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DEPARTMENT OF COMMUNITY MEDICINE

SEXUAL BEHAVIOURS AND VULNERABILITIES TO HIV: A CASE STUDY OF THE HEARING AND VISUALLY IMPAIRED PUPILS OF MUNALI BOYS AND MUNALI GIRLS HIGH SCHOOLS IN LUSAKA.

By

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Declaration

This dissertation is the original work of Stephen Katuta. It has been prepared in accordance with the guidelines of MPH dissertation of the University of Zambia. This dissertation has not been submitted elsewhere for a degree at this University or any other university.

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Dedication

This work is dedicated to my two sons Moses Jacobs Katuta and Joseph Jacobs Katuta. They have always been on my mind as I was doing every bit of this work. I am so proud of them and I love them so much. They make a wonderful Jacobs family.

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Abstract

An institutional data set at Munali Boys and Munali Girls High Schools was showing an unknown gravity of HIV and sexual behaviours among the visually and hearing impaired pupils. Lack of information on the prevalence and factors associated with HIV/AIDS infection among the disabled had led to under estimations of the problem of HIV and risky sexual behaviours. This study sought to: (i) determine the proportion of the visually and hearing impaired pupils who are HIV positive, (ii) determine the risky sexual behaviours among the visually and hearing impaired pupils (iii) determine possible associations of risky sexual behaviors and (iv) explore a possible institutionalised model that could be used to initiate health promotion and HIV prevention among the visually and hearing impaired pupils of Munali Boys and Munali Girls High Schools.

This was an exploratory descriptive cross-sectional study was employed. The setting of this study was a pupil sample of 51 from five streams – grade 8 to 12 was recruited into the study randomly.

The study found that within the study population, only 4 teenagers among the hearing and visually impaired pupils (2 males and 2 females) said they were HIV positive and 19 said they were HIV negative and all these hearing and visually impaired pupils were teenagers. The other 28 hearing and visually impaired pupils did not know their sero status. The self-report sero prevalence in this study was 7%. The visually and hearing impaired pupils at Munali boys and Munali girls high schools are a subpopulation of youths and adolescents at particularly high risk for HIV/AIDS and sexually transmitted infections due to numerous barriers including language, hearing, being physically defenseless, requiring attendant care to receive protection from being abused sexually, sexual behaviours that are determined largely by people other than themselves, careless exposure to sexual diseases, early engagement into sex and none use of condoms. There was no significant difference in knowing one's HIV status by age group ($\rho = 0.200$) and not even by sex ($\rho = 0.347$). Being a girl was associated with significant vulnerabilities and risky behaviours.

The picture at Munali Boys and Munali Girls High Schools is not different from reports elsewhere that HIV/AIDS is of immediate concern to the disabled populations. This study suggests that significant prevention can be gained for the visually and hearing impaired pupils by using Jessor's theoretical model and special attention should be paid to female pupils. Important issues should be given priority by the Ministries of Education and Health when designing curricular, school health services and particularly emphasizing counseling and testing while expanding treatment for HIV and sexually transmitted infections.

CHAPTER ONE – BACKGROUND

1.0. Introduction

Groce (2003) states that there is a real need to understand the issue of HIV/AIDS in disabled people in global terms and to design and implement programmes and policy in a more coherent and comprehensive manner. The roughly 600 million individuals who live with a disability are among the poorest, least educated, and most marginalized of all the world's peoples. They are at serious risk of HIV/AIDS and attention needs to be focused on them.

This study is about sexual behaviors among disabled people in the advent of HIV and AIDS. The United Nations (1993) estimates that 600 million people worldwide have a disability of which 30% reside in developed countries and 70% live in developing countries. It is estimated that over 25% of households' worldwide care for a member with a disability and that these people are vulnerable to contracting HIV/AIDS. While there is no data in Zambia to confirm that people with disabilities, particularly hearing and visually impaired pupils, are more vulnerable to contracting HIV/AIDS, we know from the real experience of families and people who have a disability that the conditions of extreme poverty, poor health, and lack of education result in increased exposure to this infection. Disability and poverty form a vicious circle. Conditions of poverty create disabilities that can occur from birth to old age. After the onset of a disability, barriers to health and rehabilitation services can trap people in a cycle of poverty (Elwan, 1999). One person in ten—as many as 600 million people worldwide—live with a physical, sensory (deafness, blindness), intellectual, or mental health impairment significant enough to make a difference in their daily lives (UN, 1993).

Too often, individuals with disability have not been included in HIV prevention and AIDS outreach efforts because it is assumed that they are not sexually active and at little or no risk for HIV infection. The Global Survey on Disability and HIV/AIDS

conducted by Yale University and the World Bank has proven this assumption wrong. Individuals with disability have equal or greater exposure to all known risk factors for HIV infection. For example, adolescents and adults with disability are viewed to be less likely as their non-disabled peers to be sexually active. Homosexuality and bisexuality appear to occur at the same rate among individuals with disability as among the non-disabled. Individuals with disability are as likely as non-disabled people to use drugs and alcohol (UNICEF, 1999). Men and women with disabilities are even more likely to be victims of violence or rape, although they are less likely to be able to obtain police intervention, legal protection or prophylactic care (Groce and Trasi 2004).

The World Bank (2004) estimates note that people with disabilities account for as many as *one in five* of the world's poorest people, suggesting that of the World Bank's 1.3 billion poor, approximately 260 million may have a disability. 40% - 70% of girls and 15% - 20% of boys with intellectual disabilities will be sexually abused before the age of 18 (Groce 2003). Monaghan (2008) explains that 80 million people in Africa are disabled. They make up a large proportion of people in the poorest communities, which are also severely affected by HIV & AIDS and this is because there are significant risk factors for disabled populations (Groce, 2004). For example, despite the assumption that disabled people are sexually inactive, those with disability—and disabled females in particular—are likely to have more sexual partners than their non-disabled peers. Extreme poverty and social sanctions against marrying a disabled person mean that they are likely to become involved in a series of unstable relationships (Druker et al., 2001). Disabled individuals (both male and female) around the world are more likely to be victims of sexual abuse and rape than their non-disabled peers. Factors such as increased physical vulnerability, the need for attendant care, life in institutions, and the almost universal belief that disabled people cannot be a reliable witness on their own behalf make them targets for all forms of abuse (Joensuu et al., 2001; Rubin et al., 2001). In some cultures where it is believed that HIV-positive individuals can rid themselves of the virus by having sex with virgins, there has been a significant rise in rape of disabled children

and adults. Assumed to be virgins, they are specifically targeted (Cools et al., 2003; Groce and Trasi 2004). In some countries, parents of intellectually disabled children now report rape as their leading concern for their children's current and future well-being (Druker et al., 2001). Bisexuality and homosexuality have been reported among deaf and intellectually disabled adults, while awareness of HIV/AIDS and knowledge of HIV prevention is low in both these groups. Individuals with disability are at increased risk of substance abuse and less likely to have access to interventions. It is estimated that 30% of all street children have some type of disability and these young people are rarely reached by safe sex campaigns (Cools et al., 2003).

1.1. Statement of the Problem

HIV and AIDS is a significant and relatively unrecognised problem among disabled populations worldwide (Munthali, 2004). However, there is no information on the prevalence of HIV/AIDS among the disabled and this has led to underestimations (Nsamenang, 1992; Negussie 1988; Schlegel and Barry, 1991). Although AIDS researchers have studied the disabling effects of HIV/AIDS on previously healthy people, little attention has been given to the risk of HIV/AIDS for individuals who have sensory disability before becoming infected. It is commonly assumed that disabled individuals 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 non-disabled peers. Yet a growing body of research indicates that they are actually at increased risk for every known risk factor for HIV/AIDS (Moore, 1998; Gaskins, 1999; Nosek et al., 2001; Blumberg and Dickey, 2003). At the moment, at Munali Boys and Munali Girls High Schools there is no information on the sexual behaviour among pupils with disabilities. Lack of information on the prevalence and factors of HIV/AIDS infection among the disabled has led to under estimations as already stated. It is an area that we know the least about, hence, the need to do a study in this area.

1.2. Significance of the Study

The foregoing goes on to show that there are glaring gaps in our understanding of the general health challenges that disabled persons face in Zambia, which however becomes even more alarming when related to HIV/AIDS. It is against this background that the researcher commissioned this empirical study. Unless an empirical (experimental) examination of the problem of HIV/AIDS, sexual behavior and determinants of this behavior are done, it will not be possible to come up with valid and reliable facts to inform policy changes in favour of investing in improving these services for the inclusion of all disabled persons. In so far as present modes of health communication which remains the major thrust of HIV/AIDS control in Zambia to date remain accessible to only those that can hear and talk without assistive devices, then the many that are being excluded because they have associated disabilities are having their human rights and freedoms abused and their lives sacrificed to HIV/AIDS. This is all the more noteworthy, since disabled persons form part of the society and socially interact with others. Therefore, it goes without saying that their exclusion limits the success of any health promotion services.

This study hopes to establish what the scenario is like in terms of the lived sexual lives, risks and vulnerabilities. The generated knowledge will provide great potential for prevention and creating initiatives to reach pupils with disabilities and their families through:

1. *Increased access to VCT.*
2. *Care Treatment and Support*
3. *Counselling and health information*

The research design will provide a blue print for a national study to involve all disabled persons. The study would also be used by policy makers involved in the formulation of national policies with regard to HIV/AIDS in Zambia to incorporate people with disabilities as potential partners in the fight against HIV/AIDS. The results of this paper would also be used as a unifying umbrella under which disabled

people's organizations, organizations of people living with HIV & AIDS, non-governmental organizations, AIDS services organizations, researchers, activists, and other citizens will work collectively to achieve a coordinated response involving persons with disabilities in Zambia to achieve inclusive national HIV & AIDS policies and programs and equal access for persons with disabilities in Zambia to information and services on HIV & AIDS.

This is one of the pioneering studies in Zambia on the prevalence of HIV and factors that contribute to the prevalence of HIV among people with disabilities.

CHAPTER TWO – LITERATURE REVIEW

2.0. Introduction

This literature review provides an overview of what other researchers have written on disability and HIV/AIDS. It has put into perspective the problem of HIV and sexual behaviour generally among disabled pupils. The literature review also gives a general overview on HIV/AIDS on the general population.

2.1. Global Perspective

HIV/AIDS is the leading cause of death in adults aged 15-59 years killing almost 5000 men and women in this age group, and almost 1000 of their children every 24 hours in sub-Saharan Africa (WHO 2003). Every single day 13,000 people are infected with HIV/AIDS and 8,000 die as a result of it. Estimates vary, but nearly 40 million people are infected with the disease – equivalent to the population of Spain. A further five million were infected in 2005 alone (WHO 2003).

Over 23 years on, AIDS has grown to become the fourth-leading cause of death among adults in the world, resulting in over three million deaths every year. For the past two decades HIV/ AIDS has continued to spread across all continents killing millions of adults in their prime, disrupting and impoverishing families and turning millions of children into orphans (WHO 2003). 25.3 million people were living with HIV/AIDS and out of these 16.4 million have died. This has led to the increased number of orphans including the disabled to up to 13.2 million worldwide of which 12.1 million are in Africa. One person in ten—as many as 600 million people worldwide—live with a physical, sensory (deafness, blindness), intellectual, or mental health impairment significant enough to make a difference in their daily lives and eighty percent of these live in the developing world (UN 1993). Disability also significantly impacts the lives of disabled people's family members and communities. And according to WHO/UNAIDS (2001) there were a total of four million people including those with disabilities of all sexes and ages living with HIV/AIDS worldwide. Nearly half of the infected people are said to be in sub-Saharan Africa.

Groce (2003) indicated that there is a real need to understand the issue of HIV/AIDS in disabled people in global terms and to design and implement programmes and policy in a more coherent and comprehensive manner. The roughly 600 million individuals who live with a disability are among the poorest, least educated, and most marginalized of all the world's peoples. They are at serious risk of HIV/AIDS and attention needs to be focused on them (Groce 2003). In too many countries where the HIV epidemic is concentrated in high-risk groups (the people with disabilities) governments have taken the easy route of generalised approaches, such as school programmes that have excluded those who are deaf, dumb and the blind. Efforts to control HIV/AIDS among most governments are hampered because these groups have no empowerment strategies, have little or no access to HIV prevention and treatment services.

2.2. Regional Perspective

The UNAIDS (2001) report warned that the HIV epidemic has cut to less than forty years the average life expectancy of people in seven countries in sub-Saharan Africa—Central African Republic, Lesotho, Malawi, Mozambique, Swaziland, Zimbabwe and Zambia. Historically, southern African countries were the last in the region to be hit by the pandemic, as it blazed its way relentlessly down the continent from East Africa. Uganda is the only African country to have succeeded in turning the tide on the HIV epidemic through early concerted awareness and prevention strategies. Botswana, Zimbabwe, Zambia, Malawi and South Africa have become the hardest hit by the disease among all African countries. There was an estimated 1.7 million [1.4 – 2.4 million] new HIV infections in sub-Saharan Africa in 2007 and the region remains most severely affected. An estimated 22.5 million [20.9 – 24.3 million] people living with HIV, or 68% of the global total, are in sub-Saharan Africa. Eight countries in this region (Botswana, Cameroon, Chad, Kenya, Malawi, Togo, Zambia, and Zimbabwe) now account for almost one-third of all new HIV infections and AIDS deaths globally (UNAIDS epidemic update, 2007).

And if that wasn't bad enough, children and young people including disabled pupils are particularly affected by the spread of HIV/AIDS. Over 50% of all HIV infections

occur in children. Adults and children with AIDS and their families have to face not only health problems but can also encounter discrimination, isolation and inadequate or inappropriate support services (Helander 1998). Persons with disabilities across Africa have been feeling the impact of HIV & AIDS in their families and communities since the beginning of the pandemic. And as the response to HIV becomes more organized, as decisions and resources are concentrated increasingly at the national level, persons with disabilities have found themselves at the fringes of the civil society rights-based movement and excluded from initiatives that aspire to achieve "Access for All" (Groce 2004).

2.3. National Perspective

Zambia is one of the Sub Saharan African countries worst affected by the HIV/AIDS pandemic. About 1 million Zambians are infected with HIV, of which over 200,000 are in need of ARVs (NAC 2006). The population of Zambia now stands at 10.3million people with an annual growth of 2.9%. From this, 11% are persons with disabilities out of which 53% are male and 47% are females (MOH 2005). HIV/AIDS is now estimated on adult HIV prevalence of 14.3% (CSO 2007). The peak age for HIV among females is 25 to 34 years while that of males is 35 to 39 years. Young women aged 15 to 19 are five times more likely to be infected compared to males of the same age group. Persons with disabilities are more likely to be infected than the rest of the population but the prevalence is not known.

The adult HIV prevalence rate observed in the CSO (2007) is 14 percent. Among women aged 15-49, the HIV prevalence rate is 16 percent, while among men aged 15-49 and 15-59 the HIV prevalence rate is 12 percent. Overall, HIV prevalence in urban areas is twice as high as in rural areas (20 and 10 percent, respectively). In the meantime all sectors of the Zambian society including people living with disabilities continue to feel the negative impact of HIV/AIDS. There is need to involve all stakeholders and partners in the fight against the epidemic (MOH 2005). Nearly 80% of HIV transmission in Zambia is through heterosexual contact exacerbated by high-risk sexual practices, gender inequity, high levels of poverty, stigma and

discriminatory practices and high prevalence of sexual transmitted infections and tuberculosis. The remaining 20% is predominantly due to mother to child transmission during pregnancy, at birth or while breast -feeding (NAC 2006).

This is an opportunity for this country, Zambia, to spearhead initiative in developing a comprehensive model that can be used and replicated in health care services, education and nationwide awareness programs for people with disabilities. A coordinated response involving persons with disabilities in Zambia is needed to achieve inclusive national HIV & AIDS policies and programs and equal access to information and services on HIV & AIDS.

2.4. HIV/AIDS and Disability

Most of the 20 million women in the world living with HIV are found in Sub-Saharan Africa. Zambia has been hard hit by the HIV/AIDS epidemic, and about one million people and among them the disabled are living with HIV (UNAIDS, 2005). Zambia is now well into the third decade of its experience with AIDS and the prevalence is yet to be estimated among these vulnerable people. Although researchers have studied the disabling effects of HIV/AIDS on previously healthy people, little attention has been given to the risks of HIV/AIDS for individuals with a physical, sensory (deaf, blind), mental or multiple disabilities before or after infection. In Zambia, people with disabilities are also more likely to become victims of exploitation, sexual violence and rape. Girls often face double discrimination, both as a female and as a person with disability (Groce 2003).

Since hardly any HIV/AIDS prevalence data exists in Zambia for people with disabilities, cases of HIV-positive persons with disabilities are rarely reported or documented thus creating widespread exclusion from mainstream HIV/AIDS health care services and preventative campaigns. The majority of people with disabilities are less likely to obtain health information and related services due to lack of education and socio-cultural exclusion. UNAIDS (2005) explains that the deaf, blind and those with learning or mental disabilities are disadvantaged in accessing written information on HIV/AIDS, including other media such as radio, television, public

announcements, billboards and poster campaigns, which largely continue to remain inaccessible. Information on HIV/AIDS is often in accessible formats i.e. radio miss deaf people, billboards and posters miss blind people and complex messages miss the intellectually disabled people (Moll 2007).

Elwan (1999) says that disabled women are less likely to marry or have stable relationships and are frequently having multiple sexual partners. Also disabled girls are more likely to have forced sex and they are victims of rape and sexual abuse. Women with disabilities are especially at high risk because they have less education, fewer employment and marriage opportunities (Groce and Trasi 2004).

Moll (2007) postulates that people with disabilities are less likely to receive information about HIV/AIDS or have access to condoms. Even when condoms are provided the physically disabled and the visually impaired usually experience challenges in using them.

In Zambia, clinics and services are often inaccessible for the physically disabled and many persons with disabilities are unable to communicate effectively with health providers. Generally, in Zambia people with disabilities are vulnerable to the impact of HIV/AIDS because of higher rates of illiteracy, marginalization, poverty and discrimination.

2.5. Risks and Vulnerabilities

There are few data on HIV prevalence among persons with disabilities. The few existing studies on the hearing-impaired, or deaf, populations, suggest infection levels equal to or higher than those of the rest of the community (Gaskins, 1999; UNAIDS, 2002; Monaghan, 2006; Taegtmeyer et al., 2006; Douglas and Monaghan, 2008; Touko, 2008). Persons with disabilities may be at risk of HIV infection for the following reasons.

1. **HIV risk behaviours**: due to a number of reasons, including insufficient access to appropriate HIV prevention and support services, many persons

with disabilities engage in behaviours which place them at risk of HIV infection, such as unprotected heterosexual or male-to-male sex (including in the context of sex work) and injecting drug use (Groce, 2004). Additionally, persons with disabilities who also belong to groups that may be socially marginalized, such as men who have sex with men, people who inject drugs, or prisoners, may face compounded stigma and discrimination.

2. **Sexual violence:** a large percentage of persons with disabilities will experience sexual assault or abuse during their lifetime (American Academy of Pediatrics (2007), with women and girls, persons with intellectual impairments and those in specialized institutions, schools or hospitals being at particularly high risk (Sobsey and Doe, 1991). There is also evidence that in some cultures, persons with disabilities are raped in the belief that this will "cure" an HIV-positive individual (Groce and Trasi, 2004).

3. **Access to HIV education, information and prevention services:** persons with disabilities may also be turned away from HIV education forums or not be invited by outreach workers, because of assumptions that they are not sexually active, or do not engage in other risk behaviours such as injecting drugs. Even where knowledge of HIV is high among persons with disabilities, this does not always translate into use of HIV testing and counselling services (UNESCO, 2007). In a specific instance, children with disabilities account for one third of the 72 million children out of school in the world (Groce, 2005), and are excluded from the vital sexual and reproductive health education that is often provided in school settings. Low literacy levels and a lack of HIV prevention information in accessible formats make it all the more difficult for persons with disabilities to acquire the knowledge they need to protect themselves from HIV (South African AIDS Council, 2008).

2.6. Notable Gaps and what is known in the Literature

Research has shown that sex education programmes for those with disability are rare (Gaskins, 1999; Collins et al., 2001) and almost no general campaigns about HIV/AIDS target (or include) disabled populations. Indeed, where AIDS campaigns are on radio or television, groups such as the deaf and the blind are at a distinct disadvantage. The future for disabled individuals who become HIV positive is equally grim. Although little is known about access to HIV/AIDS care, disabled citizens receive far fewer general health-services than others. Indeed, care is not only often too expensive for impoverished disabled persons, but it can also be physically inaccessible, for example, In clinics steps bar the way for a wheelchair user and consultation with a physician without a sign-language interpreter is meaningless for most deaf persons. Currently, little is known about HIV/AIDS and disability. Only a few studies have estimated prevalence and no prevalence data exist for any disabled populations from sub-Saharan Africa, Asia, Europe, Central and South America, or the Caribbean. However, a growing number of stories from disability advocates worldwide point to significant unreported rates of infection, disease, and death (Moore, 1998). Over the past decade there have been a handful of articles on HIV/AIDS pilot programmes and interventions for intellectually disabled adults or services for deaf adolescents (Gaskins, 1999). Many of these projects are innovative but almost all are small and underfunded. There is a real need to understand the issue of HIV/AIDS in disabled people in global terms and to design and implement programmes and policy in a more coherent and comprehensive manner.

As stated earlier that little is known about HIV/AIDS in populations with pre-existing disabilities, the handful of prevalence studies available raise serious concerns, however. For example, a study published in 2001 revealed that AIDS was the leading cause of mortality among women with psychiatric illness in New York. Mulindwa (2003), using sexually transmitted infections (STIs) as a proxy (substitute) for potential HIV exposure, found that 38% of women and 35% of men with disability in her Ugandan study reported having had an STI. Stories from disability advocates point to significantly underreported rates of HIV/AIDS infection, disease, and death. Research globally has shown that behavioural risk factors for HIV related to sexual

activity among individuals with disability are identical to those for the general population. For instance, a US study of women with spinal cord injury found 67% sexually active after injury (Groce, 2004). In Ugandan survey, 80% reported ever being sexually active (Mulindwa, 2003). Adolescents with most types of disabilities reach puberty at the same age as non-disabled peers. Disability status among adolescents, however, compounds many of the risks related to HIV transmission. For example, disabled adolescents are frequently excluded from social activities, limiting their opportunities to learn to set boundaries and, ultimately, lowering their sense of self-worth. This often compromises their ability to refuse when pressured to have sex or try drugs (UNICEF, 1999). Physically impaired French adolescents, for example, are reported to have higher rates of sexual intercourse than non-disabled peers, as well as more sexual partners (Choquet et al., 1997). Homosexual and bisexual identities among disabled populations appear at rates comparable to those within the general population (Cambridge, 1997). As is the case with heterosexuals, homosexual and bisexual individuals with disability are vulnerable to being pressured into sex because of their need for social acceptance and inclusion. For example, a British study of men with intellectual disabilities having unprotected sex with non-disabled men in public restrooms found that the men with disabilities did not consider themselves gay but participated in these activities because they were lonely and anxious to please their new "friends" (Cambridge, 1997). Women with disability, while often thought of as potential sexual partners, are nonetheless often considered un-marriageable (Cambridge, 1997). In some countries, women with certain disabilities cannot obtain marriage licenses and may have no options other than to live in unstable relationships with a series of sexual partners (Cambridge, 1997).

2.7. Research Question

Drawing from the problems enumerated above, this study sought to answer the following overarching question:

1. What risk sexual behaviours are prominent among the visually and hearing impaired pupils?

2.8. General Objective

The General Objective of this study is:

- To explore the sexual behaviours that are prominent among the visually and hearing impaired pupils at Munali Boys and Munali Girls High Schools in Lusaka.

2.9 Specific Objectives

In order to achieve the general objective, this study sought (required):

1. To determine the proportion of the visually and hearing impaired pupils who are HIV positive.
2. To determine the risky sexual behaviours among the visually and hearing impaired pupils[1].
3. To determine possible associations of risky sexual behaviors.
4. To explore a possible institutionalised model that could be used to initiate health promotion and HIV prevention among the visually and hearing impaired pupils of Munali Boys and Munali Girls High Schools.

[1] Please see appendix IV for the details of sexual risky behaviours

CHAPTER THREE – RESEARCH DESIGN AND METHODOLOGY OF THE STUDY

3.1 Study Design

This was a cross sectional quantitative exploratory (investigative) study restricted to the visually and hearing impaired pupils of Munali Boys and Munali Girls High Schools in Lusaka. The study was driven by the inductive strategy. This is one strategy that is associated with positivism. Within the extent of this strategy, the researcher wanted to make meticulous (careful) observations, measure phenomena, analyse the data obtained, and based on the conceptions derived from Blaikie, (2000), that the researchers who intend to use this strategy must employ four inductive stages that guide the methodology of conducting quantitative inductive research as follows:

1) The researcher began by advancing sets of concepts upon which to base facts and these may be derived from the observed regularities in the literature or sensory preliminary observations. The choice of the concepts and their definitions predetermined what data was to be collected.
2) Instances of facts on sexual behaviour were then observed based on the survey questionnaire.
3) These facts needed to be analysed by comparing, checking for associations without any hypotheses or laws.
4) From this analysis, generalisations are inductively drawn as to the relations between them.

3.2 Study Setting

This study was conducted at Munali Boys and Munali Girls High Schools in the Eastern part of Lusaka along the Great East Road approximately 6 kilometres from the city centre. Lusaka is located in the southern part of the central plateau of the country, at an elevation of 1, 300m and has a surface area of 70 square kilometres (Wikipedia, 2009). Furthermore, the district was established in 1905 and is the

capital and largest city of Zambia. The population of Lusaka is approximately 3.1 million and the population density stands at 44. 285. 7 per square kilometre (CSO, 2007).

Munali Boys and Munali Girls High Schools have been running inclusive schooling since 1974. The two schools started by enrolling the visually impaired in the main stream then later included the hearings impaired that are now the majority. The schools were transformed into high schools in 2004 though there is a special unit that teaches grade 8 and 9 visually and Hearing Impaired pupils in between the two schools. The two schools now have the total enrolment number for both visually and Hearing Impaired pupils of 300 from grade 8 to 12. The two schools are now experiencing the rapid enrolment of the visually and Hearing Impaired pupils. They also use the same boarding facilities for both girls and boys and they have two boarding masters and a committee that manage the affairs of the boarders and the boarding facilities.

3.3 Study Population and Sampling

The study population consisted of registered visually and hearing-impaired pupils of Munali Boys and Munali Girls High Schools in Lusaka.

The unit of study was disabled pupils who were enrolled in grades 8 to 12 at Munali Boys and Munali Girls High Schools. Generally, all the disabled pupils were part of the sample. However, the Yamane's sampling formula below was used to determine the sample size:

$$n = \frac{N}{1 + N(e)^2}$$

Where:
N = population
n= desired sample
e = precision or error limit being 0.5%

N = 110 then ***n*** = 88

3.4 Inclusion Criteria

Only registered pupils who had Visual and Hearing impairment at Munali Boys and Munali Girls High Schools were eligible for enrolment. This study included pupils who were both HIV positive and negative, who may have known or not known their HIV status.

3.5 Exclusion Criteria

Because there were too few boys for meaningful comparison among the 88 who met these criteria, the sampling process applied disproportionate sampling. Three boys and nine girls who were unwilling to take part in the study after the sample was drawn were excluded from the sample. Eleven were absent for various reasons in the week under study and two of the questionnaires were improperly filled leaving a total pool of 51 persons for analysis. Adjusting for the 12 (non response rate), gave this study dependability of 72%.

3.6 Data Collection and Development of Data Collection Tools

The survey tool (Appendix IV) was developed and validated using the guidelines of developing a new research instrument by relying on Burns and Grove (1997) approaches. A thirty one-item questionnaire was developed for use in this study,

which was presented in English. The first part of the questionnaire included demographic characteristics including age, sex, year of study, and whether the respondent knew their HIV status or not. The second part included questions on sexual behavior, substance use behavior, risks, vulnerabilities attitudes and perception of risks. Details of the questionnaire appear as appendix IV.

Respondents' sexual behavior was assessed from their responses to questions asking their age at first sexual intercourse, number of sexual partners within the previous 6 months, beyond six months and intentions to have a partner in the future, ever having sex with a condom, sex working, being raped and having had a sexually transmitted infection.

The development was based on theoretical knowledge in the domains of HIV/AIDS, sexual behaviour and disability. After reviewing relevant literature, key concepts that were thought to be reflective of HIV/AIDS were identified. This was followed by identification of variables and their operationalisation. In this way, it was then possible to cast the variable items into questions relying as much as possible on what authors of various literature applied meaning to the terms. Experts in disabilities were then called to a workshop to develop specific tools and plan how to administer them. In order to draw the 88 respondents, using class lists as a sampling frame, all eligible hearing and visually impaired pupils were assigned a random number and were selected using systematic sampling. Due to the unique logistics of interviewing a disabled person, communication methods varied from person to person. The researcher relied on both voice and sign language.

3.7 Study Variables

The following constituted the study variables and since the researcher intended to assess associations and did not want to enlist causes and effects, there were no dependent and independent variables (Blaikie, 1993; Salkind, 2003; Creswell, 2007).

- Physically defenceless such that any one could take advantage.

- Requiring attendant care to receive protection from being abused sexually.
- Able to negotiate for sex and refuse an advance.
- Ever shared needles or syringes to inject drugs or steroids.
- Knowing HIV status.
- Ever been raped.
- Age of first experience with sex (Including when you were raped).
- Person had sex the first time.
- Frequency of sex in the last six months.
- Frequency of using a condom each time of having sex.
- History of sexually transmitted infection.
- Type of sexually transmitted infection.
- Sex working.
- People determining one's sexual behaviour other than self (e.g. friends or my partner).
- Fear of becoming sexually involved with another person.
- Fear of sexual relationships.
- Desire to avoid engaging in sex where one might be exposed to sexual diseases.
- Self blame if one was to develop a sexual disorder.

3.8 Data Analysis

The analysis was done on the computer using SPSS version 17. Descriptive statistics (means and standard deviations) and frequency distributions were used to characterize disability and HIV health status, and demographic variables. Significant differences were determined using χ^2 for categorical variables. Associations of the disability and HIV status and demographic variables were determined using Pearson's Chi Square test. Confidence interval were set at 95% and the level of significance at 5%, statistical significance achieved if ρ value is < 0.05. All ρ-values < 0.05 will be considered statistically significant.

3.9 Ethical Consideration

The researcher paid attention to issues such as permission to conduct the study, informed consent and confidentiality. The critical ethical elements of concern in this study were adhered to as follows:

3.9.1. Regarding the usage of the respondents being human subjects

All respondents were availed with information as to how they had been selected. This helped in reducing uncertainties and questions for example, "why have I been selected and not the other person".

3.9.2. What would be done to the respondent and the data?

All respondents were availed with details of what steps would be followed and that nothing would be done to them that would be injurious.

3.9.3. Risk

The respondents were informed that they may have some discomfort or some anxiety and if they feel or they see this, they may not wish to participate in the study.

3.9.4. Benefits

All respondents were availed with information regarding direct and indirect benefits.

3.9.5. Confidentiality and Privacy

Assurances were given that all information that would be provided by the respondents would be treated with utmost confidentiality. In this way respondents became satisfied. No names were used and questionnaires were allocated serial numbers that were used for identity and data entry in the computer in place of names. The computer was protected with password to prevent access to information.

3.9.6. Rights

Respondents were availed with information regarding the authority they had to quit the study anytime and to submit their complaints to the authority. A grievance process was availed to them.

3.9.7. Permission to conduct study

Ethical clearance and approval was sought from The Secretariat, Research Ethics Committee, School Of Medicine, University Of Zambia, P.O. Box 50110, Lusaka. Telephone: 01 256067 (Appendix I). Written permission to conduct the research was obtained from head teachers of the two high schools, Munali Boys and Munali Girls.

3.9.8. Informed Consent

Informed consent was obtained from all participants before administration of the questionnaire.

CHAPTER FOUR – RESEARCH FINDINGS

4.0 Introduction

This sample of pupils is representative of pupils at Munali Boys and Girls High Schools comprising 29 % of the population who met the inclusion criteria from the student body

4.1. Demographic Characteristics

Our starting point is to try and understand the demographic picture of our hearing and visually impaired pupils. All the 51 participants were Zambian youths aged 16 to 24 with a mean age 18.5 ± SD 2.11 (mean + standard deviation) and the majority were teenagers ***n*** = 37 (72%) and there were fewer male respondents (n= 15; 29.4%) to female respondents (n = 36; 70.6%). The modal grade participation in this sample was 12.

4.2. Proportion of Pupils Who Are HIV Positive

Within the study population, only 4 teenagers among hearing and visually impaired pupils (2 males and 2 females) said they were HIV positive and 19 said they were HIV negative. The other 28 hearing and visually impaired pupils did not know their sero status. The self-reported sero- prevalence was 7%.

When an association between sex and age group was profiled, there was (a) no significant difference in knowing one's HIV status by age group (ρ = 0.200) (Table 4.2.1) and further, there was no significant difference in knowing one's status by sex (ρ = 0. 347) (Table 4.2.2). This means that whether one was a teenager or not and male or female, the knowledge or awareness level of HIV status was the same.

Table 4.2.1 Age and HIV Positive Association

		Are you HIV positive?		
		Yes	No	Total
Age range	16 to 20	4	33	37
	21 to 25	0	14	14
Total		4	47	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.200

Table 4.2.2 Sex and HIV Positive Association

		Are you HIV positive?		
		Yes	No	Total
Sex of respondent	Male	2	13	15
	Female	2	34	36
Total		4	47	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.347

4.3. Risky sexual behaviours among the visually and hearing impaired pupils

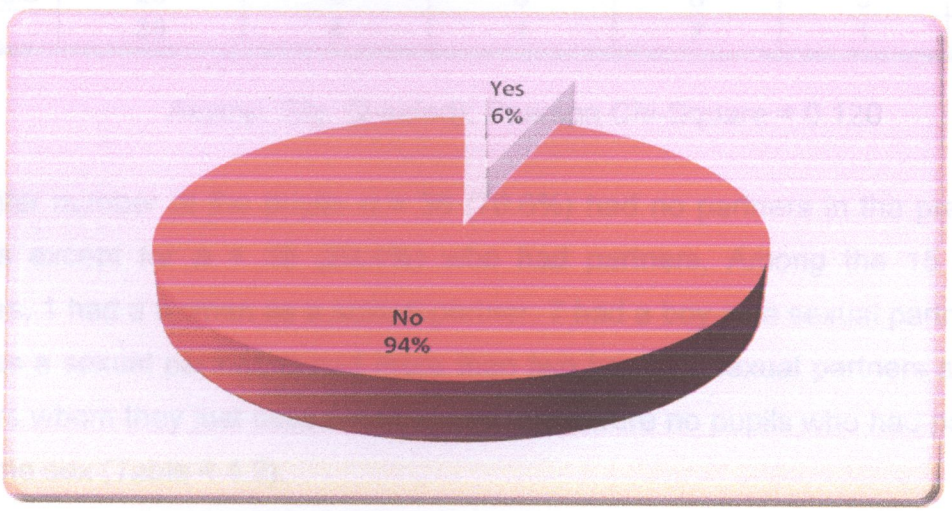
Out of the 51 hearing and visually impaired pupils, more than half ***n*** = 27 (52.9%) of hearing and visually impaired pupils had had no sex at all and just less than half of these ***n*** = 24 (47.05) had sex the first time when they were teenagers and it was not with a definite type of sexual partner (Table 4.3.1). It was surprising to note that these pupils had sex as early as 13 years and the mode was 15 years.

Table 4.3.1 Person Had Sex the First Time With

	Frequency	
Person had sex the first time with	***n***	***%***
Not applicable	27	52.9
A known person (male)	3	7.8
A male relative	4	7.8
A female relative	2	3.9
A male friend	7	13.7
A female friend	1	2.0
Just an unknown male	4	7.8
Just an unknown female	3	5.9
Total	51	100.0

Of the 51 hearing and visually impaired pupils, ***n*** = 3 (5.9%) females were raped (figure 4.3.1) and one of them was HIV positive (as a result of rape).

Figure 4.3.1 Number of hearing and visually impaired pupils who were raped.



4.4. Trends in Having Partners

In order to see the trend of sexual behaviour, the pupils were asked whether they were having sex, or had sex in the last six months or beyond seven months. When asked if at all they had a partner seven months or far back, a greater number ***n*** = 38 (74.5%) claimed to have had no partner except for ***n*** = 13 (25.5%) who had. Among the 13 who had partners, 4 girls had more than two boys as sexual partners, 1 boy had more than two girls as sexual partners and 7 had partners whom they just called friends (Table 4.4.1). In this study group, there was no difference whether one was a boy or a girl in having a partner seven months ago or far back (ρ = 0.120).

Table 4.4.1 Cross Tabulations of Sexual Behaviour Seven Months Ago By Sex.

	Did you have a partner seven months ago or far back?					Total
	I had no sexual partner	I had more than two boys as my sexual partners	I had more than two girls as my sexual partners	I just had a boyfriend	I just had a girl friend	
Male	12	0	1	1	1	15
Female	26	4	0	6	0	36
	38	4	1	7	1	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.120

A greater number of the pupils ***n*** = 36 (70.6%) had no partners in the previous six months except for ***n*** = 15 (29.4%) who had partners. Among the 15 who had partners, 1 had a woman as a sexual partner, 7 had a boy as a sexual partner, 1 had a girl as a sexual partner, 3 had more than two boys as sexual partners and 3 had partners whom they just called friends and there were no pupils who had partners of the same sex (Table 4.4.2).

Table 4.4.2 Having Partners in the Previous Six Months

	f	%
I have had no sexual partner	36	70.6
I have had a woman as a sexual partner	1	2.0
I have had a boy as a sexual partner	7	13.7
I have had a girl as a sexual partner	1	2.0
I have had more than two boys as my sexual partners	3	5.9
I have just had a boyfriend	2	3.9
I have just had a girl friend	1	2.0
Total	51	100.0

Although we could say that most of these pupils do not have partners, when asked about the future, ***n*** = 32 (62.7%) intend not to have partners in the next six months. However, 19 (37.3%) intend to have partners. Among the 19 who intend to have partners, 11 intend to have a man as a sexual partner, 1 intends to have a girl as a sexual partner and 7 intend just to have partners whom they just called friends of the opposite sex. (Table 4.4.3).

Table 4.4.3 Having a Partner in the Next Six Months

	f	%
I don't intend to have a sexual partner	32	62.7
I intend to have a man as a sexual partner	11	21.6
I intend to have a girl as a sexual partner	1	2.0
I intend just to have a boyfriend	5	9.8
I intend just to have a girl friend	2	3.9
Total	51	100.0

The profile of sexual behavior over the three time periods in terms of having partners shows that the numbers of not having a partner diminishes constantly but marginally over time and yet the desire to have partners seems to be increasing also but marginally with time (Figure 4.4.4).

Table 4.4.4 The Profile Of Sexual Partners Over Three Time Periods

Seven months ago or far back			Six months from the study			Now and six months into the future		
	n	%		n	%		n	%
I had no sexual partner	38	74.5	I have had no sexual partner	36	70.6	I don't intend to have a sexual partner	32	62.7
I had more than two boys as my sexual partners	4	7.8	I have had a woman as a sexual partner	1	2.0	I intend to have a man /boy as a sexual partner	11	21.6
I had more than two girls as my sexual partners	1	2.0	I have had a boy as a sexual partner	7	13.7	I intend to have a woman/girl as a sexual partner	1	2.0
I just had a boyfriend	7	13.7	I have had a girl as a sexual partner	1	2.0	I intend just to have a boyfriend	5	9.8
I just had a girl friend	1	2.0	I have had more than two boys as my sexual partners	3	5.9	I intend just to have a girl friend	2	3.9
——	——	——	I have just had a boyfriend	2	3.9	I don't intend to have a sexual partner	32	62.7
——	——	——	I have just had a girl friend	1	2.0	——	——	——
Total	**51**	**100.0**	**Total**	**51**	**100.0**	**Total**	**51**	**100.0**

4.5. Sexually Transmitted Infection

So far, out of 24 who have had a sexual encounter including rape, only ***n*** = 6 (11.8%) have suffered from a sexually transmitted infection.

Table 4.5.1 Occurrence of Sexually Transmitted Infection

	f	%
Yes	6	11.8
No	18	35.3
Not applicable	27	52.9
Total	**51**	**100.0**

From the 24 who had a sexual experience, 18 did not have any infection whereas the six who had actually suffered from STI have suffered from a discharge from the urethra ***n*** = 1, a discharge from the vagina ***n*** = 4 and an ulcer or blister on the genitalia ***n*** = 1.

Table 4.5.2 Type of Sexually Transmitted Infection and Sexual Behaviour

	f	%
A discharge from the urethra	1	2.0
A discharge from the vagina	4	7.8
An ulcer or blister on the genitalia	1	2.0
I have not had any of these	18	35.3
not applicable	27	52.9
Total	**51**	**100.0**

When asked whether or not they used a condom the first time they had sex, only 1 pupil out of the 24 had used a condom.

Table 4.5.3 Condom Use the First Time One Had Sex

	f	%
Yes	1	2.0
No	23	45.1
Not applicable	27	52.9
Total	51	100.0

However, when asked whether the 12 who had sexual partners at the time of the study ever used a condom, it was shocking to see that no one ever used a condom. When asked whether or not they worked for sex, no pupil ever worked for sex.

4.6. Physically Defenseless and Taking Advantage of One

When the hearing and visually impaired pupils were assessed to see whether they were physically defenseless such that any one could take advantage of them sexually, about half of the hearing and visually impaired pupils n = 25 (49%) strongly disagreed that they were vulnerable. Adding those who disagreed that they were not vulnerable n = 8, these hearing and visually impaired pupils see themselves able to defend themselves from sexual attacks (Tables 4.6.1 and 4.6.2). However, age (being a teenager or an older youth) was not significant (ρ = 0.118) but sex was significant (ρ= 001) with females being vulnerable.

Table 4.6.1 Relationship between age and being physically defenceless such that any one could take advantage of one sexually

		Age range		Total
		16 to 20	21 to 25	
Do you see yourself to be physically defenceless such that any one could take advantage of you sexually?	Strongly disagree	20	5	25
	Disagree	3	5	8
	Agree	7	2	9
	Strongly agree	7	2	9
Total		37	14	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.118

Table 4.6.2 Relationship between sex and being physically defenceless such that any one could take advantage of one sexually

		Sex of respondent		Total
		Male	Female	
Do you see yourself to be physically defenceless such that anyone could take advantage of you sexually?	Strongly disagree	7	18	25
	disagree	0	8	8
	Agree	0	9	9
	Strongly agree	8	1	9
Total		15	36	51

Asymp. Sig. (2-sided); Pearson Chi-Square < 0.001

4.7 Requiring Attendant Care to Receive Protection

Concerning requiring attendant care to receive protection from being abused sexually just less than half of the hearing and visually impaired pupils ***n*** = 24 (47.1%) agreed that they needed to depend on some one to attend to them. Adding those who strongly agreed that they needed to depend on some one n = 6 (11.8%), these hearing and visually impaired pupils see themselves highly dependant to be protected in spite of the fact that they would defend themselves (Tables 4.7.1 and 4.7.2). However, age (being a teenager or an older youth) was not significant (ρ = 0.549) but sex was significant (ρ = 0.001) with females being dependant.

Table 4.7.1 Relationship between age and receiving protection from being abused sexually

		Age range		Total
		Male	Female	
Do you see yourself requiring attendant care to receive protection from being abused sexually?	Strongly disagree	2	1	3
	Disagree	11	7	18
	Agree	19	5	24
	Strongly agree	5	1	6
Total		15	37	14

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.549

Table 4.7.2 Relationship between sex and being physically defenceless such that any one could take advantage of one sexually

		Sex of respondent		Total
		Male	Female	
	0	3	1	3
Do you see yourself requiring attendant care to receive protection from being abused sexually?	0	18	7	18
	10	14	5	24
	5	1	1	6
Total		15	36	14

Asymp. Sig. (2-sided); Pearson Chi-Square < 0.001

4.8 Friends or Partners Influencing One to Behave in a Given Manner

When the hearing and visually impaired pupils were asked the extent to which friends or partners influenced them to behave sexually in a given manner, it was not expected that the sexual behaviours of these hearing and visually impaired pupils could be determined by themselves. It is noted that whatever these hearing and visually impaired pupils did engaging in sex or not was purely their own volition (choice or wish) and friends or a partner were not factors. Far less than half of the hearing and visually impaired pupils n = 17 (33.3%) disagreed that their friends or partners determined their sexual behaviors. However, adding those who strongly disagreed that their friends or partners determined their sexual behaviors n = 13 (25.5%), these hearing and visually impaired pupils see themselves highly determined by self volition (Tables 4.8.1 and 4.8.2). However, age (being a teenager or an older youth) was not significant (ρ = 0.453) but sex was significant (ρ = 0.029) with females being dependant.

Table 4.8.1 Relationship between age and Friends or Partners Influencing One to Behave in a Given Manner

		Age range		Total
		Male	Female	
My sexual behaviours are determined largely by people other than myself (e.g. friends or my partner)	Strongly disagree	10	3	13
	Disagree	13	4	17
	Agree	6	5	11
	Strongly agree	4	2	6
Total		15	4	0

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.453

Table 4.8.2 Relationship between sex and Friends or Partners Influencing One to Behave in a Given Manner

		Sex of respondent		Total
		6	7	13
My sexual behaviours are determined largely by people other than myself (e.g. friends or my partner)	Strongly disagree	10	17	3
	Disagree	11	11	18
	Agree	6	6	24
	Strongly agree	2	4	6
Total		15	36	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0. 029

4.9 Fear of Becoming Sexually Involved With another Person

Though some of the hearing and visually impaired pupils had some sexual experience and some were in a relationship, a few ***n*** = 15 (29.4%) strongly agreed that they were afraid of becoming sexually involved with another person. Adding those who agreed that they that they were afraid of becoming sexually involved with another person ***n*** = 9 (17.6%), most of these hearing and visually impaired pupils are

afraid of becoming sexually involved with another person (Tables 4.9.1 and 4.9.2). However, age (being a teenager or an older youth) was not significant (ρ = 0.611) but sex was significant (ρ = 0.050) with females being fearful.

Table 4.9.1 Relationship between age and Fear of Becoming Sexually Involved with another Person

		Age range		Total
		Male	Female	
I am afraid of becoming sexually involved with another person	Strongly disagree	8	4	12
	Disagree	5	3	8
	Some what agree	6	1	7
	Agree	8	1	9
	Strongly agree	10	5	15
Total		37	14	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.453

Table 4.9.2 Relationship between Sex and Fear of Becoming Sexually Involved With another Person

		Sex of respondent		Total
		Male	Female	
I am afraid of becoming sexually involved with another person	Strongly disagree	1	11	12
	Disagree	3	5	8
	Some what agree	6	1	7
	Agree	1	8	9
	Strongly agree	4	11	15
Total		15	36	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0. 029

4.10 Fear of Being in a Relationship at the Time of the Study

Though some of the hearing and visually impaired pupils were in a relationship at the time of the study and others were not, about less than half n = 21 (41.2%) strongly agreed that they were afraid of being in a relationship. Adding those who agreed that they that they were afraid of being in a relationship at the time of the study n = 9 (17.6%), we can say that most of these hearing and visually impaired pupils who were in a relationship at the time of the study inclusive of those who were not were all afraid of being in a relationship (Tables 4.10.1 and 4.10.2). However, age (being a teenager or an older youth) was not significant (ρ = 0.670) but sex was significant (ρ = 0.016) with females being fearful.

Table 4.10.1 Relationship between age and Fear of Being in a Relationship (sexual or just a friend) at the Time of the Study

		Age range		Total
		Male	Female	
At the moment, I have this fear in this relationship (sexual or just a friend)	Strongly disagree	22	10	32
	Disagree	3	1	4
	Some what agree	8	1	9
	Agree	4	2	6
Total		37	14	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.670

Table 4.10.2 Relationship between Sex and Fear of Being in a Relationship (sexual or just a friend) at the Time of the Study

		Sex of respondent		Total
		Male	Female	
At the moment, I have this fear in this relationship (sexual or just a friend)	Strongly disagree	7	25	32
	Disagree	3	1	4
	Some what agree	5	4	9
	Agree	0	6	6
Total		15	36	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0. 016

4.11. Avoiding engaging in Sex In Order To Be Careful Not to Be Exposed To Sexually Transmitted Infections (STIs)

When asked whether they would want to avoid engaging in sex in order to be careful not to be exposed to sexually Transmitted Infections, a fairly large number of hearing and visually impaired pupils strongly agreed ***n*** = 21 (41.2%). Adding those who agreed to be careful not to be exposed to sexual diseases, ***n*** = 9 (17.6%), we can say that most of these hearing and visually impaired pupils would want to be careful not to be exposed to sexual diseases (Tables 4.11.1 and 4.11.2). However, age (being a teenager or an older youth) was not significant (ρ = 0.851) but sex was significant (ρ = 0.001) with females not being careful.

Table 4.11.1 Relationship between age and Avoiding engaging in Sex In Order To Be Careful Not to Be Exposed to Sexual Diseases

		Age range		Total
		16 to 20	21 to 25	
I want to avoid engaging in sex where I might be exposed to sexual diseases	Strongly disagree	6	3	9
	Disagree	2	0	2
	Some what agree	8	2	10
	Agree	6	3	9
	Strongly agree	15	6	21
Total		37	14	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.851

Table 4.11.2 Relationship Between Sex and Avoiding engaging in Sex In Order To Be Careful Not to Be Exposed To Sexual Diseases

		Sex of respondent		Total
		Male	Female	
I want to avoid engaging in sex where I might be exposed to sexual diseases	Strongly disagree	0	9	9
	Disagree	2	0	2
	Some what agree	7	3	10
	Agree	1	8	9
	Strongly agree	5	16	21
		15	36	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0. 001

4.12 Self Stigma and Developing a Sexual Disorder

Self-stigma was one factor that was key in controlling for risk sexual behavior. When asked if they would blame themselves for developing a sexual disorder as a sign of failure to care for oneself, just about half n = 23 (45.1%) strongly agreed that they would blame themselves for developing a sexual disorder as a sign of failure to care for oneself. Adding those who agreed that they that they were afraid of being in a relationship at the time of the study n = 11 (21.6%), we can say that most of these hearing and visually impaired pupils blame themselves for developing a sexual disorder as a sign of failure to care for oneself (Tables 4.12.1 and 4.12.2). However, age (being a teenager or an older youth) was not significant (ρ = 0.851) but sex was significant (ρ = 0.001) with females blaming themselves.

Table 4.12.1 Relationship between age and Self Stigma (self blame) and Developing a Sexual Disorder

		Age range		Total
		16 to 20	21 to 25	
If I were to develop a sexual disorder, then I would be to blame for not caring for my self.	Strongly disagree	15	8	23
	Disagree	8	3	11
	Some what agree	3	1	4
	Agree	4	1	5
	Strongly agree	7	1	8
Total		37	14	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0.796

Table 4.12.2 Relationship between Sex and Self Stigma (self blame) and Developing a Sexual Disorder

		Sex of respondent		Total
		Male	Female	
If I were to develop a sexual disorder, then I would be to blame for not caring for my self.	Strongly disagree	6	17	23
	disagree	2	9	11
	Some what agree	4	0	4
	Agree	1	4	5
	Strongly agree	2	6	8
Total		15	36	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0. 030

4.13 Sex of respondent and if one has had a sexually transmitted infection

Six of the hearing and visually impaired pupils who have had sex before, had a sexually transmitted infection. The proportion of females who had a sexually transmitted infection was higher than that of males. The likelihood ratio 1.721 for a

sexually transmitted infection in girls was high and this means that a sexually transmitted infection is more likely to happen among girls than males (when a condom is not used). Though this was the case, the difference of having a sexually transmitted infection from a sexual encounter by sex was not significant (ρ = 0.433) in this sample (table 4.13.1).

Table 4.13.1 Relationship between Sex and a sexually transmitted infection

		If you have had sex before, have you ever had a sexually transmitted infection?			
		Yes	No	Not applicable	Total
Sex of respondent	Male	1	4	10	15
	Female	5	14	17	36
Total		6	18	27	51

Asymp. Sig. (2-sided); Pearson Chi-Square = 0. 433

CHAPTER FIVE– DISCUSSIONS AND CONCLUSIONS

5.1. Summary of Findings

The present study contributes to the scarce literature on disability and HIV and AIDS and particularly among the hearing and visually impaired. The study has found that within the study population, only 4 teenagers hearing and visually impaired pupils (2 males and 2 females) said they were HIV positive and 19 said they were HIV negative and all these hearing and visually impaired pupils were teenagers. The other 28 hearing and visually impaired pupils did not know their sero status. The self-report sero prevalence was 7% and the researcher has an assumption that if an HIV test was performed, the sero prevalence could be higher than the self report. The visually and hearing impaired pupils at Munali Boys and Munali Girls High Schools are a subpopulation of youths and adolescents at particularly high risk for HIV/ AIDS and sexually transmitted infections due to numerous barriers including language, hearing, being physically defenseless, requiring attendant care to receive protection from being abused sexually, sexual behaviours that are determined largely by people other than they, careless exposure to sexual diseases, early engagement into sex and none use of condoms. There was no significant difference in knowing one's HIV status by age group (ρ = 0.200) and not even by sex (ρ = 0. 347).

5.2. The Meaning of These Findings

The findings seem to show that HIV and AIDS as well as sexual risky behaviour are gendered phenomena among the hearing and visually impaired pupils. The self reported HIV status suggesting a sero prevalence of 7% fits well the anecdotes from disability advocates who point to significantly underreported rates of HIV/AIDS infection and disease (Groce, 2004). The sero prevalence could be higher than this value. Although we have already stated that AIDS researchers have studied the disabling effects of HIV/AIDS on previously healthy people, with little attention been

given to the risk of HIV/AIDS for individuals who have a physical, sensory, intellectual, or mental health disability before becoming infected, our data shows that disabled individuals are at risk. The hearing and visually impaired should now be correctly thought to be sexually active and least use condoms and just like a growing body of research has established, they are actually at increased risk for every known risk factor for HIV/AIDS. Such findings should not be unexpected for individuals with disability as shown in this study. For example, despite the assumption that disabled people are sexually inactive, those with disability—and disabled females in particular—are likely to have more sexual partners than their non-disabled peers.

Like elsewhere on the globe, disabled individuals (both male and female) in this study are more likely to be victims of sexual abuse and rape and perhaps than their non-disabled peers. Factors such as increased physical vulnerability described in this study like the need for need for attendant care, life in institutions, and the almost universal belief that disabled people cannot be a reliable witness on their own behalf make them targets for predators. In cultures like ours sexual behaviours like condom use, number of sexual partners and STIs may be under reported. Although underestimates of sexual behaviour are of concern, we have been unable to find studies that directly address this topic. However, if in the AIDS era condom use for instance is considered to be "non normative," as washing with a rain coat on, then some respondents may under report condom use to conform to normative expectations. In addition, studies examining gender differences in self-reported sexual behaviour suggest that over reporting and under reporting does sometimes occur. In national probability surveys, adult men, relative to women, tended to report greater numbers of sexual partners (Dolcini et al. 1993; Morris, 1993; Smith, 1992) and, among people with risk factors for HIV/STDs, men are more likely to report using condoms (i.e., women report more non use than men) (Catania et al. 1992). Thus, men may be over reporting their numbers of sexual partners and their condom use (or women may be underreporting). Consequently, methodological conditions that may increase comfort with the interview or question might be expected to have opposite effects on men's and women's responses. That is, men may report

somewhat fewer and women somewhat more of some target behaviours (i.e., numbers of partners, condom use). In addition, evidence suggests that the largest reduction in gender differences in reports of numbers of sexual partners will occur for measures assessing longer time periods (e.g., life-time vs. past 12 months) (Morris, 1993). A lack of association seen in this study should be interpreted with caution because of a lack of diversity and sufficient numbers of males in our sample.

5.3. Situating the Study in the Broader Context

Though there are very few studies on the visually and hearing impaired persons as well as disability in general, in order to situate this study in a broader context, we are going to use studies that have looked at sexual behaviours and HIV in the general population.

Similar to other studies (Cambridge, 1997; UNICEF, 1999; Mulindwa, 2003) for instance, the data has shown that, behavioural risk factors for HIV related to sexual activity among individuals with disability are identical. A US study of females with disability due to spinal cord injury found that 67% were sexually active after injury (Cambridge, 1997). Mulindwa (2003) gives an overview that in Ugandan survey, 80% reported ever being sexually active. These figures are rather high as compared to our study that stood at just 47% (taking first sex). Risky sexual behaviour is not only limited to those who are not disabled. For example, like our study, but this time, a British study of men with intellectual disabilities having unprotected sex with non-disabled men in public restrooms found that the men with disabilities did not consider themselves gay but participated in these activities because they were lonely and anxious to please their new "friends" (Cambridge, 1997).

In this study, the incidence of rape was low as compared to the UNICEF (1997) report. Women with disability are up to three times more likely to be raped than non-disabled women; boys and men with disability may face equal risk of rape and sexual abuse as these disabled women (UNICEF, 1997). This study has noted that girls are not able to defend themselves from sexual assault prowlers. Like other studies for

instance, (Groce and Trasi, 2003) explain that many girls and women with disabilities are physically unable to defend themselves; others must relegate part or all physical care to attendants who may see them as easy victims. Though our study did not link the case of rape to a man trying to rid oneself of the infection by having intercourse with a virgin, we can speculate that the case of rape in this study may be linked to such myths. Reports from Africa and Asia indicate that both females and males with disability, who are assumed to be asexual (sexless) and therefore virgins are being raped by non-disabled individuals desperate to rid themselves of the HIV virus (Helander, 1999).

Like studies in the West and Asia, this study has shown students as a population of young adults at higher risk for human immunodeficiency virus (HIV) infection than the general public, due to their higher levels of first sex experimentation and unsafe sexual practices (Cates, 1991 Seal and Agostinelli, 1996; Ng and Lau, 1998; Sachdev, 1998; Zhang et al., 1999). However unlike in the West were over 50% of adolescents are sexually active and some have multiple casual sex partners, use condoms inconsistently (MacDonald et al., 1990; Walter et al., 1992; Lugoe et al., 1996), this study has shown a marginal increase in partners with time. The prevalence of sexually transmitted diseases (STDs) in this study is lower than for instance among studies in the West and Asia among students has been estimated at 5% to 20% (Reinisch et al., 1995; Dekin, 1996; Maswangya et al., 2000; Lau and Thomas, 2001). In our study, the HIV prevalence is high as compared to HIV prevalence that is estimated to be about 0.2% (Gayle et al., 1990).

Though we have seen that the profile of sexual behavior over the three time periods in this study in terms of having partners shows that the numbers of not having a partner diminishes constantly but marginally over time and yet the desire to have partners seems to be increasing also but marginally with time (Figure 4.2.6) is a factor that is similar in other studies like the sexual behavior among Hong Kong Chinese adolescents (Chan, 1994). The prevalence of sexual activity among Hong Kong Chinese medical students in 1988 (5%) (Chan, 1994) was consistent with sexual activity levels among secondary school students in 1996 (5%). However,

these results suggest that, unless there is a very strong trend among younger people, the prevalence of sexual intercourse may increase among these pupils due to their age and sexual curiosity, as was the case in Hong Kong (Family Planning Association of Hong Kong, 1996).

5.4. Model of Interventions

The AIDS epidemic is increasingly becoming a pressing health problem in many non-Western countries and this does not spare Zambia. In particular, Zambia faces high rates of newly acquired HIV infections among young people between the ages 15 and 24 (HIV In-Site Prevention Page, 1998; Mann and Tarantola, 1996) have few effective strategies for controlling the epidemic (HIV In-Site Prevention Page, 1997). The research findings described in the earlier chapters are sufficient to suggest a possible institutionalised model that could be used to initiate health promotion and HIV prevention among the visually and hearing impaired pupils.

Though we were prevented from conducting in depth interviews and focus group discussions which we could have used to understand the real lived life of being visually and hearing impaired in the world of HIV and sex, the model we are proposing shall therefore, be based on inductive and deductive inferences from the existing literature and withstanding the data at hand. Based on a review of educational programs designed to reduce sexual risk behaviors, Kirby (1995) recommended that AIDS intervention programs be theory-based, culturally sensitive, developmentally appropriate, and skill-oriented. Given these positions, Jessor's (1991) theoretical model of adolescent risk behavior is proposed to provide a framework of interventions.

The model we are proposing is particularly pertinent. First the data shows that girls are more vulnerable than boys and need additional empowerment. Second, efforts in the field of adolescent health have broadened the analysis of empowering behaviors, interventions at an individual level, the group, organization, and community and policy

levels (Kirby, 1995). Third, Jessor's theoretical model could address the sexual, vulnerabilities and attitudinal factors of these pupils. The model could be used at addressing individual situations and it allows for the consideration of social, political, and cultural factors that are likely to influence the risk behavior of adolescents and youths. Fourth, it allows for the identification of stigma, risk, enhancers and protective factors that could be addressed by adolescent HIV/AIDS health promotion and prevention programs.

Jessor (1991) proposes that adolescent risk behavior can be understood in terms of antecedent risk and protective factors in five explanatory domains: perceived environment, personality, genetics/biological, social environment, and behavior. These domains represent the "web of causation" as an explanatory theory for adolescent risk behavior. The risk and protective factors in each domain can affect risk behavior either directly or indirectly through their relationship with risk and protective factors in other domains. Thus, risk behaviors cannot be explained by any single factor or domain: rather, risk and protective factors from multiple domains combine to influence the occurrence of risk behaviors. Furthermore, risk factors are conceptualized as leading to an increase in adolescent risk behavior whereas protective factors are conceptualized as mitigating the impact of risk factors on adolescent risk behavior. Because of this relationship between risk and protective factors, increase or decrease in risk behavior can be explained only by considering the presence of both risk and protective factors.

However, should Jessor's theory that is applied to the risk behaviors of adolescents and youths be considered, the pattern will ultimately depend on the identification of local needs, how resources are matched to needs and service principles and philosophies. This therefore needs the Ministries of Health and Ministry of Education to cooperatively employ Individual-level interactive interventions. These have proven effective in HIV/AIDS research based interventions with other populations (Duncan-Ricks, 1992; Abraham et al., 1995; Kalichman, I998).

Jessor's theory is appropriate in reaching out to the hearing and visually impaired persons because it is not based on campaigns that are run through newspapers, radios and billboards. These methods have a distinct disadvantage since the hearing and visually impaired are often uninformed. Therefore, Jessor's theory could direct health promotion, prevention, service improvement and introduction in the following areas:

1. Providing specialist sex education through one-to-one individual tailored service and according to need of each hearing and visually impaired person. Promoting self-advocacy and peer education for young people. This requires schools mainstreaming school health programmes that involve VCT and DCT in collaboration with nearby health institutions (Clinics, hospitals, health centres and health posts including mobile hospitals). This would help persons with disability to be accessing treatment.
2. There is absolute need for sspecialist counseling and therapeutic services for people with disabilities who are at risk of HIV, to respond to issues such as VCT, valid consent and confidentiality. Particularly institutions of learning for medical personnel ought to have a special course in place to teach the health practitioners on the Basic Special Education Skills such as sign language, Braille, Communication Skills with the intellectually disabled and behaviour modification. This would help them communicate effectively with the disabled.
3. Sex education for young people with learning disabilities and parallel training for parents and staff in special schools.
4. Training for staff and managers in learning disability services on sexuality and HIV to develop the competence of services, not only to support the sexuality of services users, but also in HIV risk assessment and risk management skills.
5. Creating assertiveness and training for users, including selecting effective communication and negotiation skills. This would need to be part of wider work helping the hearing and visually impaired persons develop a positive self image and say 'no' to abusive or unsafe sex.

- Health promotion activities that involve persons with disabilities must be encouraged in schools.
- Fora of disabled persons must be encouraged to be appearing on the media to be talking about Disability and HIV/AIDS. This would create a fair coverage in the efforts to fight the pandemic.
- Training in learning disability for peers that place a priority on risk and convey unambiguous messages using appropriate media about sex and safer sex in relation to the sexual realities and experiences of people with disabilities.

5.5. Limitations and Significance of This Work

There are a number of limitations that are related to this inquiry that need to be considered when making interpretations.

First, several characteristics of this study's sample need to be considered and especially the single data collection method that was used – a self reported researcher-administered questionnaire, holds important implications for the interpretation of our results. The respondents may have not been free to disclose their status and sexual health behaviors because anonymity was not assured. This is because the survey tool was not prepared to allow the respondents to answer freely and at their own time. Our population is composed of persons, who may have poor access to health promotion; preventive services and communication problems that may be responsible for the elicited behaviours compared with non-disabled peers and as such the study outcomes may be skewed.

Secondly, the present study assumes that the self reports on sexual behaviours and HIV infection may be low. It has been shown that adolescents and youths underreport most, but not all, aspects of their sexual behaviour in surveys. This assumption is based on the perspective that people in our culture view sexual activity as a private behaviour or as a somewhat "questionable" behaviour that one either should not be

doing or should not be doing too much of. Evidence indicates that people typically underreport their sexual activities, including both positive and negative sexual events.

Thirdly, the study was also bereft with a small population of boys and this could affect the study outcomes. However, since the boy and girl child sample population resembled the population, the data meets the representation components.

Fourthly, the initial aim of this study was to determine the sero prevalence of HIV and to explore sexual behavioral issues. A number of practical, conceptual and political questions surfaced in relation to the initial protocol. Head masters were unwilling to allow VCT to be done from the outset that could have been a vehicle to get the sero prevalence, concerns and the lived life or firsthand experiences of these pupils. Head masters were also unwilling to allow the researcher to interview pupils. This kind of gate keeping raises dilemmas in epidemiological studies and for those involved in commissioning services for the disabled, developing safer sex educational resources or providing safer sex education. However, in spite of this limitation, the survey questionnaire provided a baseline study for a broader national study and a modified methodology. In addition, in spite of the limitations, the issues that emerged from this exploratory and descriptive study do represent the HIV/AIDS experiences and concerns of all hearing and visually impaired pupils at Munali boys and Munali girls high schools from a quantitative point of view. However, the variables used in the study are consistent with the existing research and anecdotal reports, supporting the trustworthiness of the findings.

5.6. Conclusion

This study has shown that the hearing and the visually impaired pupils have notable risky behaviours and are vulnerable to HIV and STIs. From the data, the study concludes that the picture at Munali is no different from reports elsewhere that HIV/AIDS is of immediate concern to the disabled populations (Groce, 2004). We recommend a much broader study to catch other persons with disabilities and epidemiological data are needed both on HIV infection rates among individuals with

disability in general and for distinct disability groups. Virtually very little is still known about how disabled populations can best be reached as part of general HIV/AIDS outreach efforts or through disability-specific programs.

This study suggests that significant prevention can be gained for the visually and hearing impaired pupils. Special attention should be paid to female pupils. Pretention issues should be given priority when designing school health services and particularly emphasizing counseling and testing while we expand treatment for HIV and sexually transmitted infections.

Researchers, policy makers and heads of institutions need to test innovative models of doing research and of health care delivery like Jessor's theory that meet the needs of the visually and hearing impaired pupils by removing communication barriers and building trust between researchers, health care providers and this clientele. Only then could studies and interventions be designed to even empower the visually and hearing impaired pupils to reduce health risks, adhere to treatments, and improve their overall quality of life. In the future, researchers will need to explore the unique experiences that the visually and hearing impaired pupils as well as other people with disabilities have with the entire spectrum of health concerns, including a variety of chronic illnesses, domestic violence, parenting skills, sexual abuse, and mental health concerns.

5.7 Recommendations

Given the findings, this study is recommending that:

1. The Ministry of Health facilitates providing specialist sex education to these young people through one-to-one individual tailored service and according to need of each hearing and visually impaired person.
2. The Ministry of Education through its HIV and AIDS responses team promotes self-advocacy and peer education for these young people. This requires

schools mainstreaming school health programmes that involve VCT and DCT in collaboration with nearby health institutions (Clinics, hospitals, health centres and health posts including mobile hospitals).

3. The National Aids Council should consider revisiting its HIV and AIDs strategies against youths by specialist counseling and therapeutic services for people with disabilities who are at risk of HIV, to respond to issues such as VCT, valid consent and confidentiality. Particularly institutions' of learning for medical personnel ought to have a special course in place to teach the health practitioners on the Basic Special Education Skills such as sign language, Braille, Communication Skills with the intellectually disabled and behaviour modification. This would help them communicate effectively with the disabled.
4. The Ministry of Education should emphasize sex education for young people with learning disabilities and parallel training for teachers in special schools.

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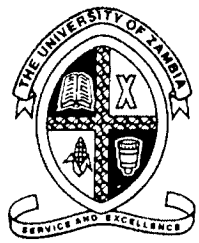
APPENDIX I- UNZAREC Form No. 1



THE UNIVERSITY OF ZAMBIA

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IRB00001131 of IORG0000774

APPLICATION FOR ETHICAL APPROVAL FOR PROPOSED RESEARCH INVOLVING HUMAN PARTICIPANTS

To be submitted in 25 copies to the Secretary of the Research Ethics Committee

1. TITLE OF STUDY: SEXUAL BEHAVIOURS AND VULNERABILITIES TO HIV: A CASE STUDY OF THE HEARING AND VISUALLY IMPAIRED PUPILS OF MUNALI BOYS AND MUNALI GIRLS HIGH SCHOOLS IN LUSAKA .

2. PRINCIPAL INVESTIGATOR:

Name: STEPHEN KATUTA

Qualification: BACHELOR OF EDUCATION DEGREE IN SPECIAL EDUCATION

Present Appointment/Affiliations: N/A

3a. OTHER INVESTIGATORS: N/A

Name: Qualifications:

Present Appointment/Affiliations:

Name: Qualifications:

Present Appointment/Affiliations:

(Other names to be included on a separate page.)

3b. SUPERVISORS:

Name: DR. C. MICHELO

Qualifications: BSc, MBChB, MPH, PhD Bergen

Present Appointment/Affiliations: ASSOCIATE PROFESSOR OF MEDICAL STATISTICS.

Name: MR. BANDA, Y.S.

Qualifications: MPH Birmingham, Bsc, UNZA

Present Appointment/Affiliations: LECTURER,

4. SUMMARY OF PROPOSED RESEARCH:

To include aims and objectives, participants to be studied, research methods

(Questionnaires, physical examination, specimens to be collected, laboratory investigations, standard and experimental therapies, environmental changes, etc.) and Statistical analyses. Simple or lay terminology should be used as much as possible.

(Use not more than one additional A4 sheet if necessary.) SEE ATTACHED SUMMARY

The General Objective of this study is: To explore the sexual behaviours that are prominent among the visually and hearing impaired pupils at Munali Boys and Munali Girls High Schools in Lusaka.
In order to achieve the general objective, this study sought (require):

1. To determine the proportion of the visually and hearing impaired pupils who are HIV positive.
2. To determine the risk sexual behaviours among the visually and hearing impaired pupils.
3. To determine possible associations of sexual risk behaviors.
4. To explore a possible institutionalised model that could be used to initiate health promotion and HIV prevention among the visually and hearing impaired pupils of Munali Boys and Munali Girls High Schools.

This study hopes to establish what the scenario is like in terms of the lived sexual lives, risks and vulnerabilities. The generated knowledge will provide great potential for prevention and creating initiatives to reach pupils with disabilities and their families through:

1. *Increased access to VCT.*
2. *Care Treatment and Support*
3. *Counselling and health information*

The research design will provide a blue print for a national study to involve all disabled persons. The study would also be used by policy makers involved in the formulation of national policies with regard to HIV/AIDS in Zambia to incorporate people with disabilities as potential partners in the fight against HIV/AIDS. The results of this paper would also be used as a unifying umbrella under which disabled people's organizations, organizations of people living with HIV & AIDS, non-governmental organizations, AIDS services organizations, researchers, activists, and other citizens to work collectively to achieve a coordinated response involving persons with disabilities in Zambia to achieve inclusive national HIV & AIDS policies and programs and equal access for persons with disabilities in Zambia to information and services on HIV & AIDS.

5. ARE THE PARTICIPANTS DEPENDENT ON ANY OF THE INVESTIGATORS?

As students:	No	As employees:	No
As patients:	No	In other ways:	No

If 'Yes" to any of the above, give details:

6. POSSIBLE BENEFITS TO PARTICIPANTS Long term benefits include prevention and creating initiatives to reach pupils with disabilities and their families through increased access to VCT, Care Treatment and Support, Counselling and health information. The policy makers to incorporate people with disabilities as potential partners in the fight against HIV/AIDS.

7. POSSIBLE RISKS TO PARTICIPANTS: Some discomfort that comes through the withdrawing of blood and some anxiety of knowing one's status. Also the use of the participants' time in answering the questions.

8. POSSIBLE BENEFITS TO THE COMMUNITY: Increased access to VCT, Care Treatment and Support, Counselling and health information.

9. BUDGET: K14.225, 300.00

(a) Financial support (requested or granted): Yes **Sponsor:** New Start Centre to do the testing.

Are there costs which will be carried by other institutions (e.g. the Hospital)? No

(c) Are there costs which will be carried by the participants involved (e.g. travel, Accommodation, meals, treatment)? No

(d) Will the care or the time spent in hospital be prolonged? No

If 'Yes" to any of the above, give details:

10. SUBMISSION:

Attachments include the following in 4 copies each:

(a) The full protocol Yes

(b) Forms of Questionnaire Yes

(c) Informed Consent Form Yes

(d) Approval from the appropriate Research Committee Yes

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* Delete as appropriate. NA: Not applicable

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11. DECLARATION:

STEPHEN KATUTA

I ..... (Full Name)

Apply to the Research Ethics Committee of the University of Zambia for approval of the above research proposal involving human participants, as conforming with recognized ethical standards and as not impinging on the rights of the individuals.

Date: 31st MARCH 2010Signed: .....

PRINCIPAL INVESTIGATOR

Contact Address: UNIVERSITY OF ZAMBIA,

SCHOOL OF MEDICINE
DEPARTMENT OF COMMUNITY MEDICINE
P.O. BOX 50110, LUSAKA.

Telephone number: 0979-179839

E mail: Skatuta2@yahoo.com

Full name of Head of Department: .....

Signed: ..... Date: .....

HEAD OF DEPARTMENT

DR. CHARLES MICHELO

Full name of Supervisor: .....

Signed: ..... Date: .....

SUPERVISOR

APPENDIX II - Work Plan (The Gantt Chart)

Month	December 2009	January 2010	February 2010	November 2010	November 2010	December 2010	January 2011	April 2011
Proposal Writing								
Proposal Submission and Ethical Clearance								
Pilot testing								
Data analysis								
Report Writing								
Discussion with Supervisor								
Project report Submission								
Dissemination								

APPENDIX III- Budget

ITEM	QUANTITY	UNIT COST IN ZK	COST IN ZK
Stationary			
1. A 4 Bond Paper	5 Units	28 000 per unit	140 000
2. HP 98 A Toner	3 Cartridges	600 000	1 800 000
3. Pens	10 units of 10	8 800 per unit	88 000
4. Flip Chart Paper	2 Rolls	95 000 per roll	180 000
5. Marker Pens	10 units of 10	30 000 per unit	300 000
6. Giant Stapler	1 units	60 000	60 000
7. Staples	10 units	15 000	15 000
		Sub Total	**K2.583,000.00**
			Accessories
8. Tapes	10 units	4 000 per unit	40 000
9. Hiring a recorder	3000 000	3000 000	3000 000
10. AAA Batteries	10 Units	100 000	100 000
		Sub Total	K3.140,000.00
Logistics			
11. Per diem for Research assistants	4 Research Assistants	300 000	1 200 000
12. Statistical analysis	1	500 000	500 000
13. Qualitative data analysis	1	500 000	5 00 000
14. Reagents			2.000,000.00
15. Sundries			3.000,000.00
16. Transport	1	1 000 000	1 000 000
17. Ethical fees	1	250 000	250 000
18. Contingency 10%			952,300.00
Grand Total			**K14.225, 300.**

APPENDIX IV- Survey Questionnaire

1. Sex of respondent

	Male	Female		

2. Respondent's age

3. Age range

16 to 20		21 to 25		Over 25	

4. Do you see yourself to be physically defenceless such that any one could take advantage of you sexually?

Strongly agree	Agree	Somewhat agree	Disagree	Strongly Disagree

5. Do you see yourself requiring attendant care to receive protection from being abused sexually?

Strongly agree	Agree	Somewhat agree	Disagree	Strongly Disagree

6. Do you see yourself to be in a position to negotiate for sex and refuse an advance?

Strongly agree	Agree	Somewhat agree	Disagree	Strongly Disagree		

7. How far are you in school?

Grade 8	Grade 9	Grade 10	Grade 11	Grade 12

8. Do you know your HIV status?

	Yes	No		

9. Are you HIV positive?

	Yes	No		

10. Have you ever been raped?

	Yes	No		

11. At what age did you have your first experience with sex (Including when you were raped)?

12. Did you use a condom the first time you had sex?

	Yes	No		

13. If you have had sex before, have you ever had a sexually transmitted infection?

	Yes	No		

14. If you have had a sexually transmitted infection, which type from the below listed?

A discharge from the urethra	A discharge from the vagina	A discharge from the anus	An ulcer or blister on the genitalia	An ulcer or blister at about the anus
A discharge and an ulcer on the genitalia	A discharge and an ulcer at about the anus	I have not had any of these	Not applicable	

15. With whom did you have sex the first time?

A known person (male)	A known person (female)	A sex worker	A male relative	A female relative
A male friend	A female friend	Just an unknown male	Just an unknown female	

16. Did you have a partner seven months ago or far back?

I had no sexual partner	I had a woman as a sexual partner	I had a man as a sexual partner	I had a girl as a sexual partner	I had a boy as a sexual partner
I had more than two boys as my sexual partners	I had more than two girls as my sexual partners	I just had a boyfriend	I just had a girlfriend	

17. Have you had a partner in the last six months?

I have had no sexual partner	I have had a woman as a sexual partner	I have had a man as a sexual partner	I have had a girl as a sexual partner	I have had a boy as a sexual partner
I have had more than two boys as my sexual partners	I have had more than two girls as my sexual partners	I just had a boyfriend	I just had a girlfriend	

18. If you have a partner, are you using condoms?

Yes we are	Not all	Not applicable		

19. Do you intend to have or maintain a partner between now and six months into the future?

I intend to have no sexual partner	I intend to have a woman as a sexual partner	I intend to have a man as a sexual partner	I intend to have a girl as a sexual partner	I intend to have a boy as a sexual partner
I intend to have more than two boys as my sexual partners	I intend to have more than two girls as my sexual partners	I intend to have a boyfriend	I intend to have a girlfriend	

20. How often have you had sex in the last six months to date (Please indicate the number of times)

21. Your form of sexual orientation some time more than 6 months ago

I had no sexual partner	I had a woman as a sexual partner	I had a man as a sexual partner	I had a girl as a sexual partner	I had a boy as a sexual partner
I had more than two boys as my sexual partners	I had more than two girls as my sexual partners	I just had a boyfriend	I just had a girlfriend	

22. How often have you used a condom at any time you may have had sex?

Always	Frequently	Occasionally	Rarely	Never

23. I have worked for sex

	Yes	No		

24. Are you aware if any of your sexual partners have been HIV negative?

	Yes	No		

25. My sexual behaviours are determined largely by people other than myself (e.g. friends or my partner)

Strongly agree	Agree	Somewhat agree	Disagree	Strongly Disagree

26. I am afraid of becoming sexually involved with another person

Strongly agree	Agree	Somewhat agree	Disagree	Strongly Disagree		

27. At the moment, I have this fear in this relationship (sexual or just a friend)

Strongly agree	Agree	Somewhat agree	Disagree	Strongly Disagree

28. I want to avoid engaging in sex where I might be exposed to sexual diseases

Strongly agree	Agree	Somewhat agree	Disagree	Strongly Disagree

29. If I were to develop a sexual disorder, then I would be to blame for not caring for my self.

Strongly agree	Agree	Somewhat agree	Disagree	Strongly Disagree