prevention</th>
<th>Physical disability</th>
<th>Visual impairment</th>
<th>Hearing impairment</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Table N %</td>
<td>Frequency</td>
<td>Table N %</td>
</tr>
<tr>
<td>using condoms</td>
<td>92</td>
<td>60.9%</td>
<td>26</td>
<td>17.2%</td>
</tr>
<tr>
<td>Abstinence</td>
<td>82</td>
<td>54.3%</td>
<td>24</td>
<td>15.9%</td>
</tr>
<tr>
<td>avoiding sex with multiple</td>
<td>87</td>
<td>57.6%</td>
<td>17</td>
<td>11.3%</td>
</tr>
<tr>
<td>partners</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>avoiding sharing razor blades</td>
<td>93</td>
<td>61.6%</td>
<td>10</td>
<td>6.6%</td>
</tr>
<tr>
<td>avoiding sharing tooth brushes</td>
<td>71</td>
<td>47.0%</td>
<td>9</td>
<td>6.0%</td>
</tr>
<tr>
<td>avoiding kissing</td>
<td>60</td>
<td>39.7%</td>
<td>9</td>
<td>6.0%</td>
</tr>
<tr>
<td>avoiding sharing beddings/clothes</td>
<td>2</td>
<td>1.3%</td>
<td>3</td>
<td>2.0%</td>
</tr>
<tr>
<td>avoiding sharing food</td>
<td>53</td>
<td>35.1%</td>
<td>3</td>
<td>2.0%</td>
</tr>
<tr>
<td>blood test</td>
<td>51</td>
<td>33.8%</td>
<td>17</td>
<td>11.3%</td>
</tr>
<tr>
<td>Other (Preventing mother to child transmission)</td>
<td>53</td>
<td>35.1%</td>
<td>2</td>
<td>1.3%</td>
</tr>
</tbody>
</table>

Source: Primary data

In Table 4-11, the majority of the respondents stated that the best method of HIV and AIDS prevention is using condoms during sex. Nearly three quarters of the respondents considered abstinence, avoiding sex with multiple partners, avoiding sharing razor blades as the better strategy in reducing the HIV and AID transmission. Similarly, half of the respondents expressed that HIV and
AIDS can be reduced by avoiding sharing tooth brushes with People with HIV and AIDS positive.

On the other hand, a few of the respondents indicated that avoiding sharing beddings or clothes with people who are HIV positive help to reduce the rate of HIV and AIDS transmissions. Nearly half of the respondents indicated that avoiding kissing and carrying blood test can help to reduce the rate of HIV and AIDS transmissions while two fifth of the respondents showed that avoiding sharing food reduces HIV and AIDS transmission. The wrong mode of prevention HIV and AIDS was avoiding kissing, avoiding sharing bedding/clothes, and avoiding sharing food.

The findings showed that students with disabilities have knowledge related to prevention because on the question; “How can the transmission of HIV and AIDS be prevented?” the responses given by the majority, three quarters and half of the respondents were correct. The correct mode of HIV and AIDS prevention was using condom, abstinence, avoiding sex with multiple partners, avoiding razor blades, blood test and avoiding sharing tooth brush. Similarly few of the respondents had misconception about HIV and AIDS prevention like avoiding kissing, avoiding sharing food and avoiding sharing beddings/clothes.

It is clear that some students with disabilities have knowledge of prevention of HIV and AIDS and others do not have knowledge of prevention of HIV and
AIDS. This means that students with disabilities still lack knowledge to prevention as far as access to HIV and AIDS information and services are concerned.

This is in congruence with the research done by Eide et al., (2011) who instituted the ways through which the respondents knew how HIV infection could be prevented. Respondents in this study confirmed knowledge in the following consecutive order (n, %): (1) Using condoms (220, 77.2%), (2) Abstaining from sex (122, 42.8%), (3) Sticking to one partner (132, 46.3%), (4) Avoid contact with blood, using gloves when touching blood (101, 35.4%), (5) Not having sex before marriage (74, 26.1%), (6) Not sharing toothbrushes (48, 16.9%), (7) Using drugs to prevent transmission from mother to child (48, 16.8%), (8) Taking antiretroviral drugs (48, 16.8%), (9) Having fewer sex partners (30, 10.6%), (10) Male circumcision (18, 6.3%).

In the research of Touko (2008) and Mulindwa (2004), the respondents confirmed knowledge in using condoms with 47%, 24% for men and 10% for women, and 77.2% respectively.

The research done by Philander and Swartz (2006), who said that HIV and AIDS is a serious health problem. Prevention is crucial but there is inadequate education, lack of accessible information and inability to read Braille.
4.3.3 Knowledge about HIV and AIDS among students with disabilities in relation to Symptoms

The third task of the second objective of this research was to find out the level of knowledge about HIV and AIDS among students with disabilities in relation to symptoms. The students with disabilities were asked to identify of HIV and AIDS cases by looking at the person (symptoms). The results are indicated in Table 4-12.

**Table 4 - 12. Identification of HIV cases by looking (symptoms)**

<table>
<thead>
<tr>
<th>Can you identify HIV cases by looking at the person with HIV and AIDS?</th>
<th>type of disability</th>
<th>Physical disability</th>
<th>Visual impairment</th>
<th>Hearing impairment</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Frequency</td>
<td>58</td>
<td>19</td>
<td>8</td>
<td>85</td>
</tr>
<tr>
<td>% within type of disability</td>
<td>51.3%</td>
<td>73.1%</td>
<td>66.7%</td>
<td>56.3%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>38.4%</td>
<td>12.6%</td>
<td>5.3%</td>
<td>56.3%</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Frequency</td>
<td>55</td>
<td>7</td>
<td>4</td>
<td>66</td>
</tr>
<tr>
<td>% within type of disability</td>
<td>48.7%</td>
<td>26.9%</td>
<td>33.3%</td>
<td>43.7%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>36.4%</td>
<td>4.6%</td>
<td>2.6%</td>
<td>43.7%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Frequency</td>
<td>113</td>
<td>26</td>
<td>12</td>
<td>151</td>
</tr>
<tr>
<td>% within type of disability</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>74.8%</td>
<td>17.2%</td>
<td>7.9%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Primary data

In Table 4-12, more than half of the respondents stated that they cannot identify a person with HIV and AIDS symptoms, while less than half of the
respondents indicated that they can identify a person with HIV and AIDS symptoms. Majority of the students with visual impairment stated that they are unable to identify a person with HIV and AIDS symptoms. It is the test of blood which determines the status of the person with HIV and AIDS. On the other hand, nearly half of the respondents with physical disability believed they can identify a person with HIV and AIDS symptoms.

In order to find out whether there is association between type of disability and HIV and AIDS identification, the Chi-square test was performed as can be observed in the table 4.12 below.

<table>
<thead>
<tr>
<th>Table 4-12-1: Chi-Square Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Pearson Chi-Square</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
</tr>
<tr>
<td>N of Valid Cases</td>
</tr>
</tbody>
</table>

Source: Primary data

As substantiated by the table 4-12.1 above, the computed Chi-square coefficient ($X^2 = 4.634$) is not statistically significant because the P-value = 0.099 is greater than 0.05 alpha level. This leads to the conclusion that students with disabilities cannot identify the symptoms of HIV and AIDS by looking at the person.
This was approved by the research done by Groce (2005) who said that people with disabilities are unaware of the symptoms of HIV and AIDS and they lack education, communication and support. Respondents in Groce et al. (2003) described a range of symptoms which sometimes was wrong as is a case in the current study.

Worthwhile, the consideration of wrong HIV and AIDS symptoms among PWDs had been identified by Koen, et al. (2007). These authors bring to the readers’ knowledge that knowledge about HIV and AIDS symptoms was affect by cognitive impairment. The present study also agrees with Otte et al. (2008) who found that blindness was associated with diminished knowledge of HIV and AIDS transmission, prevention and symptoms.

**Table 4 - 13. Knowledge about HIV and AIDS among students with disabilities (interview)**

<table>
<thead>
<tr>
<th></th>
<th>General knowledge</th>
<th>Specific knowledge</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Deans of</td>
<td>3</td>
<td>60%</td>
<td>5</td>
</tr>
<tr>
<td>students</td>
<td></td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>2 Medical doctors</td>
<td>4</td>
<td>80%</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>3 Heads of HIV and AIDS clubs</td>
<td>5</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Primary data

In the interview given to deans of students, medical doctors and Heads of HIV and AIDS club, the researcher found that the students have general knowledge in all colleges but, there are few training opportunities for them using
appropriate means of communication the reason why the students still have misconceptions among them. Sometime back, people used to say that someone who was thin had HIV and AIDS but the blind can’t know whether the person is thin or not. They may have problem if they engage sexually with such a person. The following verbal interview with a dean of students conveys the sentiment clearly:

“Considering their level of studies and the use of Internet and other sources of information, students have sufficient knowledge about HIV and AIDS except those with disabilities because, as I assume, the means used are not adequate for those with disabilities”.

The above quote agrees with what a head of HIV and AIDS club from one college revealed to the researcher in these words:

“We have AIDS club which means that students have some knowledge about symptoms, transmissions and preventions. But we cannot confirm the awareness of those with disabilities students with disabilities because they are not members of the clubs and we have not yet organized workshop or talks specific for them”.
4.4 The sources of information about HIV and AIDS for students with disabilities

**Objective 3:** Identify the sources of information about HIV and AIDS for students with disabilities.

The students with disabilities were asked to indicate the sources of information about HIV and AIDS for students with disabilities in their community. The results are indicated in Table 4-14.

**Table 4 - 14. Sources of information**

<table>
<thead>
<tr>
<th>sources of HIV and AIDS information in the community</th>
<th>Physical disability</th>
<th>Visual impairment</th>
<th>Hearing impairment</th>
<th>Total N %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency (yes)</td>
<td>Table N %</td>
<td>Frequency (yes)</td>
<td>Table N %</td>
</tr>
<tr>
<td>Health facilities</td>
<td>62</td>
<td>41.1%</td>
<td>20</td>
<td>13.2%</td>
</tr>
<tr>
<td>Teachers</td>
<td>65</td>
<td>43.0%</td>
<td>19</td>
<td>12.6%</td>
</tr>
<tr>
<td>Youth peer group</td>
<td>60</td>
<td>39.7%</td>
<td>12</td>
<td>7.9%</td>
</tr>
<tr>
<td>Political party leaders</td>
<td>62</td>
<td>41.1%</td>
<td>12</td>
<td>7.9%</td>
</tr>
<tr>
<td>Church leaders</td>
<td>59</td>
<td>39.1%</td>
<td>9</td>
<td>6.0%</td>
</tr>
<tr>
<td>Printed materials</td>
<td>69</td>
<td>45.7%</td>
<td>14</td>
<td>9.3%</td>
</tr>
<tr>
<td>Parents</td>
<td>49</td>
<td>32.5%</td>
<td>14</td>
<td>9.3%</td>
</tr>
<tr>
<td>Friends</td>
<td>55</td>
<td>36.4%</td>
<td>14</td>
<td>9.3%</td>
</tr>
<tr>
<td>Film/ Video</td>
<td>60</td>
<td>39.7%</td>
<td>12</td>
<td>7.9%</td>
</tr>
<tr>
<td>Non government organizations</td>
<td>71</td>
<td>47.0%</td>
<td>9</td>
<td>6.0%</td>
</tr>
<tr>
<td>Posters</td>
<td>74</td>
<td>49.0%</td>
<td>6</td>
<td>4.0%</td>
</tr>
<tr>
<td>Radio</td>
<td>58</td>
<td>38.4%</td>
<td>19</td>
<td>12.6%</td>
</tr>
<tr>
<td>Other (seminar/workshop)</td>
<td>54</td>
<td>35.8%</td>
<td>1</td>
<td>.7%</td>
</tr>
</tbody>
</table>

Source: Primary data
Note: (SPSS program generated ‘yes’ frequency only), ticked by the respondents.

Table 4-14 depicts the sources of HIV and AIDS information available to disability students. Above half of the respondents considered the following sources of HIV and AIDS information as available to them within the community: Health facilities, teachers, political party leaders, printed materials, nongovernmental organizations, posters, and radio. Nearly two thirds of the respondents considered teachers as the most available sources of HIV and AIDS information in the community while a few of the respondents considered other (seminars/workshop) as sources of HIV and AIDS information.

To ascertain the association between the type of disability and the source of information, the Chi-square test was performed as observed in table 4-14-1 below.

Table 4-14-1: Pearson Chi-Square Tests

<table>
<thead>
<tr>
<th>Type of disability</th>
<th>Chi-square</th>
<th>df.</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>sources of information</td>
<td>137.315</td>
<td>26</td>
<td>.000*</td>
</tr>
</tbody>
</table>

Results are based on non empty rows and columns in each innermost sub-table.

The Chi-square statistic is significant at the 0.05 level.

Source: Primary data
The Chi-square value is 137.315 and the p-value is 0.000, which is significant. The p-value is less than 0.05. Thus, the Chi-square obtained by computation leads to the conclusion that there is association between the type of disability and source of information.

This finding was confirmed by the research done by Yousafzai and Edouard (2004), Steadman group (2007) and Munthali et al. (2004) who said that information about HIV and AIDS comes from a number of sources. The most popular source of information was radio, followed by health facilities and friends. This coincides with the finding of this research in relation to health facilities but radio didn’t appear in first line. Dawood et al., (2006) and Kanyesigye, Anguria and Mbabazi (2007) indicated a high degree of exposure to various sources of information.
Table 4 - 15. Interview about sources of Information about HIV and AIDS among students with disabilities

<table>
<thead>
<tr>
<th>Sources of Information</th>
<th>Deans of students</th>
<th>Medical doctors</th>
<th>Heads of HIV and AIDS clubs</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Health facilities</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>11.1%</td>
</tr>
<tr>
<td>2 Printed material</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>11.1%</td>
</tr>
<tr>
<td>3 Radio</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>11.1%</td>
</tr>
<tr>
<td>4 Peers</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>11.1%</td>
</tr>
<tr>
<td>5 Workshop</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>11.1%</td>
</tr>
<tr>
<td>6 Lecturers</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>11.1%</td>
</tr>
<tr>
<td>7 Church</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>7.4%</td>
</tr>
<tr>
<td>8 Parents</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>7.4%</td>
</tr>
<tr>
<td>9 Club</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3.7%</td>
</tr>
<tr>
<td>10 Braille</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3.7%</td>
</tr>
<tr>
<td>11 Seminars</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>3.7%</td>
</tr>
<tr>
<td>12 Dean</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>3.7%</td>
</tr>
<tr>
<td>13 Modules</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
<td><strong>5</strong></td>
<td><strong>6</strong></td>
<td><strong>27</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: Primary data

The interview the researcher gave to deans of students, medical doctors and heads of HIV and AIDS clubs showed that health facilities, radio, printed materials, peers, workshop and lecturers are the most preferred sources of information followed by church, parents, club, Braille, seminars, deans and modules.

Students with disabilities expressed that health facilities, printed materials and teachers (lecturers) are the important sources of information as it is said in interview with medical doctors. This view is expressed in the following interview quote:

“We have a dispensary or health centre which helps all students. It is a source of information for all students including those with...”
disabilities. They get information from different sources but the main one is the health centre”.

One head of HIV and AIDS club from one college disclosed that there are diversified sources of information as can be read hereafter:

“Information comes from diverse sources: the radio, song, access to internet, posters, and signs. There are actually many sources of information”.

Asked about how different categories of students with disabilities get information on HIV and AIDS, medical doctors revealed the following:

“Students with visual impairment get limited information compared to others due to the use limited senses, hearing radio or song. They can only get information if they use Braille. About hearing impairment, unless they have tools which help them to hear the information they get is limited. They can read posters, books and other types of information. As for the students with physical disabilities, they seem to be marginalized and hence cannot get information. When they are integrated, they can go beyond their disability and get information”.
Table 4 - 16. Problems in accessing information on HIV and AIDS

<table>
<thead>
<tr>
<th>What problems do you face in accessing information on HIV and AIDS?</th>
<th>None</th>
<th>Old age</th>
<th>Lack of materials</th>
<th>Lack of person to guide me</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical disability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>42</td>
<td>24</td>
<td>18</td>
<td>7</td>
<td>22</td>
<td>113</td>
</tr>
<tr>
<td>% of Total</td>
<td>27.8%</td>
<td>15.9%</td>
<td>11.9%</td>
<td>4.6%</td>
<td>14.6%</td>
<td>74.8%</td>
</tr>
<tr>
<td>Visual impairment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>5</td>
<td>1</td>
<td>15</td>
<td>4</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>% of Total</td>
<td>3.3%</td>
<td>.7%</td>
<td>9.9%</td>
<td>2.6%</td>
<td>.7%</td>
<td>17.2%</td>
</tr>
<tr>
<td>Hearing impairment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>10</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>% of Total</td>
<td>.0%</td>
<td>.0%</td>
<td>1.3%</td>
<td>6.6%</td>
<td>.0%</td>
<td>7.9%</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>25</td>
<td>35</td>
<td>21</td>
<td>23</td>
<td>151</td>
</tr>
<tr>
<td>% of Total</td>
<td>31.1%</td>
<td>16.6%</td>
<td>23.2%</td>
<td>13.9%</td>
<td>15.2%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: Primary data

To gauge the strength of association between type of disability and problem faced in accessing HIV and AIDS information, the Phi and Cramer’s V were computed as captures in the table 4-16-1 hereafter.
Table 4-16-1: Symmetric Measures

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>Approx.Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal by nominal Phi</td>
<td>.729</td>
<td>.000</td>
</tr>
<tr>
<td>Cramer’s V</td>
<td>.515</td>
<td>.000</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>151</td>
<td></td>
</tr>
</tbody>
</table>

Source: Primary data

Note: (Phi and Cramer’s V is a measure of association based on chi-square for nominal data). Nearly thirds of the respondents stated that there is no problem in accessing HIV and AIDS information, but below the threshold of 50%. Around a quarter of the respondents stated that lack of materials is a problem in accessing HIV and AIDS information in the community. On the other hand, a tenth of the respondents stated that lack of a person to guide them is a problem in accessing HIV and AIDS information.

Symmetric measure is shown in Table 4-16-1. The test is used to measure the association of nominal data (nominal by nominal), and columns and rows. The association is based on scale of 0 to 1. Therefore, there is moderate association (0.515) between the disability students and the problem they face in accessing the HIV and AIDS information. Since lack of materials is 23.2% and ‘none’ is 31.1%, lack of material is considered in favor of ‘none’ because of the moderate relationship between types of disability and problems they are facing
in accessing HIV and AIDS information. For this reason, lack of materials is a major problem in accessing HIV and AIDS information in the community.

Table 4 - 17. Information concerning HIV and AIDS reaching students with disabilities

| Do you think that the information concerning HIV and AIDS that is reaching people with disabilities is? | type of disability |
|---|---|---|---|---|
| | Physical disability | Visual impairment | Hearing impairment | Total |
| Less accurate than that reaching the general population | Frequency | 44 | 17 | 9 | 70 |
| | % of Total | 29.1% | 11.3% | 6.0% | 46.4% |
| Equal to that reaching the general population | Frequency | 39 | 9 | 3 | 51 |
| | % of Total | 25.8% | 6.0% | 2.0% | 33.8% |
| More accurate than that reaching the general population | Frequency | 30 | 0 | 0 | 30 |
| | % of Total | 19.9% | .0% | .0% | 19.9% |
| Total | Frequency | 113 | 26 | 12 | 151 |
| | % of Total | 74.8% | 17.2% | 7.9% | 100.0% |

Source: Primary data

In Table 4-17, nearly half of the respondents stated that the information reaching them is less accurate than that reaching the general public. Though, it is less than the 50% threshold. Similarly, a fifth of the respondents stated that the information reaching them is more accurate than that reaching the general public.

The findings show that the information is less accurate than the ones reaching general population without disabilities. The study showed that students with disabilities lack of materials are a major problem in accessing HIV and AIDS information in the community.
The strength of association between type of disability and the degree to which HIV and AIDS information reach students with disabilities was ascertained by means of Phi and Cramer’s based on the Chi-square test. The generated coefficients were captured in the table 4-17-1 hereafter.

<table>
<thead>
<tr>
<th>Symmetric Measures</th>
<th>Value</th>
<th>Approx. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal by Nominal</td>
<td>Phi</td>
<td>.324</td>
</tr>
<tr>
<td></td>
<td>Cramer's V</td>
<td>.229</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td></td>
<td>151</td>
</tr>
</tbody>
</table>

Source: Primary data

In Table 4-17-1, depicts the association measures between the nominal data, and columns and rows. Cramer’s V, which is 0.229 certain that there is less association between the attitudes the respondents have and the information on HIV and AIDS that is reaching them. Cramer’s V, p-value is significant, therefore, there is HIV and AIDS information reaching students with disabilities, but it is less accurate than that reaching the general public due to Cramer’s V value (0.229).
The researcher used interview to complete the quantitative data. In the question;” Do you think that information concerning HIV and AIDS is reaching PWDs?” As it shown in Table 4-18 above, the majority of deans of students and all heads of HIV and AIDS clubs said that the information reach PWDs but some categories of students were hindered by their disabilities like hearing impairments when there is no sign language interpreter, visual impairment when there is no Braille or other equipments like JAWS for windows or when the place is inaccessible for physical disabilities.

Students with hearing impairment have difficulties in listening to radio, following a workshop or a seminar. They prefer to use short text messaging service on mobile phone, use of videos, compact disc and sign language. Two-thirds of the medical doctors reported that the information reach students with

### Table 4 - 18. Interviews about reaching of information concerning HIV and AIDS among students with disabilities

<table>
<thead>
<tr>
<th>Category</th>
<th>Information reaching</th>
<th>is 20%</th>
<th>not 80%</th>
<th>Information reaching</th>
<th>is 40%</th>
<th>not 60%</th>
<th>Total 100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deans of students</td>
<td>1</td>
<td></td>
<td></td>
<td>4</td>
<td>80%</td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>Medical doctors</td>
<td>2</td>
<td>40%</td>
<td></td>
<td>3</td>
<td>60%</td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>Heads of HIV and AIDS clubs</td>
<td>0</td>
<td>0%</td>
<td></td>
<td>5</td>
<td>100%</td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Primary data
disabilities. The following interview quotes from one of the medical doctors corroborate what is depicted in the Table 4-18 above:

“Information is not reaching all students with disabilities because there are some, for example those with physical disabilities, who can access information like any others persons but those with hearing and visual disabilities have problem”

4.5 Appropriate means of communication used to disseminate information of HIV and AIDS to students with disabilities

Objective 4: Establish the communication strategies used to disseminate information relating to HIV and AIDS to students with disabilities.

The students with disabilities were asked to indicate whether it was easy/difficult to communicate with others. The results are indicated in Table 4-19
In Table 4-19, more than half of the respondents said they could communicate with others while less than half said they could not communicate with others. However, majority of the respondents with visual impairment said they could communicate with others while two thirds of the respondents with hearing impairment said they could not communicate with others. Similarly, more than half of the respondents with physical disabilities stated that they could communicate with others.

This finding showed that students with hearing impairment had difficult in communication with others compares to others and this is due to lack of sign language interpreter in institution of higher education in Rwanda. Physical disabilities and visual impairment have possibility of speaking and hearing which reinforce communications with others. The students with disabilities were also
asked to indicate what makes easy to communicate. The results are indicated in Table 4-20.

**Table 4 - 20. Ways of communication**

<table>
<thead>
<tr>
<th>Makes it easy</th>
<th>Physical disability</th>
<th>Visual impairment</th>
<th>Hearing impairment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Total N</td>
<td>%</td>
</tr>
<tr>
<td>speech &amp; hearing</td>
<td>60</td>
<td>39.7%</td>
<td>69.8%</td>
</tr>
<tr>
<td>Braille</td>
<td>0</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>sign language</td>
<td>0</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>body language</td>
<td>21</td>
<td>13.9%</td>
<td>80.8%</td>
</tr>
<tr>
<td>reading</td>
<td>58</td>
<td>38.4%</td>
<td>90.6%</td>
</tr>
<tr>
<td>writing</td>
<td>55</td>
<td>36.4%</td>
<td>79.7%</td>
</tr>
<tr>
<td>other</td>
<td>8</td>
<td>5.3%</td>
<td>88.9%</td>
</tr>
</tbody>
</table>

Source: Primary data

Table 4-20, majority of the respondents with physical disability stated that the best ways of communication with others were reading, body language, writing and speech and hearing. Majority of the respondents with physical disabilities chosen others, but they did not specify. Majority of the respondents with visual impairment said that Braille was the best way for communication with others, followed by speech and hearing.

A few of the respondents stated that writing, body language and others who did not specify. All respondents with hearing impairment indicated that sign language was the best way of communication while a few of the respondents
said that body language, reading and writing made it easy for them to communicate.

This study showed that the best way of communication for physical disabilities with others were reading, body language, writing and speech and hearing while visual impairment considered Braille, speech and hearing their best ways of communication. Hearing impairment indicated that sign language is the best way of communication.

The findings support the research done by Kochung and Were (2010) on implication of communication formats on HIV and AIDS information for persons with disabilities in Kenya, where he said that persons who are deaf or blind normally cannot access information through vision or hearing. While those who are blind do not benefit much from the information given through prints, large billboards, internet and televisions, the deaf do not gain from information given though radios verbal lectures and televisions HIV and AIDS information should be provided through accessible disability-friendly communication formats such as talking computers, Braille, sign language and symbols.

What’s more, the findings on appropriate means of communication for students with disabilities about HIV and AIDS concur with Ponk (2009) who recommended the use of behaviour change communication namely posters, banners, Braille, large prints, audio CDs with recordings on HIV and AIDS information. Similarly, the findings on appropriate sources of information for
PWDs have been established by Hanass-Hancock (2008) and Groce et al. (2003).

The students with disabilities were also asked to indicate what makes difficult to communicate. The results are indicated in Table 4-21.

Table 4 - 21. Communication barriers

<table>
<thead>
<tr>
<th>Makes it difficult</th>
<th>Physical disability</th>
<th>Type of disability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Row N %</td>
</tr>
<tr>
<td>cannot read</td>
<td>0</td>
<td>.0%</td>
</tr>
<tr>
<td>cannot write</td>
<td>22</td>
<td>100.0%</td>
</tr>
<tr>
<td>cannot read Braille</td>
<td>0</td>
<td>.0%</td>
</tr>
<tr>
<td>cannot understand sign</td>
<td>0</td>
<td>.0%</td>
</tr>
<tr>
<td>language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cannot speak</td>
<td>1</td>
<td>14.3%</td>
</tr>
<tr>
<td>other</td>
<td>26</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: Primary data

All the respondents with hearing impairment said that inability to read, read Braille and understand sign language makes it difficult for them to communicate with others. Majority of the respondents with hearing impairment said that inability to speak makes it difficult to communicate with others. Similarly, all the respondents with physical disabilities indicated that inability to write makes it difficult for them to communicate with others while a few of the respondents with physical disabilities stated that inability to speak makes it difficult to communicate with others.
The students with disabilities were asked to indicate appropriate means of communication which should be used in teaching HIV and AIDS to students with physical, hearing and visual impairment.

The results are indicated in Table 4-22.

**Table 4 - 22. Means of communication**

<table>
<thead>
<tr>
<th></th>
<th>Physical disabilities</th>
<th>Visual impairment</th>
<th>Hearing Impairment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Braille</td>
<td>0 0%</td>
<td>26 38.8%</td>
<td>0 0%</td>
</tr>
<tr>
<td>2  Speech and Hearing</td>
<td>60 30%</td>
<td>26 38.8%</td>
<td>0 0%</td>
</tr>
<tr>
<td>3  Radio</td>
<td>0 0%</td>
<td>9 13.4%</td>
<td>0 0%</td>
</tr>
<tr>
<td>4  Touching</td>
<td>0 %</td>
<td>2 3%</td>
<td>0 0%</td>
</tr>
<tr>
<td>5  Training</td>
<td>5 2.5%</td>
<td>1 1.5%</td>
<td>1 2.4%</td>
</tr>
<tr>
<td>6  Film/video</td>
<td>34 17%</td>
<td>1 1.5%</td>
<td>9 22%</td>
</tr>
<tr>
<td>7  Body language</td>
<td>7 3.5%</td>
<td>1 1.5%</td>
<td>0 0%</td>
</tr>
<tr>
<td>8  TV</td>
<td>5 2.5%</td>
<td>1 1.5%</td>
<td>1 2.4%</td>
</tr>
<tr>
<td>9  Sign language</td>
<td>0 0%</td>
<td>0 0%</td>
<td>0% 12%</td>
</tr>
<tr>
<td>10 Writing</td>
<td>23 11.5%</td>
<td>0 0%</td>
<td>10 29.2%</td>
</tr>
<tr>
<td>11 Body language</td>
<td>0 0%</td>
<td>0 0%</td>
<td>8 19.5%</td>
</tr>
<tr>
<td>12 Radio</td>
<td>46 23%</td>
<td>0 0%</td>
<td>0 0%</td>
</tr>
<tr>
<td>13 Reading</td>
<td>20 10%</td>
<td>0 0%</td>
<td>0 0%</td>
</tr>
</tbody>
</table>

**Total**  200  100%  69  100%  41  100%

Source: Primary data

From Table 4-22 above, two fifths of the respondents with visual impairment stated that speech/hearing, Braille constitute appropriate means of communication. More than a tenth of the respondents with visual impairment said that radio is an appropriate means of communication for visual impairment. Few of the respondents with visual impairment indicated that touching, training, TV, body language, film and video are appropriate means of communication for visual impairment.
Approximately a third of the respondents with hearing impairment said that sign language is an appropriate means of communication for hearing impairment. A quarter of the respondents with hearing impairment stated that writing is appropriate means of communication for hearing impairment while a fifth of the respondents with hearing impairment said that film and body language are appropriate means of communication for hearing impairment. A third of the respondents with physical disabilities indicated that speech and hearing is appropriate means of communication. Around a fifth of the respondents with physical disabilities said that radio and film and video are the appropriate means of communication for physical disabilities. A tenth of the respondents with physical disabilities said that writing and reading are appropriate means of communication for physical disabilities. Few of the respondents with physical disabilities indicated that TV and training are appropriate means of communication for physical disabilities.

This was confirmed by Pronk (2009), in a study on Practices regarding HIV and AIDS for people with disabilities. There are successful approaches utilized by various programs to enhance awareness including peer education and behaviour change communication (BCC) such as posters, banners for the hearing impairment and Braille, large print, audio CDs and tapes with a recording of HIV information. This is confirmed by the research done by Hanass-Hancock (2008) who said that there is a lack of appropriate material that can provide for the special needs of people with disabilities.
Table 4 - 23. Interviews of appropriate means of communication

<table>
<thead>
<tr>
<th></th>
<th>Physical disabilities</th>
<th>Visual impairment</th>
<th>Hearing Impairment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Speaking</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>33.3%</td>
<td>17.6%</td>
</tr>
<tr>
<td>2</td>
<td>Radio</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20%</td>
<td>29.4%</td>
</tr>
<tr>
<td>3</td>
<td>Sign language</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0%</td>
<td>5.9%</td>
</tr>
<tr>
<td>4</td>
<td>Writing</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13.3%</td>
<td>0%</td>
</tr>
<tr>
<td>5</td>
<td>Braille</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0%</td>
<td>29.4%</td>
</tr>
<tr>
<td>6</td>
<td>Meeting/workshop</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13.3%</td>
<td>11.8%</td>
</tr>
<tr>
<td>7</td>
<td>TV</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13.3%</td>
<td>0%</td>
</tr>
<tr>
<td>8</td>
<td>Teaching</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6.7%</td>
<td>5.9%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Primary data

The interview the researcher conducted among the deans of students, medical doctors and Heads of HIV and AIDS clubs revealed that a third of the respondents with physical disabilities indicated speaking as an appropriate means of communication. A fifth of the respondents with physical disabilities stated that radio is an appropriate means of communication. Nearly a tenth of the respondents with physical disabilities said that writing, meeting/workshop
and TV are appropriate means of communication. Few of the respondents with physical disabilities stated that teaching is an appropriate means of communication. This finding showed that students with physical disabilities communicate with through hearing and speaking facilities.

The interview of deans of students, medical doctors and HIV and AIDS clubs revealed that a third of the respondents with visual impairment indicated that Braille and radio are appropriate means of communication. Around a fifth of the respondents with visual impairment reported that speaking is an appropriate means of communication. A tenth of the respondents with visual impairment said that meeting/workshop is an appropriate means of communication. Few of the respondents with visual impairment stated that sign language and teaching are appropriate means of communication. The finding showed also that students with visual impairments communicate with others through speaking / hearing and Braille.

The interview the researcher conducted among the deans of students, medical doctors and HIV and AIDS clubs indicated that half of the respondents with hearing impairment said that sign language is an appropriate means of communication. A quarter of the respondents with hearing impairment stated that writing is an appropriate means of communication. A tenth indicated that meeting/workshop is an appropriate means of communication. Few of the respondents with hearing impairments said that TV and teaching are appropriate means of communication hearing impairment.
From the responses given by the students with disabilities (Table 4-22) and those given by medical doctors, heads of HIV and AIDS clubs and deans of students (Table 4-23), the researcher found that a third of the respondents with physical disabilities (both sides) indicated that speaking was the most appropriate means of communication, followed by radio with a fifth of the respondents (both side).

A third of respondents with visual impairment (both side) indicated that Braille is the most appropriate means of communication, followed by speaking and hearing respectively.

Sign language is the most appropriate means of communication for hearing impairment suggested by students with disabilities, deans of students, medical doctors and heads of HIV and AIDS clubs. A quarter of them stated writing is the most appropriate means of communication. The appropriateness of means of communication to different categories of students with disabilities was reemphasized by one head of HIV and AIDS club in the following statements:

"We should take into account of the different disabilities of those students. For example somebody with visual impairment cannot read normal writing except Braille. When information is given in newspaper or on TV, he or she cannot get such information. What he can only benefit from is what he can hear on radio. He can read advertisement, signs warning written on chart. Those with hearing and speaking disabilities cannot access information from radio. Aside, he or she can get information from the TV or something written". 
The above views were shared with one medical doctor of one the colleges who averred that:

“There should be specific means of communication for each of these 3 categories of students with disabilities. For example, Braille, radio and audio are appropriate for students with visual impairment. For hearing impairment, you can use sign language but the problem is that we do not know how to use this sign. As for those with physical disabilities, they can be placed with others and follow without problems”.”
CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

The purpose of this final chapter was to present a brief and clear summary of the findings, followed by presentations of comprehensive set of conclusions and recommendations based on the findings discussed in chapter four.

5.1 Summary

The purpose of this thesis was to investigate influence of disability on access to HIV and AIDS information by students with disabilities in Institution of Higher Education in Rwanda. This study targeted students with physical, visual and hearing impairment of the University of Rwanda. Since the target population of this study was small, the researcher worked with the entire population. A total of 151 students were analyzed in this study. The questionnaire was given to students with physical, visual and hearing impairment for filling. A structured interview schedule with deans of students, medical doctors and heads of HIV and AIDS clubs was conducted by the researcher.

Data collected from the field was edited. The coding process then followed before the data was keyed into the statistical package for social sciences (SPSS) to aid in data analysis. Qualitative data was analyzed through content
analysis and emerging major themes were identified. Descriptive statistics analyses were done from which percentage, frequency and tables were generated.

5.1.1 Major barriers to accessing to HIV and AIDS information by students with disabilities.

**Objective 1:** Determine major barriers to accessing HIV and AIDS to students with disabilities.

The findings of this research showed that there is a barrier to prevention occasioned by a barrier to accessing HIV and AIDS information by students with disabilities. These are attitudinal and physical barriers. The findings show us that students with disabilities are at increased risk of contracting HIV and AIDS, they are sexually active and they constitute a special group which needs special attention contrary to the attitude held by people that students with disabilities are not sexually active, are not at risk, don’t constitute a special group and don’t consider themselves at risk that is why there is a need of HIV and AIDS prevention program.
The finding revealed that students with disabilities are not tested for HIV and AIDS because of location. They could not access health centre when the testing room was upstairs with wheelchair persons. The location could be accessible.

The researcher found that, the information could not reach students with disabilities because there was no sign language interpreter who could tell them when and where testing will take place. The researcher found that brochures and other materials for HIV and AIDS campaign are not translated into Braille for visual impairment. The format could be accessible to each type of disabilities.

5.1.2 Knowledge about HIV and AIDS among students with disabilities in relation to transmission, prevention and symptoms.

Objective 2: Find out the level of knowledge about HIV and AIDS among students with disabilities in relation to Symptoms, Transmission and Prevention.

This study has found that there is knowledge about HIV and AIDS amongst students with disabilities because the results agreed with the known way through which HIV and AIDS can be transmitted and
prevented at the same time the findings show that the information is less accurate than the ones reaching the general population without disabilities. Some students with disabilities still have a misconception in relation to transmission and prevention because the results agreed with the wrong way through which HIV and AIDS can be transmitted and prevented.

The finding revealed that students with disabilities could not identify a person with HIV and AIDS symptoms. It is the test of blood which determines the status of the person with HIV and AIDS.

5.1.3 The sources of information about HIV and AIDS for students with disabilities

Objective 3: Identify the sources of information about HIV and AIDS for students with disabilities.

The researcher found the following sources of HIV and AIDS information as available to them within the community: Teachers, Health facilities, non-governmental organizations, posters, radio, political party leaders and printed materials. Teachers, non-governmental organizations and health facilities were found to be the most available sources of HIV and AIDS information in the
community while a few of the respondents considered other (seminars/workshop) as sources of HIV and AIDS information.

5.1.4 Appropriate means of communication used to disseminate information of HIV and AIDS to students with disabilities.

Objective 4: Establish the communication strategies used to disseminate information relating to HIV and AIDS to students with disabilities

The respondents said that they communicate with others while few of the respondents said that they cannot communicate with others. The researcher found that most appropriate means of communication for students with physical disabilities was reading, speaking followed by writing while Braille is the most appropriate means of communication for visual impairment, followed by speaking and hearing. Sign language is the most appropriate means of communication for hearing impairment, followed by writing.
5.2 Conclusions

The study concluded that students with disabilities are at the highest risk of contracting HIV and AIDS because students with disabilities are not included in HIV and AIDS prevention programs. With regards to attitudinal barriers, the study deduced that students with disabilities are sexually active; they constitute a special group which needs special attention and they are at risk for HIV infection and they consider themselves at risk of HIV and AIDS infection. The risk factors include rape/sexual abuse, lack of prevention programmes, medical procedures appropriate for them and lack of information.

With regards to physical barriers, this study also construed that students with disabilities are not tested for HIV and AIDS not only because of location but also because of inaccessibility of materials. For many persons with disabilities, their inability to access HIV and AIDS prevention information is related to the formats in which this information is supplied like Braille or sign language. Students with disabilities could not be tested for HIV and AIDS because of physical barriers.

From the findings of the study, it was concluded that students with disabilities have knowledge about the transmission of HIV and AIDS. But also there is a big proportion of them who do not know the transmission modes of HIV and AIDS. When it comes to knowledge about the modes of prevention, the actual facts are that some students with disabilities are aware of the prevention modes
while a scanty number of them are not. The same, students with disabilities are not totally informed of the symptoms of HIV and AIDS.

The study concluded that there are many sources of information on HIV and AIDS in the community, which some students with disabilities had access to while others were not appropriate considering their disabilities. The major sources of HIV and AIDS information available in the community are: Teachers, non-governmental organizations, health facilities, printed materials, posters, radios, and lastly political party leaders. Based on the findings, it was concluded that problems in accessing information and types of disability among students were moderately associated. Furthermore, the HIV and AIDS information that reach students with disabilities is less accurate than that reaching the general population.

The study finally concluded that the best way to communicate information about HIV and AIDS to students with disabilities is through accessible – friendly communication formats such as Braille, sign language and others considering the types of disability. The best way of communication for physical disabilities with other people without disabilities were reading, body language, writing and speech and hearing while the appropriate way for visual impairment is Braille, speech and hearing their best ways of communication. The appropriate way for students with hearing impairment is sign. Difficulties in communication emanate from in ability to read Braille, understand sign language, write, read and speak, which is related to the types of disability.
Implications of the study findings

The implications of these findings are that there is still a lot to be done in terms of reaching those who have not been reached with education on HIV and AIDS and addressing the misconceptions about HIV and AIDS knowledge. This must be addressed more rapidly as a priority in the National strategic plan.

Getting literature and appropriate IEC materials may create awareness of HIV and AIDS and knowledge of HIV prevention among students with disabilities. Capacity building is urgently needed.

Contribution of the study to the world of academia

Previous studies investigated access to HIV and AIDS information among people with disabilities in general. The current study contributes to literature on the influence of disability on access to HIV and AIDS information among students with disabilities in institutions of higher learning. While the focus of the reviewed studies was on one or the other type of disability, the current one gave attention at the same time to three types of disabilities namely visual, physical and hearing impairments. Additionally, the study suggested school-based interventions that respond to the health challenges faced by students with disabilities in their academic milieu, which in turn may negatively impact on their retention and performance.
5.3 Recommendations

1. The government of Rwanda should break down barriers by elaborating specific policy and providing training and workshop to address the various misconceptions about HIV and AIDS transmission and prevention among students with disabilities. This recommendation follows after the finding that attitudinal and physical barriers hinder access to HIV and AIDS information to students with disabilities;

2. Organization of people with disabilities in Rwanda should provide appropriate means of communication to students with disabilities, and should translate all HIV and AIDS materials into Braille and train more sign language interpreter for University, as well as improve access to services (for example, clinics). This recommendation was made after researcher found out that the best ways of communication for physical disabilities with others were reading, body language, writing and speech and hearing while visual impairment considered Braille, speech and hearing their best ways of communication. Hearing impairment indicated that sign language is the best way of communication.

3. Organization working with people with disabilities in Rwanda should establish enough HIV and AIDS programs in order to ensure that more students with disabilities are reached using peer education and behavior change communication. This recommendation was influenced by the findings that showed that health facilities, printed materials and teachers are the important sources of information as it is said in
interview with deans of students, medical doctors and heads of HIV and AIDS clubs.

5.3.1 Policy Recommendations

(i) The Government of Rwanda should know the statistics of students with disabilities (not only government sponsorship) in order to allocate resources in prevention programs.

(ii) A national program should be instituted to support HIV prevention among students with disabilities.

(iii) Integrating HIV and AIDS into subject curricula: Strong perceptions that HIV and AIDS have not been sufficiently incorporated into the academic curriculum suggest that there should be a review of what is being done and a national project should be launched for addressing this need.

5.3.2 Recommendations for further research

Further research is needed on the impact of HIV and AIDS on Education among students with disabilities, Sexual abuse (comparative study) as well as research on situation analysis of prevention interventions among students with disabilities.
REFERENCES


APPENDIX A

QUESTIONNAIRES FOR STUDENTS

This questionnaire is used to gather information about access to HIV and AIDS information among students with disabilities in institutions of higher education in Rwanda. This is part of my research work and the answers you give are very important. So please be as honest as you can. The information you give will be confidential and will only be used for research purposes.

SECTION ONE: Demographic

1. Your age. ________ years old
2. Your gender: □ male/ □ female
3. Which types of disabilities do you have? __________________________ Which types of disabilities______________________________
   a. Do you have a boyfriend (girlfriend) □ Yes no □
   b. Do you have more than one boyfriend (girlfriend). □ Yes no □

   How many (number)?
   c. Are you married to more than one husband (wife). □ Yes no □

   How many (number)?
5. Have you experience AIDS-related death or illness in your family? □ Yes no □

Please indicate relationships........
Section two

Q1. Does your disability increase your risk of contracting HIV? □ yes/ □ no
Explain your answer...

Q2. Do you think that people/students with disabilities are sexually active? □ yes/ □ no
Explain your answer...

Q3. Do you think that people/students with disabilities constitute a special group which needs special attention such as the one given to youth, truck drivers, and commercial sex workers, as prevalence rates for these groups are particularly high? □ yes/ □ no
Explain your answer..

Q4. Do you feel being at risk of:
□ yes/ □ no
a. Not being sexually active;
   b. Rape/Sexual abuse;
   c. Drugs taking;
   d. Medical procedures;
   e. Lack of information concerning HIV and AIDS
   f. Lack of access to prevention programs;
   g. Refusal of the Family to participate in programs
   h. Refusal of service by the Police if the victim has a disability;
   i. Refusal of accommodation in an institution
   j. Not following prevention programs which are not in a language that can be understood/ written in braille
   k. Other
Explain your answer.

Q5. Do you know any person with disabilities who could not be able to be tested for HIV and AIDS because of location where this activity took place? □ yes/ □ no
Explain your answer........
Q6. Do you know any person with a disability who could not access health care programs for people/students with HIV and AIDS because of the formats the prevention measures are presented in, so that the person with disability is unable to process the information being presented to them? □ yes/ □ no

Explain your answer....................

Section three

1. How can HIV be transmitted? (□ yes/ □ no )

Sexual intercourse without a condom=1; sex with a condom=2; mosquito bite=3; sharing tooth brush=4; kissing= 5; sharing clothes/bedding=6; blood transfusion=7; sharing razor blades=8; unsterilized needles=9; mother to child=10; promiscuity=11; caring for people living with HIV and AIDS=12; sharing food=13;; eating with an HIV+person=14, Other=15;

2. How can the transmission of HIV be prevented? (□ yes/ □ no ). Using condoms=1; abstinence=2; avoiding sex with multiple partners=3; avoiding sharing razor blades=4; avoiding sharing tooth brushes=5; avoiding kissing= 6; avoiding sharing beddings/clothes=7; avoiding sharing food=8; blood test=9; other=10;

3. Can you identify HIV cases by looking at the person with HIV and AIDS? □ yes/ □ no  

Explain your answer.....................
Section four

1. What are the sources of HIV and AIDS information in your community? (☐ yes/ ☐ no)

Health facilities=1; teachers=2; Youth peer group=3; Political Party leaders= 4; Church leaders=5; Printed material=6; Parents= 7; Friends=8; Film/video=9; NGOs=10; Posters=11; radio=12; other=13

2. As one of the people/students with disabilities, what problems do you face in accessing information on HIV and AIDS? None=1;     old age=2; lack of materials=3; lack of person to guide me=4; other = 5

3. Do you think that the information concerning HIV and AIDS that is reaching people/students with disabilities is: a. Less accurate than that reaching the general population?;          b. Equal to that reaching the general population?; c. More accurate than that reaching the general population?

Section five

1. a. Is it easy for you to communicate with others? ☐ yes/ ☐ no

If Yes, what makes it easy? Speech and hearing=1; Braille=2; Sign language=3; Body language=4; Reading=5; Writing =6; Other specify =7

If no ,what makes it difficult? Cannot read =1; Cannot write =2; Cannot read Braille =3; Cannot understand sign language=4 Cannot speak =5; Other =6
2. What is the appropriate means of communication which should be used in teaching HIV and AIDS to people/students with: a) Visual impairment? b) Hard and hearing impairment? c) Physical disabilities?

Adapted from research report of Munthali, Mvula, Ali (2004)
APPENDIX B

INTERVIEW GUIDE FOR THE DEANS OF STUDENTS, MEDICAL DOCTORS AND HEADS OF HIV AND AIDS CLUBS

The researcher will use the following questions as a guide for the interview process.

1. Do you think that the information concerning HIV and AIDS is reaching people/students with disabilities?

2. What is the appropriate means of communication should be used in teaching HIV and AIDS to students with disabilities?

3. Do you know any person with disabilities who could not be able to be tested for HIV and AIDS because of some barriers? Which were those barriers?

4. What is the knowledge about HIV and AIDS among students with disabilities in relation to Symptoms, Transmission and Prevention?

5. What are the Sources of Information about HIV and AIDS among students with disabilities?
APPENDIX C

MAP OF RWANDA
RESEARCH AUTHORIZATION

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: degm-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 87530

Our Ref: E83EA/2164/2010
Date: 2nd April, 2014

The Ministry of Education,
P.O. Box 622 Kigali,
RWANDA

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION HABINSHUTI GONZAGUE – REG. NO. E83EA/21064/2010

I write to introduce Mr. Habinshuti Gonzague who is a Postgraduate Student of this University. He is registered for Ph.D degree programme in the Department of Special Needs Education.

Mr. Gonzague intends to conduct research for a Ph.D proposal entitled, “Access to HIV and AIDS Information by Students with Disabilities in Institutions of Higher Education in Rwanda”

Any assistance given will be highly appreciated.

Yours faithfully,

MRS. LUCY N. MBAABU
FOR: DEAN, GRADUATE SCHOOL

JMO/revm

Committed to Creativity, Excellence & Self-Reliance
APPENDIX E

APPROVAL OF RESEARCH PROPOSAL

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

FROM: Dean, Graduate School
DATE: 2nd April, 2014

TO: Habinshuti Gonzague
C/o Special Needs Education Dept.

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

This is to inform you that Graduate School Board at its meeting of 27th March, 2014 approved your Research Proposal for the Ph.D. Degree, Entitled “Access to Hiv and Aids Information by Students with Disabilities in Institutions of Higher Education in Rwanda”.

You may now proceed with your Data collection.

By copy of this letter, the Registrar (Academic) is hereby requested to grant you substantive registration for your Ph.D. studies.

Thank you.

JOHN ODONGI
FOR: DEAN, GRADUATE SCHOOL

cc. Chairman, Special Needs Education Dept.

Supervisors:

1. Dr. Francisciah I. Wamochu
   C/o Special Needs Education Dept.
   Kenyatta University

2. Dr. Michael N. Njoroge
   C/o Special Needs Education Dept.
   Kenyatta University

Committed to Creativity, Excellence & Self-Reliance
APPENDIX F

APPROVAL TO CONDUCT RESEARCH IN RWANDA

REPUBLIC OF RWANDA

Kigali, 13.05.2014
Ref. No.: AM.7/1200/2014

MINISTRY OF EDUCATION
P.O. BOX 622 KIGALI

Mr. HABINSHUTI Gonzague
Ph. D Student
Kenyatta University, Kenya
Tel:+250788809234

RE: Approval to conduct research in Rwanda under the project titled “Access to HIV and AIDS Information by Students with Disabilities in Institutions of Higher Education in Rwanda”

I am pleased to attach a copy of research clearance which has been granted to you to conduct research on the above project title.

I wish to remind you that the research permit number should be cited in your final research report. The research should be carried out under affiliation of UR- College of Education; under supervision of Dr. KARANGWA Evariste, Director, Postgraduate Studies and Research, UR- College of Education. A copy of the final research report will be given to the Ministry of Education of Rwanda.

I wish you success in your research.

Yours sincerely,

Dr. Marie Christine GASINGIRWA
Director General,
Science, Technology and Research
Ministry of Education

Cc. - Honorable Minister of Education
- Honorable Minister of State in Charge of Primary and Secondary Education
- Honorable Minister of State in Charge of TVET
- Permanent Secretary, Ministry of Education
- Advisor, Science and Technology, Ministry of Education
- Dr. KARANGWA Evariste, Director, Postgraduate Studies and Research, UR- College of Education
APPENDIX G

PERMISSION TO CARRY OUT RESEARCH IN RWANDA

REPUBLIC OF RWANDA

MINISTRY OF EDUCATION
P.O BOX 622 KIGALI

Re: Permission to carry out research in Rwanda - No: MINEDUC/S&T/231/2014

Permission is hereby granted to Mr. HABINSHUTI Gonzague, a Ph.D student in Special Needs Education, Kenyatta University, Kenya, to carry out research on: “Access to HIV and AIDS Information by Students with Disabilities in Institutions of Higher Education in Rwanda”.

The research will be conducted in all Colleges of University of Rwanda located in Musanze, Huye and Nyagatare districts as well as in Kigali City. The researcher will interview Medical Doctors who work in Colleges’ Clinics; Deans of students and Heads of HIV and AIDS clubs in all these Colleges.

The period of research is from 05th May, 2014 to 05th May, 2015. This period may be renewed if necessary, in which case a new permission will be sought by the researcher.

Please provide Mr. HABINSHUTI Gonzague any support he may require in the course of conducting this research.

Yours sincerely,

[Signature]

Dr. Marie Christine GASINGIRWA
Director General,
Science, Technology and Research
Ministry of Education