

**HIV/AIDS KNOWLEDGE, RISK PERCEPTION, AND ATTITUDE TOWARD SAFER SEX
PRACTICES OF VISUALLY IMPAIRED AND SIGHTED PUPILS IN THIKA MUNICIPALITY,
KENYA**

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**A RESEARCH THESIS SUBMITTED IN PARTIAL FULFILLMENT FOR THE DEGREE OF
MASTER OF EDUCATION (EDUCATIONAL PSYCHOLOGY) IN THE SCHOOL OF
EDUCATION OF KENYATTA UNIVERSITY**

DECEMBER, 2010

DECLARATION

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

Signature

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Supervisors: I/We confirm that the work reported in this thesis was carried out by the candidate under my/our supervision as University supervisor(s).

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DEDICATION

This work is dedicated to my parents Timson and Florence Kesekwa for the foundation and support they gave me in my education.

ACKNOWLEDGEMENTS

I wish to sincerely thank all those people who enabled me to pursue this degree in one way or another. I am indebted to my supervisors Dr. Kinai and Dr. Mweru for their advice, patience and tireless efforts to take me through the various stages of writing this work.

I thank the lecturers in the department of Educational Psychology for their useful suggestions and Kenyatta University for awarding me a scholarship to partially finance my education. Thanks to teachers of Kilimani primary school for their advice. I also thank the National Aids Control Council (NACC) and Kenya Institute of Education for giving me access to relevant HIV/AIDS materials used in schools and the African Braille Centre for transcribing my questionnaires.

Special thanks to my daughters Mariana and Bertha, my dear husband Cleophas Muhavini for making me smile through the toughest times. I thank my siblings and my friend Yvonne Asangire for their prayers.

I greatly thank the Almighty God for it is by His grace that this programme has been a success.

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ABBREVIATIONS AND ACRONYMS

AFUB	African Union of the Blind
AIDS	Acquired Immune Deficiency Syndrome
EFA	Education for All
GOK	Government of Kenya
HIV	Human Immunodeficiency Virus
IEC	Information Education and Communication
KDHS	Kenya Demographic Health Survey
KNASP	Kenya National HIV/AIDS Strategic Plan
MOH	Ministry of Health
MOEST	Ministry of Education Science and Technology
NACC	National AIDS Control Council
NASCOP	National AIDS and STI Control Programme
NCPD	National Council for Population and Development
NUDIPU	National Union of Disabled Persons in Uganda
UNAIDS	Joint UNITED Nations Programme for HIV and AIDS
UNESCO	United Nations Educational Scientific and Cultural Organization
UNICEF	United Nations Children Fund
SAFAIDS	Southern Africa HIV/AIDS Information Dissemination Service

ABSTRACT

HIV/AIDS is a reality among the visually impaired although little research has been done to address this issue. For instance, there are no statistics indicating the number of visually impaired who have died or been infected by the AIDS epidemic in Kenya. Interventions such as HIV/AIDS education and prevention campaigns on safer sex practices have not particularly targeted the visually impaired. This makes them vulnerable to sexual exploitation and at high risk of infection. The aim of this study was to find out the HIV/AIDS knowledge that the visually impaired and the sighted adolescent pupils possess, their perception of risk of infection with HIV/AIDS and their attitude towards safer sex practices. In addition, the study sought to find out differences between visually impaired and sighted pupils HIV/AIDS knowledge, perception of risk of infection and attitude towards safer sex practices. Descriptive survey method was used to collect data. Two schools from Thika Municipality were selected for the study. The sample consisted of 116 pupils. Descriptive statistics such as means and percentages and inferential statistics such as Kruskal-Wallis Non Parametric test were used to analyze the data. The data was collected using questionnaires, and was then coded, entered in a computer, cleaned and analyzed using SPSS statistical package. The findings indicated that, the mean score for knowledge was 92.94% for sighted pupils' and 87.59% for visually impaired pupils. The risk perceptions mean score for the sighted pupils was 71.08% and 68.03% for visually impaired pupils. A majority of both the visually impaired and sighted pupils had a positive attitude towards safer sex practices. The results showed that the visually impaired scored much lower than the sighted pupils on the HIV/AIDS knowledge scale. There were significant statistical differences between visually impaired and non-visually impaired pupils' knowledge of HIV/AIDS and perception of risk of infection with HIV/AIDS. In spite of the high knowledge levels reported, the visually impaired pupils had less knowledge and more misconceptions compared to the sighted pupils. It is the recommendation of this study that the government and other stakeholders increase education programmes to address the various misconceptions about HIV/AIDS transmission, ways through which HIV can and cannot be transmitted. The government should make available HIV/AIDS information in accessible formats for the visually impaired through Braille, audio tapes and large print visual aids. Visually impaired persons that have been affected and infected with the virus should also be used in the HIV/AIDS information education campaigns. Further research is recommended to include visually impaired people who are sexually active and those infected with HIV/AIDS.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

HIV stands for Human Immunodeficiency Virus. It is the virus which causes Acquired Immune Deficiency Syndrome (AIDS). HIV/AIDS affects people from all walks of life regardless of race, gender, physique, educational background and socio-economic status. It is estimated that over 39 million people are living with HIV/AIDS worldwide and the pandemic shows little signs of slowing down. Young people under 25 years old account for half of all new infections worldwide and 24 million of those living with HIV/AIDS are in Africa. The prevalence rates are still alarming in sub-Saharan Africa (UNAIDS/WHO, 2008). As reported by the British Broadcasting Corporation (BBC), an experimental vaccine in Thailand was found to reduce the risk of contracting HIV by a third. However, the vaccine is based on the B and E strains of HIV that commonly circulate in Thailand thus a global vaccine is still some way off (BBC, 2009).

AIDS affects every aspect of our lives, socially, physically, emotionally and economically. The development of the country is derailed when its young productive people are dying of HIV/AIDS. HIV/AIDS has affected the demand and supply of education. According to UNESCO illness and death of teachers and education officials denies the school system of critical human resource to provide education service. This increases the number of illiterates and makes the push towards universal primary education irrelevant (UNESCO, 2005; EFA NEWS, 2005).

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 a physical, sensory, intellectual or mental health disability. Among these are the visually impaired. It is widely assumed that disabled individuals are not at risk of HIV/AIDS infection. 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. However, a growing body of research indicates that the disabled people are at an increased risk for every known risk factor for HIV/AIDS (Groce, 2003).

At present, little is known about HIV/AIDS and disability. Attempts to collect data on the disabled and HIV/AIDS are insufficient. Only a few studies in North America have estimated prevalence of 14%-15% and no prevalence data exist for any populations from Europe, Asia, Central and South America, the Caribbean or sub-Saharan Africa. Groce (2003) reported that, there was no data on the prevalence of HIV infection in any disabled population in Africa. On the other hand, a growing number of disability advocates worldwide point to significant unreported rates of HIV/AIDS related infection, disease and death (Blumberg & Dickey, 2003; Gaskins, 1999; Groce, 2003; UNAIDS, 2002; UNICEF, 1999).

In Kenya, the Ministry of Health (MOH) officially reported the first AIDS case in 1984; more than 1.5 million people have died of HIV/AIDS since then. AIDS poses a great challenge to Kenya's development as the victims are young economically productive people between the ages of 15-35 years (MOH, 2001).

Internationally and nationally, attention has focused on informing and educating people about HIV/AIDS as the search for a vaccine and cure for HIV/AIDS continues (UNAIDS, 2001). Joint United Nations Programme for HIV/AIDS (UNAIDS), targeted to have at least 95% of young people aged 15 – 24 to have access to information, education and services to develop the life skills necessary to reduce their risk of infection with HIV/AIDS by the year 2010 (UNAIDS, 2002). According to Kenya National AIDS and sexually Transmitted Diseases Control Programme (NASCOP), young people are vulnerable to HIV/AIDS due to physical, psychological and social factors. Adolescence is a time for exploring and discovering feelings and behaviour and coupled with this, adolescents have a low sense of vulnerability, do not have adequate information about sex and HIV/AIDS and are ignorant which has hampered prevention efforts.

HIV/AIDS was integrated in the new syllabus for primary schools in Kenya, (Ministry of Education, Science and Technology, 2002). The objective of the curriculum was to educate the youth to increase awareness on aspects of HIV/AIDS, teach life skills to help them cope with social pressure and make informed decisions later in life (Juma, 2001; Kelly 2000).

In March 2003, the Kenyan government declared ‘Total war against HIV/AIDS at national level’. An increase in awareness levels was reported as 98.4% among women and 99.3% among men aged between 15–49 years. A decrease in prevalence rates was reported in 2003 as 6.7% by Kenya Demographic Health Survey (KDHS, 2003). The 2007 prevalence rates stood at 8.08% (UNAIDS, 2008). This is higher compared to the prevalence rates of 2005, at 5.9% (NACC, 2006). A number of studies have reported high knowledge levels among the adult and adolescent

population. However many misconceptions have also been reported in regard to transmission and prevention. This means that adolescents are not adequately informed to make informed decisions to protect themselves from HIV/AIDS (Lunani, 2006; Mutua, 2003; Sabwa; 2000).

The education sector policy on HIV and AIDS concerning pupils states that ‘primary schools will give special attention to factors that affect the performance of Orphans and Vulnerable Children (OVC) and learners with special needs and find ways to assist them’ (GOK, 2004). The Executive Director of United Nations Children Fund (UNICEF) noted that young people have sex, and this is something that the world must acknowledge as a pre-condition to mounting effective prevention programmes. Additionally, young people do not have the proper knowledge to protect them hence they fall prey to HIV (UNICEF, 2002). The young people are the hardest hit by the disease and they are also the key to overcoming it. Despite this, strategies for responding to the epidemic generally disregard young people (UNAIDS, 2002).

Young people with disability are compounded with more problems because of their disability which makes them to be disregarded in issues concerning HIV (United Bible Societies, March 18, 2004). Policy makers, implementers and major actors on HIV/AIDS have failed to appreciate disabled people as a unique community with distinctive issues and specific needs that require special or specific attention. Consequently, the society is not well informed of the fatal implications of HIV/AIDS and the remarkable number of disabled people who have died in silence (NUDIPU, 2003).

A global survey on Disability and HIV/AIDS carried out by World Bank and Yale University (2004) revealed that disabled people are at an increased risk of acquiring HIV/AIDS due to their susceptibility to physical abuse and the lack of intervention and appropriate preventive outreach. They are often excluded from HIV/AIDS prevention efforts because it is assumed that they are not sexually active and therefore at little risk of infection.

Aghan (2007) notes that HIV/AIDS educational, testing and clinical programmes around the world are largely inaccessible to the visually impaired among other individuals with disability. The visually impaired suffer many limitations, the major one being their inability to use their sight. A lot of information on HIV/AIDS is visual, for example that which is in print media such as pamphlets, books and magazines; other information is on posters and television. All these pose a challenge to the visually impaired.

The American Foundation for the Blind in New York City offers information and services to improve quality of life for the visually impaired. These services include advocacy, referral to services and information dissemination on various issues including HIV/AIDS (American Foundation for the Blind, 2008).

In Africa, many visually impaired people have had to attend seminars on HIV/AIDS and use information alongside the normal people. These countries include; Cameroon, Uganda, Tanzania and Kenya among others. Very few countries in Africa have made efforts to reach the visually impaired with Braille material on HIV/AIDS. These countries include Zimbabwe and South

Africa although their efforts with the help of Non Governmental Organizations (NGO's) are still a drop in the ocean because many visually impaired people are yet to be reached.

Studies carried out on the visually impaired women in South Africa and Uganda reported an alarming lack of knowledge of HIV/AIDS among these groups. A study carried out by Centre for Disease and Control National Prevention Information Network in Zimbabwe in 1995 on adolescent boys and girls reported an inaccurate understanding of how HIV/AIDS is spread.

In a report on HIV/AIDS awareness and training seminar for blind and partially sighted persons in Kenya, held on 20th to 24th February 2006 in Nairobi, Paul Tezanou, the director of African Union of the Blind (AFUB) raised concerns over awareness on or knowledge on the specific HIV/AIDS issues and the reality of the pandemic among visually impaired persons (AFUB, 2006). The need for HIV/AIDS information in accessible formats was discussed and the development of a training manual that is suitable for the blind and visually impaired persons. Teachers and NGO's in Kenya dealing with the visually impaired in schools have tried to adapt these materials to suit the needs of visually impaired. However, their efforts are compounded with the problem of unavailability of funds and lack of enough trained personnel and proper guidelines to use to adapt the materials (The Bible Society of Kenya, 2008). According to the National Aids Control Council (NACC), interventions around HIV/AIDS prevention care, support mitigation have been done for the affected and infected but very little or nothing has targeted the visually impaired, among other persons with disability (NACC, 2006). This means that the visually impaired pupils' knowledge about HIV/AIDS may be inadequate.

On the other hand, adolescents fail to personalize the risk of HIV/AIDS perceiving it as a threat to others and not themselves (Nduati & Kiai, 1996; Rosenthal, 1991). This is characterized by the personal fable which reflects a kind of belief that one is special, unique and invulnerable to the risks that befall other people. Therefore risk perceptions are often linked to risk groups rather than risky behaviours (Nduati & Kiai, 1996; Rosenthal, 1991).

The major mode of Transmission of HIV/AIDS is through unprotected sexual intercourse with an infected person. The safer sex practices advocated for by the Ministry of Health for the youth are; abstinence, condom use and diagnosis (HIV testing) (MOH, 2005; NASCOP, 2005). A major United Nations (UN) study found an alarming lack of knowledge about HIV/AIDS among young people on how HIV/AIDS is transmitted or how to protect them from the disease. It also reported that adolescence is the time when the majority of people become sexually active (UNAIDS, 2002).

Moreover, teachers who have the responsibility of facilitating HIV/AIDS education in schools hold misconceptions and myths regarding transmission and cure of HIV/AIDS (Daily Nation, June, 5, 2006; Mummah, 2003). The implication of this is that adolescent pupils are misinformed, which negatively impacts on their knowledge of aspects of HIV/AIDS and on perceptions of risk of infection with HIV/AIDS. According to Davies, (1996) a growing number of educators recognize the right of all persons to be fully informed sexual beings since sexual development is part and parcel of every child's growing up. The visually impaired may be at an increased risk of infection with HIV/AIDS because of the greater likelihood of being raped and the lesser likelihood of marrying because of social taboos. Teachers are often unsure of their

ability to meet the sex education needs of students with visual impairments in the regular classroom (Davies, 1996). In this regard, the visually impaired are likely to be not well informed on matters regarding sex and especially how to protect themselves from HIV/AIDS therefore affecting their attitude towards safer sex practices.

The information above has revealed that HIV/AIDS was still a threat to adolescents as they had many misconceptions on various aspects of HIV/AIDS transmission and prevention. Very little has been done in terms of educating the visually impaired persons and several studies have reported the visually impaired persons being at an increased risk of HIV/AIDS infection. This means that visually impaired adolescent pupils are faced with problems of vulnerability as adolescents on one hand and being visually impaired on the other hand thus unable to access most of the information available on HIV/AIDS. This puts them at an increased risk of infection.

It is against this background that this study sought to find out primary school pupils' (visually impaired and normal sighted) knowledge level on aspects of HIV/AIDS including, transmission and prevention. It also intended to find out their perception of risk of infection with HIV/AIDS and attitude towards safer sex practices including abstinence, condom use and HIV testing.

1.2 Statement of the problem

Many countries with high HIV/AIDS prevalence rates have reported unmarried boys and girls being sexually active before 15 years of age (UNICEF, UNAIDS, WHO, 2002). This implies that they start their sexual encounters during pre-adolescence stage and at the onset of adolescence.

The awareness on aspects of HIV/AIDS among adolescents has been reported to be high in many studies carried out in Kenya (Lunani, 2006; Mummah, 2003; Mutua, 2003). In spite of this, a significant number of studies report that most adolescents still hold many misconceptions regarding HIV/AIDS transmission and prevention (Lunani 2006; NASCOP, 2005; Sabwa, 2000). Additionally the pandemic continues to spread in the adolescent population without slowing down (WHO/UNAIDS, 2005). Various studies have reported a number of adolescents considering themselves not at risk of HIV/AIDS infection and a lack of behaviour change in spite of the high knowledge levels. This could be because of inability to link knowledge and perception of risk of infection (Lunani, 2006; UNAIDS, 2005).

Information, education and communication (IEC) interventions which have been used to alert the general public about the risk of HIV/AIDS have been based on the assumption that HIV/AIDS knowledge will cause people's attitudes toward sex practices to change from unsafe to safer sex practices, that is from negative attitude to positive attitude. HIV/AIDS education on transmission and safer sex practices (preventive measures-abstinence, condom use and HIV testing) has not particularly targeted the visually impaired adolescent pupils. A lot of the HIV/AIDS literature available in schools, in print and electronic media is visual. This poses a challenge to the visually impaired.

There has been little research round the world on the need of people with disabilities with regard to HIV/AIDS epidemic (Blanchett, 2000; Groce, 2003; Health and Disability Working Group, 2004; Kelly, Ntlabati, Oyisi, Van der Riet & Parker, 2003). Studies in South Africa, Uganda, Senegal and Zimbabwe reported that visually impaired youngsters have many mistaken ideas

about HIV/AIDS and sexuality because they have less access to information on HIV/AIDS and sexuality than do their non-handicapped peers (Groce, 2003; IRIN & Plusnews, 2008; Kudzai 2003;). In spite of this, the visually impaired have sexual feelings similar to their sighted peers and face many sexual temptations. Lack of information on HIV/AIDS and safer sex practices, sexual relations among close knit groups of people with visual impairments, the need for acceptance and dependence on others to guide them around makes them highly vulnerable to sexual abuse.

Seminars by the visually impaired people and NACC reported a lack of knowledge and access to information on HIV/AIDS among visually impaired Kenyans (NACC, 2006). Many studies in Kenya carried out on adolescents and HIV/AIDS have concentrated on the sighted (non –visually impaired) population. Studies on the visually impaired and HIV/ADS are scarce.

It is against this background that this study sought to find out the HIV/AIDS knowledge level of adolescent visually impaired and sighted pupils. Additionally, the study sought to determine their perception of risk of infection with HIV/AIDS and their attitude towards safer sex practices.

1.2.1 Purpose of the Study

The purpose of this study was to find out and compare the visually impaired and the sighted pupils HIV/AIDS knowledge, their perception of risk of infection with HIV/AIDS and their attitude towards safer sex practices.

1.3 Objectives of the study

The following objectives guided the study.

- i. To find out the HIV/AIDS knowledge on transmission and prevention that visually impaired and sighted adolescent pupils possess.
- ii. To establish visually impaired and sighted adolescent pupils perception of risk of infection with HIV/AIDS
- iii. To determine attitude towards safer sex practices of visually impaired and sighted adolescent pupils.
- iv. To find out if there are differences in the visually impaired and sighted adolescent pupils' knowledge of HIV/AIDS.
- v. To find out the differences in perception of risk of infection with HIV/AIDS of visually impaired and sighted pupils.
- vi. To find out the differences in attitude towards safer sex practices of visually impaired and sighted pupils.

1.4 Research questions

- i. To what extent are visually impaired and sighted pupils aware of aspects of HIV/AIDS?
- ii. What are the visually impaired and sighted pupils' perceptions of their risk of infection with HIV/AIDS?
- iii. What are the visually impaired and sighted pupils' attitudes toward safer sex practices?
- iv. What differences exist in visually impaired and sighted pupils' knowledge of HIV/AIDS?
- v. What differences exist in visually impaired and sighted pupils' perception of risk of infection with HIV/AIDS?

- vi. What differences exist in visually impaired and sighted pupils' attitude towards safer sex practices?

Statistical hypotheses

The following were the statistical hypotheses under study

- Ho₁** There is no statistically significant difference between visually impaired and sighted pupils' knowledge of HIV/AIDS. Tested at 0.05 level of significance using Kruskal Wallis/ANOVA test.
- Ho₂** There is no statistically significant difference between visually impaired and sighted pupils' perception of risk of infection with HIV/AIDS. Tested at 0.05 level of significance using Kruskal Wallis/ANOVA test.
- Ho₃** There is no statistically significant difference between visually impaired and sighted pupils' attitude towards safer sex practices. Tested at 0.05 level of significance using Kruskal Wallis/ANOVA test.

1.5 Significance of the study

The findings of this study may be useful to teachers. The information pupils' possess about HIV/AIDS and their misconceptions, would enable teachers to correct them. Information on perception of risk of infection with HIV/AIDS and attitude towards safer sex practices would enable teachers to design appropriate ways of teaching pupils' safer sex practices and how to avoid exploitation thus reducing their risk of infection.

The findings may help pupils' to correct their misconceptions about HIV/AIDS. They may know what may contribute to risk of infection; learn how to avoid sexual exploitation while at the same time, being able to have sexual relations in future.

The findings may help the government in conjunction with HIV/AIDS Information, Education Campaign programme developers such as NACC to improve the HIV/AIDS education awareness campaigns to reach and better suit the needs of the visually impaired pupils. It may be able to formulate policies that ensure that the visually impaired people are not exploited.

1.6 Delimitation and limitation of the study

The study was carried out in selected primary schools for visually impaired and sighted pupils in Thika municipality. The study confined itself to pupils' HIV/AIDS knowledge, perception of risk of infection with HIV/AIDS and attitudes toward safer sex practices. The pupils' sexual behaviour and actual HIV status were beyond the precincts of this study.

The limitations of the study: The study was limited to the selected sample and therefore any generalizations made should be limited to the population from which the sample was selected.

1.7 Assumptions

The assumptions of the study were:

- That, the HIV/AIDS curriculum was implemented in the schools.
- That when pupils were equipped with adequate knowledge of HIV/AIDS, they behaved rationally and responsibly in their sexual activities.

- That the pupils were aware of the consequences of the actions they took in regard to HIV/AIDS.

1.8 Theoretical and Conceptual Framework

1.8.1 Theory of Reasoned Action

This theory was developed by Martin Fishbein and Icek Ajzen in 1980 and later revised by Ajzen (1985). The major assumption in the theory is that people are usually rational and make predictable use of information available to them. In this case, the visually impaired and sighted adolescent pupils equipped with knowledge of HIV/AIDS transmission and prevention would consider consequences or risks of health related behaviour before engaging in them.

Attitudes are people's feelings about themselves performing a behavioral act. The model argues that, attitudes are determined by the most prominent beliefs about what would happen as a consequence of what has been done. It is only the most easily remembered consequences that really affect attitudes. For instance, if a person's first thought when he 'sees' someone engage in unprotected sex is 'sex without a condom is thrilling' then this is the belief that will determine his attitude about using a condom. It does not matter so much that he also believes such unprotected sex exposes him to HIV/AIDS. That belief may not come to mind easily and the person may believe it is 'other people' who will get infected if they engage in unprotected sex.

Intentions to engage in or not to engage in certain behaviour are a function of privately held attitudes toward the particular behaviour and socially determined subjective norms that represent a person's belief that others think that he/she should behave in a certain way. The theory predicts

that a person is most likely to do something when he or she feels good about doing it and feels social pressure to do it. On the other hand, subjective norms are the person's perceptions of social influence about performing the behaviour. For example, if a pupil feels that most adolescents engage in unprotected sex, then he/she will perceive that there is a norm that favours such a practice. This belief will therefore affect the pupils' attitude toward abstinence negatively.

Subjective norms are affected by pressure from significant others. If someone feels that any of the people he/she is motivated to please, for example, his/her parent or teacher, may not want them to engage in sex before marriage, then the opinions of these others will have an impact on perceptions of social pressure to do so. This affects one's attitude. However, intentions towards a health related behaviour does not necessarily guarantee action.

Health education programmes on HIV/AIDS are based on the premises of the theory of reasoned action by Ajzen (1985). The assumption is that individual reason determines human action involving indulgence or restraint when faced with a threat to their health (Agglestone, Homans & Mossa, 1989). The action taken depends on the extent to which one believes he/she can fall prey to a disease, the severity of the disease, degree of exposure to information about the disease and the extent to which an individual believes that a preventive action has more rewards than costs. HIV/AIDS health education programmes have been based on these components (WHO, 1995).

Application: Pupils' may make rational decisions based on the knowledge they have about HIV/AIDS. If pupils' are knowledgeable and consider themselves at risk, then they are likely to have positive attitude toward safer sex practices such as abstinence, proper condom use and HIV

testing. On the other hand, with inadequate knowledge and perception of invulnerability (not being at risk) one is likely to have a negative attitude toward safer sex practices. Adoption of safer sex practices against HIV/AIDS is likely to be effective when pupils' have comprehensive HIV/AIDS knowledge and when they perceive their risks of infection to be great.

1.8.2 Theory of Optimistic Bias

It was developed by Weinstein in 1984 from a study he carried out which established the existence of a pervasive bias in people's judgment about their susceptibility to illness. Individuals generally think that they are less likely than the average person to experience health problems. He states that when people who hold this kind of orientation are asked to evaluate their own chances of developing certain diseases compared to others of the same sex, they usually evaluate their own risks to be significantly lower than that of others. He notes that the bias appears to emerge from limitations of cognitive processing of risk factors by the individual concerned. Additionally, it appears to occur for those risks which are perceived to be preventable and are infrequent with the individual having little experience (Moore & Rosenthal, 1993; UNAIDS, 2003).

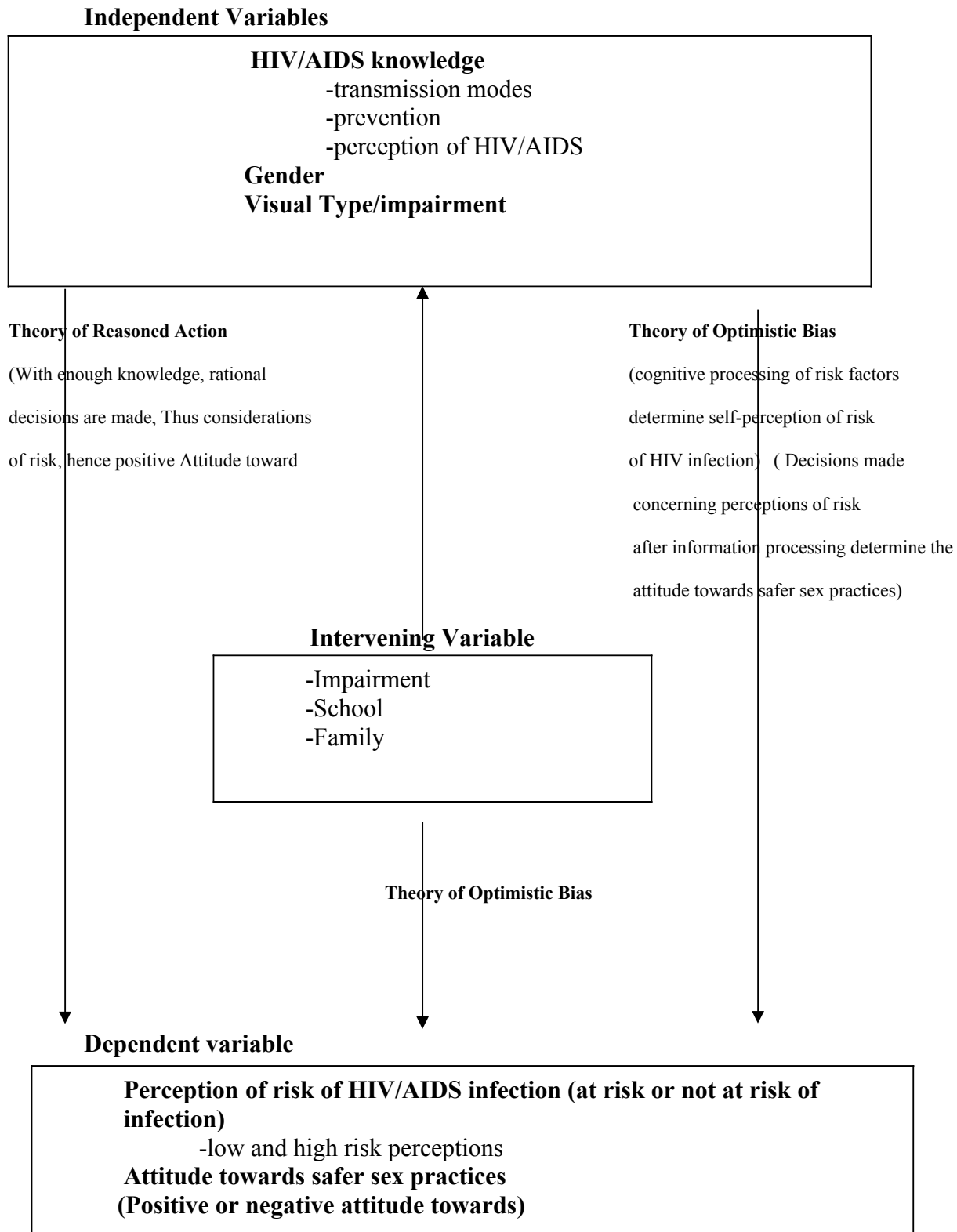
Application: Adolescents contracting HIV/AIDS do not show symptoms until they are in their early twenties. They also fail to personalize the disease perceiving HIV/AIDS as an adult problem or a disease for certain groups of people and not themselves. Thus they perceive their risk of infection with HIV/AIDS to be lower than that of their peers (Schonbeck, 2004). This theory was useful in determining pupils' perceptions of risk of infection with HIV/AIDS.

1.8.3 Conceptual framework

Knowledge of HIV/AIDS has a bearing on people's perception of risk of infection with HIV which in turn influences adoption of safer sex practices. If pupils are knowledgeable and consider themselves at risk of contracting HIV/AIDS as posited in the theory of reasoned action, then they are likely to have a positive attitude toward safer sex practices. However, with inadequate knowledge and perception of not being at risk, one is likely to have a negative attitude toward safer sex practices. This is described in the theory of optimistic bias.

Visual impairment is likely to influence the amount of HIV/AIDS information a visually challenged person has access to. It may limit accessibility to some kind of HIV/AIDS information thus negatively affecting the level of knowledge that a visually impaired person may possess. This will in turn affect his/her perception of risk of infection with HIV/AIDS and consequently their attitude towards safer sex practices. On the other hand, a sighted pupil may have access to a wide range of HIV/AIDS information, thus he/she is likely to have higher HIV/AIDS knowledge level which in turn may lead to rational decision making and careful cognitive processing of risk factors hence determine perception of risk of infection with HIV/AIDS and thus lead to a positive attitude towards safer sex practices.

Figure 1.1 Interrelationship of variables under study



1.9 Operational Definition of Terms

Acquired immune deficiency Syndrome (AIDS) - It is the last stage of the HIV virus in the human body characterized by lowered immunity and a collection of diseases or group of clinical signs and symptoms.

Attitudes – subjective feelings, thoughts, beliefs and behaviour tendencies towards ideas, objects or concepts related to HIV/AIDS.

HIV/AIDS Knowledge – The information that pupils have about HIV/AIDS, infection, cause, how it is transmitted and can be prevented. The term knowledge is frequently used interchangeably with awareness. The term knowledge will be used interchangeably with awareness in this study.

Human Immunodeficiency Virus (HIV) –It is the virus that causes AIDS

Perception of risk of infection – Extent to which an individual believes that he can be infected with a disease, in this case HIV/AIDS.

Safer sex practices – Preventive measures or behaviours that reduce one's risks of being infected with the HIV virus. They include abstinence, faithfulness to one uninfected partner, proper condom use and HIV testing. This study will concentrate on abstinence, proper condom use and HIV testing.

Sighted or non-visually impaired pupils – Pupils whose eyesight has no problem. They may use spectacles and be able to see just as well as those who see without spectacles.

Visually impaired pupils – Pupils who are totally blind thus cannot see at all, or are partially blind, that is, they see minimally with a lot of difficulty hence they need aid – it also includes those who wear corrective glasses or aids and can see with the correction but cannot see without the correction.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

This chapter reviewed relevant literature about HIV/AIDS. The shortcomings in relation to HIV/AIDS and the visually impaired and sighted pupils were discussed. Risk perception and attitude towards safer sex practices were also discussed. Additionally, studies relevant to HIV/AIDS and the visually impaired were analyzed.

2.1 HIV/AIDS Education

Programmes on HIV/AIDS education all over the world focus on; the nature of the disease, how it is transmitted, its prevention, HIV testing to know one's status, anti retroviral therapy for the infected, and how to live a longer healthier life if infected with the virus. The WHO declaration (1988) on HIV/AIDS prevention and control stated that in the absence of a vaccine or cure of the disease, information and education were the most important strategies to prevent infection. According to UNESCO (2005) and EFA NEWS (2005), education provides a window of hope in the war against HIV/AIDS. Offering education to all people about sexuality in general and HIV/AIDS in particular can help correct people's misinformation and equip them with the right attitude to cope with infection, the prevailing stigma and discrimination (EFA NEWS, 2005; UNESCO, 2005). According to Jonsen and strikers (1993), a panel on monitoring social impact of HIV/AIDS epidemic was established in the United States of America in 1989. The panel found that health systems of the country, federal, state and local governments got involved in mass education and other approaches to behaviour modification among people including

adolescents as a way of preventing the spread of HIV/AIDS. A survey study in USA in 1988 by the national office of catholic charities reported that many catholic charities had converted existing programs to respond to HIV/AIDS epidemic to include education and prevention programmes. A study by Overberg (1994) in Latin America revealed that Latin America had done a lot to educate the public about HIV/AIDS. Many Christians studied revealed to have broken away from the traditional thinking that when they talked about HIV/AIDS, they only advocated the use of condoms. For instance this study found that a Christian nurse in a Buenos Aires hospital gave talks in public schools about HIV/AIDS. Clarke (1994) observed that knowledge is key to prevention and education holds the best way for limiting the spread of HIV/AIDS.

Glen (1990) reported that, in the year 1988, there was a dramatic increase in the coverage of AIDS in Zambia by Zambian mass media. They used radio, television and newspapers to inform people about AIDS and its dangers. Home based care programmes were also established. Dossier (1990) reported that drama clubs were set up and used to reach large audiences through plays about AIDS. Anti-AIDS clubs were also set up in 100 secondary schools in Zambia with the main target being adolescents. In Mwanza, Tanzania and Ghana, Peer Health education Programmes (PHEP) such as organization of schools AIDS committee and anti-AIDS clubs helped impart knowledge about HIV/AIDS to the youth.

Directing interventions to those who are most vulnerable, including young people before they are sexually active is one of the elements that has proved vital in the fight against HIV/AIDS (UNAIDS, 2000): For example, HIV/AIDS education has had remarkable success in fighting the

pandemic in Uganda (Hyde, 2000). This may be the reason why the HIV prevalence has been falling in Uganda.

In Kenya, HIV/AIDS education was integrated in the new syllabus for primary schools (MOEST, 2002). The Kenya Institute of Education (KIE) developed resource materials for teachers or facilitators and for pupils (Kelly, 2000; KIE, 1999). The objectives of the primary school curriculum as spelt out by KIE are to equip the learner with knowledge that would enable him/her to explain: the stages of HIV/AIDS infection, ways through which HIV/AIDS is transmitted, how they can protect themselves from getting infected with HIV/AIDS, ways through which HIV/AIDS is not transmitted, beliefs and practices that will increase the spread of HIV/AIDS and Beliefs and practices that will reduce the spread of HIV/AIDS.

Nonetheless, the curriculum does not discuss the issues of HIV/AIDS and sex. There has been concern that teachers are not adequately equipped with the knowledge and skills to effectively address HIV/AIDS issues. Their socialization too makes it cumbersome for them to openly discuss issues relating to sex which is at the core of HIV/AIDS pandemic. Additionally, some administrative structures inadvertently thwart efforts to fight the pandemic. In this regard, the challenge still remains reaching the un-reached and changing the attitudes of the reached (EFA NEWS, 2005; UNESCO, 2005).

The Kenyan government in the National HIV/AIDS communication strategy (2002-2005) acknowledged weaknesses in the way information was given: Among the concerns was failure to disseminate information by language and audience, that is, failure to consider the limitations of

the various people that comprise the population, inadequate data and design of programmes (Kenya National HIV/AIDS Communication Strategy, 2003). The communication strategy used had shortcomings in that it had not demarcated what mass media, the teaching equipment and method to use and for which audience (East African Journal of Human Rights and Democracy, 2006). This meant that the visually impaired could be among the ‘audience’ left out in these HIV/AIDS campaigns.

In a study carried out in South Africa and Uganda, the visually impaired women reported that very little had been done in terms of educating them about HIV/AIDS (NUDIPU, 2003). A study carried out by Centre for Disease and Control National Prevention Information Network in Zimbabwe (CDC) in Copota School for the blind in Masyingo – a small town in south eastern Zimbabwe revealed that most teenage students at the school had a very inaccurate understanding of how HIV/AIDS was spread (CDC, 1995). They also felt unable to talk about it to teachers and other adults, including family members.

Akeyo (2005) as reported in a Kenyan newspaper noted that disabled people had been significantly sidelined in terms of HIV/AIDS education. Young people with visual impairments did not have the same access to the visual television programmes, movies, books, and magazines educating people about HIV/AIDS that are readily available to other sighted youth because they could not see. In addition, most visually impaired pupils lived in poverty thus missed out on education offered on radios and televisions as they were not able to afford them thus they were at a disadvantage compared to the sighted pupils.

The information above revealed that most of the education programmes had concentrated on adults, adolescents and youth in secondary schools and colleges. Tonks, (1996) observed that adolescent AIDS had been the subject of relatively little attention since the pandemic began. This was because AIDS first caught our attention among adults since the bulk of AIDS cases appeared in adults. Children and AIDS had received little attention. Adolescents were left out because there were few infected, few reported cases and those infected became symptomatic and were diagnosed with AIDS in their 20's when they were adults. The adolescents in primary school were significantly left out in most of these education programmes and for those that reached them, the aspects of HIV/AIDS were not discussed in detail especially regarding prevention and transmission. Moreover, information about HIV/AIDS education that specifically targeted the visually impaired population was scarce. Most of the education programmes targeted the general population that could use their sight.

From the above discussion, it was noted that education given about HIV/AIDS may have been inadequate since the adolescents in primary schools were not specifically targeted. The visually impaired pupils were also not particularly targeted in these education campaigns thus they lacked adequate information about HIV/AIDS.

2.2 HIV/AIDS Knowledge and Awareness

The education programmes discussed above were meant to impart knowledge to the general public to create awareness of the HIV/AIDS pandemic. Several studies reported that HIV/AIDS awareness levels were high. In the last decade studies carried out by United States Federal Centers for Disease and Control and Prevention reported 98%, 95% and 90% of New Yorkers,

Ugandans and Kenyans respectively were aware of the terminal nature of HIV/AIDS and that there was no cure (Anderson, Bainbridge & Shah, 1998; CDC, 1993; NACC, 2000). Studies in Indonesia and Australia reported high levels of HIV/AIDS awareness among the respondents Barnad (1993). According to Miller & Rockwell (1998) in a study of AIDS awareness in African countries revealed that by 1986, 70% of population of Rwandese was aware of the dangers of AIDS due largely to radio education. In Kinshasa-Zaire, radio, television and print informed the population about AIDS. Singers such as Luambo Makiadi, popularly known as Franco released a cassette about HIV/AIDS. The people interviewed, including youth, knew HIV/AIDS to be fatal and that it was transmitted by sex and through blood transfusion. A study on comprehensive knowledge about HIV/AIDS among young males aged 15-24, by level of education in 11 Sub-Saharan countries in 2004 reported Kenya with the highest knowledge levels of HIV/AIDS. Other countries studied included; Uganda, Burkina Faso, Namibia, Rwanda, Burundi, Cameroon, Ghana, Mali, Mozambique and Nigeria. These countries also reported high knowledge levels (UNAIDS; World Bank, 2005).

Other studies reported a high level of knowledge on the modes of HIV/AIDS transmission but with gender variations (Becker & Joseph, 1988; Bilgan 1990; Gilombok, 1989; Sabwa, 2000; Varga & Makubalo, 1996). A study carried out in Kwazulu Natal South Africa on sexual decision making and negotiation in the midst of HIV/AIDS found that knowledge regarding acquisition and transmission of HIV/AIDS was high among females than males. A knowledge, attitude and practice survey among 712 students from grade 6-8 aged 10-14 years was carried out to establish whether HIV/AIDS education was reaching adolescents in Addis Ababa. Eighty eight percent of the students reported knowledge of the major routes of HIV/AIDS transmission.

However, many of these studies reported various misconceptions and beliefs regarding HIV/AIDS transmission and prevention. A study carried out on HIV prevention in Australia revealed that precautions against HIV/AIDS were wrongfully thought of in terms of having many but specific partners. In a study carried out in Indonesia respondents indicated partner selection and prophylactic use of antibiotics as effective preventive methods yet this is not true (Barnard, 1993). In one study carried out in Addis-Ababa among young adolescents, 15-42% of those studied held incorrect beliefs about transmission of HIV through kissing and shaking hands with infected people (Becker & Joseph, 1988; Bilgan 1990; Gilombok 1989). A study in Tanzania on secondary school students about knowledge on major aspects of HIV/AIDS prevention reported that knowledge was high but was punctuated with wrong information, inadequate knowledge and negative conception (Konings, 1994).

A study by UNICEF (2005) on HIV/AIDS awareness among young people and whether they were getting the information they needed to protect themselves from the scourge found that; a vast majority of young people remain uninformed about sex and sexually transmitted infections (STI's). A majority had heard about AIDS but many did not know how HIV/AIDS was spread and they did not believe they were at risk.

In a report by Kenya HIV/AIDS Disaster Response Project (KHADREP), (2005), the national AIDS awareness levels stood at 95% by 2005. A number of initiatives aimed at increasing education and awareness on HIV/AIDS were begun in 1999. It is the time when the government of Kenya declared HIV/AIDS a national disaster and established the National Aids Control

Council (NACC) to take charge of the pandemic and educate the public about HIV/AIDS and how to curb the scourge.

The national HIV/AIDS communication strategy, (2002-2005) acknowledged high HIV/AIDS awareness while pointing out that many people lacked adequate knowledge about spread and prevention of the virus. Studies carried out on the adult and adolescent population in Kenya regarding HIV/AIDS reported high knowledge levels among the respondents but with gross misconceptions. Lunani (2006) in a study of primary school adolescents HIV/AIDS knowledge levels and their perception of risk of infection with HIV/AIDS in Nakuru municipality, Kenya, reported high knowledge on HIV/AIDS transmission routes, risk factors, risk reduction methods but with misconceptions such as one could get HIV/AIDS by eating in a restaurant with infected people, sharing a public toilet, living with someone who had AIDS and from mosquito bites, being sneezed on or coughed on by a person infected with HIV/AIDS. In addition, the respondents in this study said taking traditional herbs and other medicines that are said to cure HIV/AIDS could protect someone from getting HIV/AIDS.

A study by Sabwa (2000) at Kenyatta University about HIV/AIDS knowledge reported similar results. Oyoo (2003) in a study of HIV/AIDS awareness among adolescents in rural primary schools in Rangwe, Nyanza province found a majority of young people had heard about AIDS but many did not know how it was spread. Information, Education and Communication (IEC) interventions used to alert the general public about the reality of HIV/AIDS, were based on the assumption that knowledge about HIV/AIDS would cause people's attitudes to change which would in turn lead to change in sexual behaviour (Kelly, 2000; UNAIDS, 1999). However, there

is no compelling evidence that IEC campaigns have altogether been effective in communicating accurate information and increasing knowledge about HIV/AIDS. This raises the need to investigate and establish the specific sexuality and HIV/AIDS information that certain groups of people have, especially the adolescents who are at high risk of HIV/AIDS infection and the visually impaired (SAFAIDS, 2005).

The studies on HIV/AIDS knowledge discussed revealed high knowledge levels among the adolescent population studied but with many misconceptions reported about prevention and transmission of HIV/AIDS. This raised the need to find out the knowledge levels of adolescent pupils in primary schools.

2.3 HIV/AIDS Knowledge among the visually impaired

A global survey on Disability and HIV/AIDS was carried out by World Bank and Yale University in 2004. It revealed that people with disabilities among them the visually impaired were at an increased risk of acquiring HIV/AIDS due to their susceptibility to physical abuse and the lack of intervention and appropriate preventive outreach (World Bank & Yale, 2004).

According to Paul Tezanou the Director of African Union of the Blind (AFUB), HIV/AIDS is a reality among the visually impaired, hence information on HIV/AIDS is equally important to them just as it is for the sighted persons. He raised concerns over awareness on the specific HIV/AIDS issues. The need for HIV/AIDS information in accessible formats and the development of a training manual that is suitable for the blind and visually impaired persons was discussed (AFUB, 2006).

Kudzai, a Zimbabwean, who initiated the HIV/AIDS Peer Education among the Visually Impaired Project (HAPEVIP) in Zimbabwe in 2003, carried out a study at several schools for the visually impaired. He interviewed youngsters and some teachers and administrators to find out what the youngsters already knew about sexuality and HIV/AIDS and what opportunities were available to learn these things. The research confirmed what he expected, that the visually impaired youngsters had less access to such information than do the non- handicapped. As a result they had many mistaken ideas about HIV/AIDS and sexuality and they often obtained faulty information because their families and teachers failed to discuss with them delicate issues of HIV/AIDS and sexual health.

In a research by Rambiyawo (2006) in South Africa, visually impaired people registered lower scores on the HIV and AIDS knowledge index than other people, indicating low levels of knowledge of AIDS issues among visually impaired. Other studies in South Africa and Uganda by Groce, (2003) and Health and Disability Working Group, (2004) carried out on visually impaired women registered similar results.

In an HIV/AIDS awareness and training seminar for the blind and partially sighted persons in Kenya held on 20th to 24th February in 2006 in Nairobi, NACC observed that, interventions around HIV/AIDS prevention, care, support and mitigation had been done for the affected but very little or nothing had targeted the visually impaired among other disabled people. Studies on the visually impaired in regard to HIV/AIDS are scarce, with only personal accounts in seminars

providing the much needed information on the visually impaired and HIV/AIDS (AFUB, 2006; NACC, 2006).

The information above revealed that the visually impaired had been left out in the HIV/AIDS awareness programmes thus they were inadequately informed about HIV/AIDS. This indicated that their knowledge on aspects of HIV/AIDS could be wanting.

2.4 Perception of risk of infection with HIV/AIDS

The age patterns of HIV/AIDS show lower infection rates among the ages 5-14 years and 50 years and above. This indicates that the riskiest age for infection with the virus are the sexually active and reproductive ages of 15-49 (KNASCOP, 1996). Reports by Pitts, (1995) and WHO, (1995), indicated that failure of individuals to perceive themselves to be at risk of infection is one of the reasons why individuals continue to contract HIV/AIDS. Weinstein (1984) and Rosenstock (1966) gave the following reasons as to why individuals did not perceive themselves to be at risk of contracting HIV/AIDS: the Optimistic bias belief, the myth that the disease is of the minority, overestimation of prevalence of risky behaviour and consideration of reward payoff.

Adolescents are at risk of HIV/AIDS infection due to physical, psychological and social factors. Adolescence is a time for exploring one's feelings, bodies, behaviours and sexual attraction to others. They have a low sense of vulnerability, lack information and are ignorant, which increases their risk of infection. Poor socio-economic backgrounds or poverty has impacted negatively on risk perception, especially for female adolescents who engaged in risky sexual

behaviour to provide food for their families. Rising cases of sexual assault target young girls often with the general belief that they are virgins thus free from HIV/AIDS (Juma, 2001; NASCOP, 2005; The Daily Nation, July, 18, 2005).

Several studies in Africa reported age of sexual debut had increased in many of the countries. For instance, in Zambia it was 10 years for girls and 12 years for boys (Murandi, Dover, Ilinimugabo, 2000; Spehr, Nyokabi, Suarez & Torres, 2003). In a study carried out in Burundi by Ntavyohanyuma, young adolescents experience their first sexual encounter between the ages of 12 and 14 years. This puts them at high risk of HIV/AIDS infection because they were not well informed about safe sex.

Kenya Demographic Health Survey (KDHS) reported that an overwhelming 60-70% of under 20's in Kenya are presently at high risk of HIV infection. At one time or another, some 80% or more of those sexually active youngsters have engaged in intercourse that was not protected from sexually transmitted infections (KDHS, 1998). In Kenya, children as young as 9 years of age, especially girls, are sexually abused, raped or forced into sex by their guardians because of poverty (EFA NEWS, 2005). Age of first sexual intercourse in Kenya was reported as 12.2 years (Murandi, Dover, Ilinimugabo, 2000; Spehr, Nyokabi, Suarez & Torres, 2003). These early sexual encounters expose them to the risk of being infected with HIV/AIDS.

A report released by the National Agency for the Campaign against Drug Abuse (NACADA) in 2005 pointed to the high prevalence among youth in abuse of alcohol, cannabis, miraa and inhalants (NASCOP, 2005). A study commissioned by the United Nations Office on Drugs and

Crime (UNDOC) and conducted by the University of Nairobi researchers to investigate the links between drug use and HIV/AIDS in Kenya reported that injecting drug use was high in major cities in Kenya and that sharing of needles was quite common. It estimated that 68% to 88% of injection drug users were HIV positive (NAS COP, 2005). Persons under the influence of drugs lose their inhibitions and are more likely to engage in risky sexual behaviour such as casual sex with a number of partners, having sex without a condom or using the condom wrongly. The adolescents may not think of the risk they are exposing themselves to when they share the same contaminated syringe to inject them which is 'a most efficient way of getting infected'.

The ages of (5-14 years) which is the stage from childhood to early adolescence is considered the window of hope in prevention of HIV/AIDS. This age group is generally considered to be HIV free and is in primary school (Kelly, 2000). Many people who develop HIV/AIDS in their twenties were infected with HIV during adolescence. This group is vulnerable because of lack of adequate information on HIV/AIDS transmission, prevention and other economic and social reasons (UNAIDS, 2002). The media, through television, magazines and music played on radios and other programmes which target the youth have strong sexual themes (Moore & Rosenthal, 1993). This pushes the youth to experiment what they see and hear.

Studies reveal that individuals believe that they are not at risk of contracting HIV/AIDS even when they were involved in behaviours which could predispose them to HIV/AIDS infection. For instance, Turner, Anderson, Fitzpatrick, Fowler and Mayon-white (1988), in a study on sexual behaviour and contraceptive practice and knowledge of AIDS of 628 Oxford University undergraduates found that the students estimated their own personal risk of HIV/AIDS to be less

than that of others of the same age and sex. This was true even for those individuals who were engaging in activities associated with greater risk of HIV/AIDS infection. A study in Mexico carried out by Center for Behavioral Epidemiology and Community Health (C-BEACH) reported that adolescents were at high risk of HIV infection. In addition communication barriers placed the female adolescent at higher risk of HIV infection than their male peers (C-BEACH, 2004). A study in Australia on perceptions of risk among 78 patrons of the sex industry revealed perceptions of invulnerability among the respondents (Barnard, 1993). Studies carried out in California, by Agostinelli and Seal (1992) among university students reported low perceptions of vulnerability. In terms of gender differences, women reported higher perceptions of vulnerability compared to men.

A study by Mhalu (1989) in Kagera region of Tanzania, on perception and interpretation of HIV/AIDS revealed that a majority of the 426 local people studied wrongfully believed that this was a disease affecting only barmaids, truck drivers and commercial sex workers who were seen as special groups of people. Studies in Zambia and Rwanda reported similar findings (Murandi, Dover, Ilinimugabo, 2000; Spehr, Nyokabi, Suarez & Torres, 2003; UNAIDS, World Bank, 2005).

Studies in Kenya reported low perception of risk of infection even for those sighted sexually active people engaging in sexual risk taking behaviours (Bilgan, 1990; Lunani 2006; Mummah, 2003; Nzioka 1994; Sabwa 2000). In a study of primary schools adolescents' HIV/AIDS levels and their perception of risk in Nakuru municipality Kenya, a majority of the respondents did not perceive themselves at risk of infection. Population and Research institute at the University of

Nairobi, (1989-1991) and Oluoch (1993), reported low perceptions of vulnerability among the population studied although with gender differences as women reported higher perceptions of vulnerability compared to men.

The Southern Africa HIV/AIDS Information Dissemination Service (SAFAIDS), reports that; the visually impaired among other disabled people are just as sexually active as the rest of the society. This is converse to the popular belief by the general population that the visually impaired are sexually inactive therefore matters regarding sex are inconsequential to them (Davies, 1996; SAFAIDS, 2005). They are even more at risk of HIV infection because of the obvious barriers that they encounter in accessing vital information on HIV and AIDS, not to mention access to health care (SAFAIDS, 2005).

A good number of people believe that the visually impaired persons are virgins. Tikiwa (2006) noted that the myths of virgin cleansing which suggest that if you have sex with a visually impaired person who is believed to be a virgin you will be cured of HIV have contributed to their rape and sexual abuse thus infecting them with HIV/AIDS. Physical dependence of the visually impaired on others also makes them vulnerable to abuse which puts them at high risk of getting infected with the HIV/AIDS virus.

It was noted that the adolescent was still at high risk of HIV/AIDS infection. In spite of the high knowledge levels, this had not been translated into high perceptions of being at risk of infection. Most of the studies reviewed concentrated on the adolescents in secondary schools and colleges

and the adult population. Adolescents in primary schools were significantly left out. The information on visually impaired was also scarce.

2.5 **Attitude towards Safer Sex**

Synder and Debono (1989) define attitudes as feelings, beliefs and behaviour tendencies toward other people, objects, ideas, events, situations or concepts. Attitudes are learnt through conditioning, observational learning and cognitive appraisal (Rathus, 1994). Attitudes learnt through conditioning are influenced by associating feelings, beliefs and behaviour tendencies with positive words such as 'good' or negative words such as 'ugly'. Therefore, through systematic reinforcement or instrumental conditioning of certain opinions by the people around us, the belief disposition is strengthened. For example, a teacher who constantly makes a statement such as 'condoms are meant for immoral people like prostitutes' will unintentionally encourage his/her pupils to look at condoms in that respect.

Observational learning occurs when attitudes are acquired from friends and the mass media. The approval and disapproval of peers moulds attitudes, especially those held in common with other group members (Ernest, 1997). For instance, a new girl joins an existing group in a school whose norms include; having sexual intercourse with men in exchange for money. Her attitude or behaviour will coincide with other group members. She will end up believing in 'commercial sex' thus acquiring a favourable attitude toward the norm, even if the original intention of joining the group was to explore her new environment.

In cognitive appraisal, one evaluates information on the basis of evidence. For instance a boy who believes that condoms make sexual intercourse un-pleasurable may revise such a stereotype on the basis of new information purporting condoms as safety gadgets against HIV/AIDS. Attitudes acquired later are thus judged in terms of how much they deviate from the initial set (Ernest, 1997; McGuire, 1999).

2.6 Sex education and attitude towards safer sex practices

According to UNAIDS (2002), preventive behaviour like abstinence and proper condom use need to be taught at an early age. This is because young people are key to overcoming the pandemic.

The sexual development of children with visual impairment follows the same pattern as that of sighted children. Research indicates that children are not harmed by early sexual knowledge (Davies, 2006). The visually impaired cannot learn incidentally through observation and because of societal taboos against touching, they are denied their most efficient learning modality. Vision plays a major role in concept development and children with visual impairments may require assistance to fully develop and understand their sexuality.

The Ministry of Health advocates for the following safer sex practices for young people as a way of protecting oneself against HIV/AIDS: Abstinence, proper condom use while HIV testing is the most recent practice being advocated for (MOH, 2001; MOH, 2005). However, these safer sex practices have suffered drawbacks that need to be addressed. The drawbacks stem from people's attitudes toward these practices. The safer sex practices; abstinence, condom use and diagnosis-

being tested for the HIV virus advocated for by Ministry of Health have suffered setbacks because of religious, community and personal attitude.

First, abstinence from sex is the most effective safer sex practice mainly advocated to be applied by the youths today but it is highly abused. The youth practicing abstinence bear the brunt of ridicule from their peers; they are isolated and called names such as ‘popes’ ‘vegetarians’ and ‘backwards’(Asego & Ngare, 2007). These names are as a result of the negative attitude certain people have towards abstinence. Thus the youth due to peer pressure may view abstinence negatively and see indulgence in sex as a way to ‘belong’ to the group and not remain isolated and be labeled.

Secondly, a condom works well if properly used. However, the use of condoms has been and remains a controversial issue as the government and some Non Governmental Organizations advocate for its use whereas some religious groups and churches do not advocate for the use of condoms. This is because it goes against the teachings of their religious faith. Other people view it as a way of encouraging promiscuity while others feel that it interferes with sexual enjoyment. This eventually affects the decisions people have to make on use of condoms with various consequences. The media has also abused the use of condoms when advocating its usage while failing to give the actual information of its application and who should use it (MOH, 2001). Additionally, some condoms in the market have recently been found to leak, which begs the question ‘how many people have fallen victims of the defective condoms?’

Lastly, carrying out an HIV test to know one's status is not welcomed by many people. Additionally, it has not been addressed to meet the needs of the visually impaired.

With the advent of HIV/AIDS, there is a need for better sex education for the visually impaired persons (Davies, 1996). Parents and teachers who should be at the forefront in teaching the visually impaired are often uncomfortable reading sexually explicit materials aloud. Teachers of sexual health, personal development and relationships, and family studies are often unsure of their ability to meet the needs of students with visual impairments in the regular classroom (Davies, 1996). They may be hesitant to describe the sexual 'action' and may in fact be relieved that the child cannot observe activities they find difficult to explain (Neff, 1983). This is more so in the case of demonstrating how to use a condom properly. When sexuality education is withheld from children the risk of sexual abuse and exploitation increases (Elonen & Zwarensteyn, 1975; Davies, 1996). In this regard, the visually impaired are thus compounded with more problems in regard to safer sexual practices as they have difficulties negotiating safe sex.

In a study carried out by Rotheram (1989) to evaluate the relationship between knowledge of and attitudes towards AIDS and safer sex practices among adolescents, there was moderately high general knowledge of AIDS (74%) and positive attitude toward safer sex (74%) across all groups as well as a substantial unsafe sex. General knowledge of AIDS was more highly correlated with condom use ($r=.31$) and positive attitudes ($r=.56$), indicating that most at risk knew the most about AIDS.

Center for Behavioral Epidemiology and Community Health (C-BEACH) carried out a study among Mexican adolescents living on the United States – Mexico border, in which attitude towards condom use was assessed. Adolescent females reported favourable attitude about condoms compared to males (C-BEACH, 2004).

In Kenya, distribution of free condoms through government agencies has been supported by World Bank. Public sector condoms are distributed through KEMSA, the Kenya Medical Stores Agency. Non-governmental Organizations, Volunteer groups and faith based organizations have access to these condoms for their staff and volunteers to distribute. NASCOP (2005) reported that Barriers to condom distribution remain because of lack of transport and inadequate storage facilities. Additionally health workers were reported to have a negative attitude towards distributing condoms. The general public was reported to have some groups perpetuating fears that condoms were ineffective in preventing HIV infection. Myths were also spreading about alleged contamination of condom lubricant with HIV. However it was concluded that with increased demand for condoms, these fears could be subsiding (NASCOP, 2005).

2.7 Summary of Literature Review

A lot has been done to educate the general public to equip them with knowledge of HIV/AIDS and many people have high knowledge levels of HIV/AIDS. However, individuals displayed a lot of misconceptions in their knowledge of methods of HIV/AIDS transmission and prevention. Additionally the education had not been designed to meet the needs of the visually impaired. The visually impaired pupils are considered at a big risk of HIV infection because of their lack of knowledge, dependency state and possibility of sex abuse and exploitation. NACC in Kenya

admitted that it had done very little in regard to availing information on HIV/AIDS to the visually impaired in accessible format (NACC, 2006).

Most studies carried out on sighted adolescents reported a high level of knowledge on aspects of HIV/AIDS such as transmission and prevention but with yawning gaps in their knowledge. The studies also revealed that most individuals did not perceive themselves to be at risk of HIV/AIDS infection. Studies carried out on sighted females reported higher perceptions of risk of HIV infection than males. Sighted adolescent females reported favourable attitude toward condom use than their male counterparts.

Studies on visually impaired adolescent pupils reported many misconceptions about aspects of HIV/AIDS thus a lower awareness or knowledge of HIV/AIDS compared to the sighted adolescents. They also showed that visually impaired individuals were at an increased risk of HIV/AIDS infection than the sighted individuals. In addition, the visually impaired were less informed about safer sex practices and had less access to the services offered compared to the sighted individuals. However these studies around the world are very few and almost non-existent in Kenya.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter explains the research design that was used in the study. Variables of the study, sampling technique and sample size are described. Construction of the questionnaire, data collection and data analysis methods are also described.

3.1 Research design

This study sought to find out visually impaired and sighted pupils' HIV/AIDS knowledge, perception of risk of infection with HIV/AIDS and their attitude toward safer sex practices in Thika Municipality, Kenya. Differences between visually impaired and sighted pupils' HIV/AIDS knowledge, perception of risk of infection with HIV/AIDS and their attitude toward safer sex practices were also established. To accomplish this, the researcher used Descriptive survey research design. According to Lovell & Lawson, (1970), a descriptive survey research describes and interprets 'what is'. It is concerned with describing existing phenomena, perceptions, beliefs and attitudes that are held, processes that are ongoing and trends that are developing. The variables in the study cannot be manipulated (Mugenda & Mugenda, 2003; Orodho, 2003).

3.1.1 Variables

The variables of the study included:

Independent variables

- Gender (males and females)
- Visual type
- HIV/AIDS knowledge

Dependent variables

- Perception of risk of infection with HIV/AIDS
- Attitude towards safer sex practices (Abstinence, condom use and HIV testing)

3.2 Location of the study

The study was carried out in Thika Municipality, Thika district. In 2001, the HIV/AIDS prevalence in Thika district was 34 percent, the highest in Central province. According to KDHS (2005), the province had a HIV prevalence of 4.9%, ranking 5th countrywide but with more urban residents having a significantly higher risk of HIV infection (10%) in 2003. In addition, Thika municipality had the largest number of pupils with visual impairment in Kenya.

3.3 Target population

The target population was visually impaired and sighted pupils. They were drawn from class 7 and 8 in selected public schools from Thika Municipality. Class 7 and 8 were selected because the researcher was interested in studying adolescent pupils. In general the adolescent groups of pupils are found in class seven and eight in primary school. Their ages ranged from 12 years to 21 years. The estimated target population for the visually impaired was 70 pupils and 203 for the sighted pupils. The researcher was interested in a population that had the characteristic of visual impairment thus this was used to determine the population to be studied

3.4 Sampling techniques and sample size

3.4.1 Sampling Techniques

Purposive sampling was used to select the school for the visually impaired. This is because the researcher required subjects who had a visual impairment. Random sampling was used to sample the school for the sighted. Stratified random sampling was used to group pupils into eight strata according to visual type i.e sighted and visually impaired, gender, i.e male and female and class 7 and 8. The strata consisted of: visually impaired class 7 boys, visually impaired class 7 girls, sighted class 7 boys and finally sighted class 7 girls. In regard to class 8, the strata consisted of: visually impaired class 8 boys, visually impaired class 8 girls, sighted class 8 boys and finally sighted class 8 girls. The subjects were selected using simple random sampling. Every pupil from the population was assigned a number. The numbers written on small pieces of paper were then picked at random. The pupils corresponding to the numbers picked were then included in the sample.

3.4.2 Sample size

The sample size constituted of 116 pupils, including 57 pupils who were visually impaired and 59 who were sighted. Table 3.1 below presents the target population and the sampling frame for both visually impaired and sighted pupils that were included in the study.

Table 3.1: Sampling frame

SCHOOL	CLASS	BOYS		GIRLS		TOTAL	
		Estimated Target population	Sampling frame	Estimated Target population	Sampling frame	Population	Sample
Thika Primary School for the Blind	7	17	15	16	12	33	27
Thika Primary School for the Blind	8	19	15	18	15	37	30
Gatumaini Primary School	7	61	15	44	15	105	30
Gatumaini Primary School	8	45	15	53	14	98	29
TOTAL		142	60	131	56	273	116
TOTAL POPULATION		273					
TOTAL SAMPLE		116					

3.5 Research Instruments

The research instrument used was called an HIV/AIDS attitude questionnaire. It was selected because items in the questionnaire were relevant and in line with the study objectives and research questions. The instrument was also appropriate for adolescent pupils and had been used successfully by Lunani (2006) and Oyoo (2003) in studies that were carried out among Kenyan adolescent pupils.

Section A of the instrument used was an HIV/AIDS knowledge questionnaire. The items were adopted from the HIV/AIDS knowledge test by Edwards and Smillie (1994) which has been used in researches both internationally (Edwards and Smillie, 1998a) and locally by Lunani (2006), White & Ballard (2001), Nguu (2001) and Nzioka (1994). The knowledge test was designed at Loyola University, Chicago. The items on the test required a YES/NO response. The test proved to be reliable and the items found on this test were similar to those used by the National Council

for Population and Development (NCPD) in their 1998's Kenya Demographic Health Survey (KDHS) and NASCOP carried out between 2003 and 2004 (NASCOP, 2005; NCPD, 1999).

Section B contained items on perception of risk of infection with HIV/AIDS and section C contained items on attitude towards safer sex practices. Both section B and C are a likert scale and the format for this response was Agree/Disagree scale with 5 levels. The items were adopted from HIV/AIDS attitude questionnaire by Edwards and Mummah (2002). This scale was earlier used by Edwards and Lusnar (1997), later revised by Edwards and Milenkovic (1999) and then by Edwards & Mummah (2002). The items are similar to those used by researches such as Kenya Demographic Health Survey which was carried out in conjunction with National AIDS and STI Control Programme and Ministry of Health (KDHS, 2003; NASCOP, 2005). Other studies which used the same items were; Mummah (2003), Lidambiza (2000) and Lunani (2006). The items were in line with the primary school HIV/AIDS syllabus.

The revised test had 112 items with a true/false format. The items covered various aspects of HIV/AIDS including physical properties, transmission, major risk factors, risk reduction methods, symptoms, treatment and prognosis. The test has been used on adolescents and the adult population. The items selected from the test for the purpose of this study covered HIV/AIDS transmission, beliefs, risk factors and risk reduction methods and have been used locally by Lunani (2006) and Oyoo (2003) on adolescent pupils. The visually impaired pupils were given questionnaires in Braille.

Pupils who scored 90% and above on the HIV/AIDS knowledge test were described as having high levels of HIV/AIDS knowledge. On the HIV/AIDS attitude scale, those answering YES to the question of whether they were at risk of HIV/AIDS infection were considered to be at risk. Those answering NO were considered to be not at risk. A YES response was scored as 1 while a NO response was scored as 0. More information on risk perception was gathered from 5 point Likert scale. Those in favour of the safer sex practices on the HIV/AIDS attitude scale were considered as having a positive attitude toward safer sex practices. Those that were not in favour of the safer sex practices were considered as having a negative attitude toward safer sex practices.

3.6 Pilot study

A pilot study was carried out at Kimuchu primary school in Thika municipality. The school used in the pilot study was not used during the actual study and 40 pupils from this school were randomly selected to take part in the pilot study. The aim of the pilot study was to pretest the research instrument to ascertain and improve on the validity and reliability of the research instrument.

3.6.1 Validity

Validity is the degree to which results obtained from the analysis of the data actually represent the phenomenon under study. The content validity was established at the design stage by Edwards and Smillie (1994). Edwards and Mummah (2002) also established the content validity of the HIV/AIDS and attitude questionnaire. The items were also in line with the Kenyan HIV/AIDS syllabus for primary schools. Expert judgment was also sought from the supervisors

and qualified personnel in the area of HIV/AIDS and research. The questionnaire for this study was subjected to a pre-test to ensure that items in the instrument were stated clearly and had the same meaning to all respondents.

3.6.2 Reliability

Reliability refers to the degree to which a research instrument yields consistent data after repeated trials. Items for this study were adapted from the revised HIV/AIDS knowledge test by Edwards and Mummah (2002). The reliability of the original HIV/AIDS knowledge test was estimated at Cronbach's alpha, $\alpha=0.94$ (Edwards & Smillie, 1994). Edwards and Mummah (2002) estimated the internal reliability of the revised knowledge test at $\alpha=0.94$. A coefficient of 0.8 or more implies a high degree of reliability (Mugenda & Mugenda 2003). The split half technique was used to ascertain the reliability coefficient of the research instrument on the pilot study data. This was done as indicated below.

The questionnaire was divided into 3 sections. Section A sought information on pupils' HIV/AIDS knowledge and it required a YES/NO response while section B and C which sought information on risk perception and attitude respectively were based on a 5 point likert scale. The subscales were scored and the scores for the individual subscale summed up then converted into 100% to give them equal variance. Each individual subscale was then subjected to split-half measure of reliability performed as follows:

- i. Sampled items from the domain of indicators that measured the variable.
- ii. Administered the total test to an appropriate group.
- iii. Grouped all the odd numbered items and all the even numbered items together.

- iv. Computed each subject's total score from the two groups of items.
- v. Correlated the scores from the two groups of items for all the subjects.

Data with high split-half reliability have high correlation coefficient. Since the researcher was correlating half of the test scores with the other half, the coefficient so computed did not reflect the reliability of the whole instrument. Hence, the Spearman-Brown prophecy formula was used to correct the realized coefficient.

$$r_s = \frac{2r_h}{r_h + 1}$$

Whereby, r_s = split-half reliability

r_h = correlation between the two halves of the test.

After being corrected with Spearman-Brown prophecy formula, the reliability of the subscales of the adapted instrument was as follows:

Knowledge scale: 0.853

Risk perception scale: 0.717

Attitude scale: 0.779

The instrument was found to be reliable thus was used in the final study.

3.7 Data collection technique

Data was collected using an HIV/AIDS knowledge and attitude questionnaire. The teacher on duty in the school and the class teachers of class 7 and 8 assisted in the familiarization of the researcher with the pupils. The pupils were spaced from each other to avoid influence or discussions while filling the questionnaire. They had 15 minutes to go through the questionnaire

and asked for clarifications. Afterwards, they had 45 minutes to fill the questionnaire and then the researcher collected the questionnaires.

3.8 Data analysis

The questionnaires in braille were transcribed and then all the questionnaires were coded. The data was entered in a computer, cleaned and analysed using SPSS statistical package. Data was analyzed using descriptive statistics such as percentages and means. These were used to describe a distribution of scores to give the expected summary statistics of variables being studied. Hypotheses were tested at alpha 0.05" using Kruskal Wallis test which was used to test differences in sighted and visually impaired pupils' attitude towards safer sex practices, HIV/AIDS knowledge and perception of risk of infection with HIV/AIDS.

3.9 Logistical and Ethical considerations

The researcher ensured resources such as time, money and energy were saved and well spent. A research permit was obtained from the Ministry of Education. The researcher had a work plan and the instrument used was pre-tested and revised.

The researcher adhered to the following ethical principles in social research to protect the integrity of the respondents and ensure honest results: With respect for human dignity, the researcher explained the nature of the study to the subjects and the participants were not coerced to give information. Their confidentiality, privacy and anonymity were protected by not including their names on the questionnaire and the information was not used without their consent or against them. Those who withdrew from the study were not treated unfairly.

The researcher maximized every possible good outcome of the research for the benefit of humanity while ensuring that the subjects were free from physical and psychological harm.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.0 Introduction

This chapter presents the results and their discussion. The chapter is divided into two main sections. Section one presents demographic data of the subjects. The second section presents the results of the study which are presented by hypotheses stated earlier. All the hypotheses were tested at 0.05 level of significance.

4.1 Descriptive analysis

4.1.1 Demographics

In this section, frequency distributions and percentages, measures of central tendency (that is, mean, mode and medium) and measures of dispersion (that is, standard deviation and variance) were used to describe and summarize the data with reference to a number of demographic characteristics of the pupils in the sample studied such as age, gender and visual type. This information is summarized in the following Table 4.1

Table 4.1: Distribution of respondents by gender, class level and visual type

Variable		Visual type of the pupils		Total
		Sighted	Visually impaired	
Gender	Males	30 (26%)	30 (26%)	60 (52%)
	Females	29 (25%)	27 (23%)	56 (48%)
	Sample total	59 (51%)	57 (49%)	116 (100%)
Class level	Class 7	30 (26%)	27 (23%)	57 (49%)
	Class 8	29 (25%)	30 (26%)	59 (51%)
	Sample total	59 (51%)	57 (49%)	116 (100%)

The results in Table 4.1 indicate that boys constituted 52% of the total sample while girls constituted 48% of the total sample. Sighted boys represented 26% of the total sample whereas visually impaired boys represented 26% of the total sample. Twenty five percent of the total samples were sighted girls while 23% of the total sample represented the visually impaired girls.

Sighted class seven pupils constituted 26% of the total sample whereas visually impaired class seven pupils constituted 23% of the total sample. Twenty five percent of the total sample was class eight sighted pupils while 26% of total sample were visually impaired class eight pupils. The sighted pupils constituted 51% of the total sample whereas the visually impaired pupils constituted 49% of the total sample.

Table 4.2: Age statistics for sighted and visually impaired pupils

Age statistics		Sighted pupils	Visually impaired Pupils	Overall age statistics
N		59	57	116
Mean		13.37	15.92	14.63
Median		13.00	15.00	14.00
Mode		13.00	14.00	14.00
Std. Deviation		.95	2.21	2.12
Variance		.89	4.89	4.48
Skewness		.32	.3590	1.03
Range		4.00	9.00	9.00
Minimum		12.00	12.00	12.00
Maximum		16.00	21.00	21.00
Percentiles	25	14.00	13.00	13.00
	50	15.00	14.00	14.00
	75	18.00	15.75	15.75
	100			

As shown in Table 4.2, the mean age for the sighted and visually impaired pupils was 13 and 15.9 years, respectively. The median age was 13 for sighted pupils and 15 for visually impaired pupils with a modal age of 13 for the sighted and 14 years for the visually impaired pupils. The overall mean age of the pupils was 14 years. The modal age was 14 years. The minimum age was 12 years and the maximum age was 21 years, giving a range of 9 years. The maximum age for the visually impaired was 21 compared to 16 years for the sighted pupils. This means that the oldest pupil was found among the visually impaired. It is possible that, this pupil could have started school at an advanced age or had to drag in the system because of the visual impairment that may have affected him/her in one way or the other. Several studies have reported similar results with older visually impaired pupils being in primary schools. For instance, Sichare,

(2004) in a study of visually impaired students in mainstreamed secondary schools in Kenya found the visually impaired students to be older than their sighted classmates.

Table 4.3: Average score of HIV/AIDS knowledge, risk perception and attitude of visually impaired and sighted pupils

Variables		Average (mean) score		Total Sample average score
		\bar{X}		
		Visually impaired pupils	Sighted pupils	
		\bar{X}	\bar{X}	\bar{X}
Knowledge		87.61	92.95	90.32
Risk perception		68.04	71.08	69.59
Attitude	Positive	Percentage 81%	Percentage 95%	Total average percentage 88%
	Negative	19%	5%	12%

Table 4.3, describes the statistical characteristics of HIV/AIDS knowledge, risk perception and attitude toward safer sex practices for the visually impaired and sighted pupils. The mean knowledge score was 87.61 for visually impaired pupils and 92.95 for sighted pupils'. From the distribution in terms of mean, sighted pupils had higher HIV/AIDS knowledge mean compared to the visually impaired. The mean HIV/AIDS risk perception for the visually impaired pupils was 68.04. The mean score for the HIV/AIDS risk perception for the sighted pupils was 71.08. Eighty one percent of visually impaired pupils' had a positive attitude toward safer sex practices compared to 95% of the sighted pupils. Nineteen percent of the visually impaired pupils' had a negative attitude towards safer sex practices whereas 5% of sighted pupils' had a negative attitude towards safer sex practices. From the table 4.3 it was noted that the sighted pupils had a

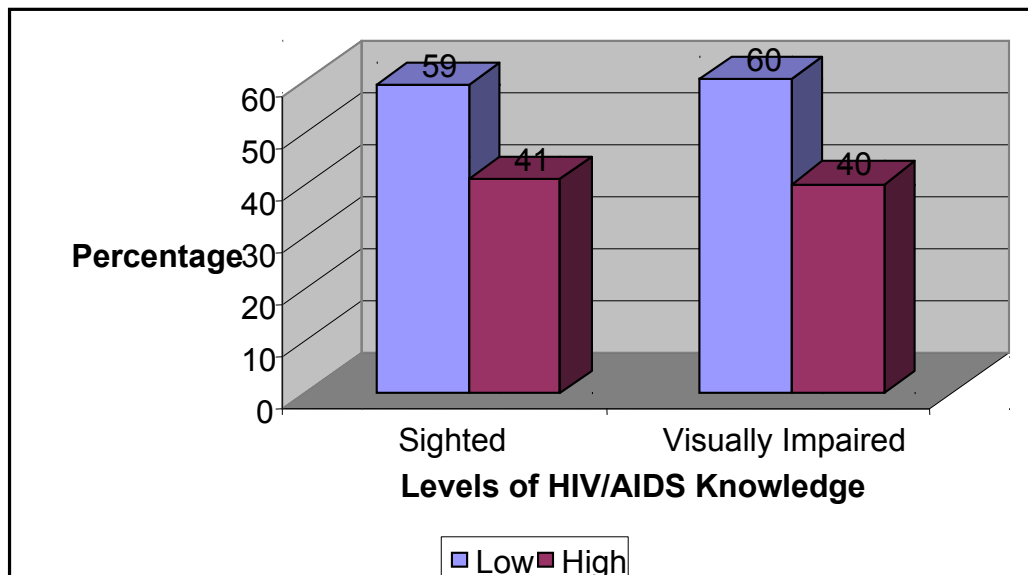
higher score than the visually impaired pupils on the HIV/AIDS knowledge and risk perception scale.

The implication of this is that, the HIV/AIDS education among the visually impaired pupils has not been adequately addressed and the sighted pupils have more information compared to the visually impaired pupils. This explains why the sighted pupils have a higher mean score compared to the visually impaired.

4.1.2 Visually impaired and sighted pupils awareness of aspects of HIV/AIDS

Pupils were asked to answer YES or NO on the HIV/AIDS knowledge questionnaire according to what they knew about HIV/AIDS.

Figure 4.1: Visually impaired and sighted pupils' levels of HIV/AIDS knowledge



From figure 4.1 above, 41% of the sighted pupils had high knowledge of HIV/AIDS compared to 40% of the visually impaired pupils. Fifty nine percent (59%) of the sighted pupils had low

HIV/AIDS knowledge compared to 60% of the visually impaired pupils. Those who scored high had a score of 90% and above and those scoring low had a score of less than 90%. Visually impaired pupils scored as low as 32% on the knowledge scale. For those who had high knowledge levels; a majority of the pupils had gross misconceptions on various aspects of HIV/AIDS prevention and transmission such as; HIV/AIDS could be transmitted through; sharing a room with an infected person, through a mosquito bite or other insect bite, by being sneezed on or coughed on by a person infected with HIV/AIDS, taking traditional herbs and other medicines that are said to cure HIV/AIDS could protect someone from getting HIV/AIDS. The implication of this is that the HIV/AIDS education has not been adequate in addressing specific issues and aspects of HIV/AIDS and that there are weaknesses in the way information is communicated. Less than 50% of pupils scored on the higher side. These results contradict those by other studies that had over 50% of the population scoring on the higher side. However in terms of misconceptions on those who scored on the higher side, the results were similar to those reported by a study carried out by the national HIV/AIDS communication strategy 2002-2005 (Gok, 2003), it was noted that there was high AIDS awareness but with inadequate knowledge about spread and prevention of the virus. These results are also similar to those reported by Lunani (2006), Mutua (2003) and Sabwa (2000), which found high knowledge levels among adolescents and college students with many gaps in their knowledge. Adamu and Mulatu (2003), found adolescents in Ethiopia were knowledgeable about HIV transmission routes, although the study revealed gaps in knowledge on casual transmission of HIV/AIDS. A study by Dawson et al., (1988) revealed that 95% of US civilian respondents believed that HIV/AIDS could be transmitted by sexual intercourse, substantial numbers were grossly misinformed. Similar results

were also reported by Obudha (1992), Population studies and Research Institute, University of Nairobi.

4.1.3 Sighted and visually impaired pupils' perception of risk of getting HIV/AIDS

On a YES/NO question pupils were asked whether they considered themselves at risk of HIV/AIDS infection. Those who considered themselves at risk were to indicate YES and those not at risk were to indicate NO. The results are presented in Table 4.4. More information on reasons why the pupils considered themselves at risk or not at risk of HIV/AIDS was sought on a 5 point likert scale and the results are reported in Figure 4.2.

Table 4.4: Sighted and visually impaired pupils' perception of risk of getting HIV/AIDS

Risk of getting HIV/AIDS	Sighted		Visually Impaired		Total percentage
	Frequency	Percentage	Frequency	Percentage	
Yes (At risk)	20	18%	29	25%	43%
No (Not at risk)	37	32%	28	25%	57%
Total	57	50%	57	50%	100%

The results as indicated in table 4.4 show that 57% of the pupils considered themselves not at risk of HIV/AIDS infection while 43% of the pupils considered themselves at risk of HIV/AIDS infection. More visually impaired pupils considered themselves at risk than the sighted pupils with percentages of 25% and 18% respectively. More sighted pupils (32%) considered themselves not at risk of HIV infection compared to 25% of the visually impaired pupils. The fact that more pupils considered themselves not at risk of HIV/AIDS infection affirm the personal fable or adolescent belief that 'one is special, and invulnerable to the risks that befall other people' (Moore & Rosenthal, 1993).

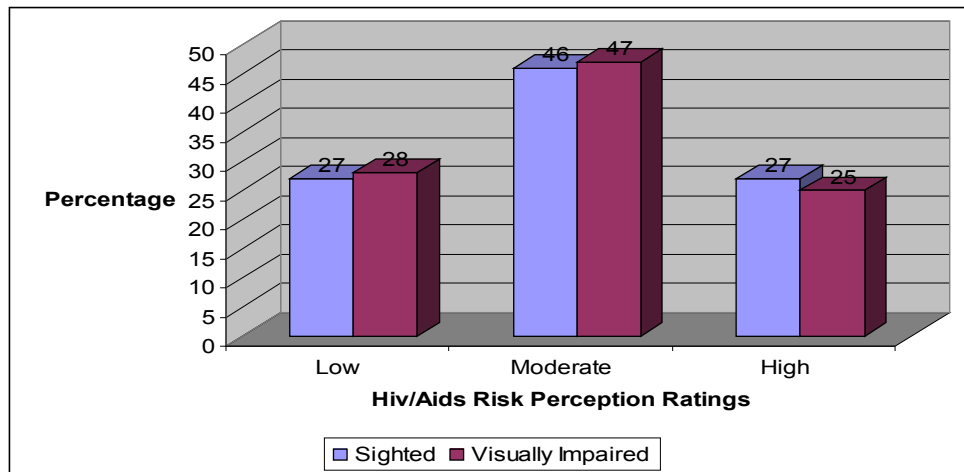
Turner, Anderson, Fitzpatrick, Fowler and Mayo-White in a study of sexual behaviour, contraceptive practice and knowledge of AIDS of 628 Oxford University students found that the students estimated their own personal risk of HIV/AIDS to be less than that of others of their own age and sex. In a study by Bilgan on sexually transmitted diseases, 27.3% of the respondents believed that they were resistant to HIV/AIDS while 15% of the respondents believed that as committed Christians they could not contract HIV/AIDS. A study by Lunani (2006) revealed that 65% of the adolescents studied had a low self-perception of risk of HIV/AIDS infection.

These results are similar to the findings of Lunani (2006) in a study carried out on adolescent pupils. These results are also in line with the theory of Optimistic Bias developed by Weinstein in 1984 whereby people usually evaluate their risk of infection with certain diseases to be significantly lower compared to others. Similar results were found by Lunani (2006), Sabwa (2000), Mummah (2003), Nzioka (1994) and Bilgan, (1990).

However, the fact that more visually impaired pupils considered themselves at higher risk of infection may imply that they felt more vulnerable because of risk of being raped or sexually abused, may not have the power to negotiate for safe sex, and they could be more informed about HIV/AIDS or they lacked enough information about HIV/AIDS. These results are similar to the findings of SAFAIDS (2005) on a study carried out among visually impaired women in South Africa. It reported more visually impaired women considered themselves at higher risk of infection than the sighted population because of lack of information and the possibility of being

raped. More information was sought regarding why the pupils considered themselves at risk or not at risk of HIV infection and it is reported below.

Figure 4.2 HIV/AIDS risk perception ratings of sighted and visually impaired pupils



Pupils were given a range of reasons why they considered themselves at risk or not at risk of HIV/AIDS infection. The scale was a 5 point likert scale. They were to indicate; strongly agree, agree, neutral, disagree or strongly disagree for each reason indicated. This was computed by scoring strong agreement with a positive item as 5, down to 1 for strong disagreement and strong agreement with a negative item 1, up to 5 for strong disagreement. The percentiles 25th, 50th and 75th were used to determine the low, moderate and high perception ratings respectively. The results as shown in figure 4.2, 27% of the sighted pupils perceived themselves at high risk of infection with HIV/AIDS compared to 25% of the visually impaired. Forty seven percent (47%) of the visually impaired pupils perceived their risk to be moderate compared to 46% of the sighted pupils. Twenty eight percent of the visually impaired pupils rated their risk to be low compared to 27 % of the sighted pupils. The study revealed that; a number of the pupils who considered themselves at low risk of getting HIV/AIDS felt that they were not at risk because of the following reasons:

- that they were confident in their ability to protect themselves against HIV/AIDS
- that they knew the difference between risky sexual behaviour and safer sex
- they did not consider HIV/AIDS to be a big problem as the media suggest.
- that their boyfriend/girlfriend could not infect them with HIV/AIDS because they trusted them

Those who considered themselves to be at high risk felt that;

- they were likely to be raped by a stranger. A majority of the visually impaired who considered themselves at risk felt that they were likely to be raped by a stranger who was HIV positive.
- they were terrified at the thought that they may have been exposed to HIV/AIDS

Those in the middle who considered their risk to be neutral indicated most of their position to be neutral, they demonstrated a lack of adequate information on HIV/AIDS which put them in a position of not being able to decide whether they were at risk or not. It was clear that both visually impaired and sighted pupils did not have adequate information regarding what constitutes being at risk or not at risk of HIV/AIDS infection. The implication is that the HIV/AIDS education programmes have not been adequate in addressing the specific HIV/AIDS issues regarding being at risk of infection thus pupils are not likely to effectively protect themselves against HIV/AIDS infection.

4.1.4 Sighted and visually impaired pupils attitude towards safer sex practices

On a 5 point likert scale, the pupils were asked to indicate; strongly agree, agree, neutral, disagree and strongly disagree on various aspects of attitude toward safer sex practices. This was to determine their attitude towards safer sex practices. The results are reported in Table 4.5.

Table 4.5: Sighted and visually impaired pupils attitude towards safer sex practices

Attitude towards safer sex practices	Sighted		Visually Impaired	
	Frequency	Percentage	Frequency	Percentage
Negative	3	5%	11	19%
Positive	56	95%	46	81%
Total	59	100%	57	100%

Table 4.5 shows that, 95% of the sighted pupils had a positive attitude toward safer sex practices compared to 81% of visually impaired pupils. Five percent of the sighted pupils and 11% of the visually impaired pupils had a negative attitude toward safer sex practices. The findings of this study support earlier findings by a study carried out by Rotheram (1989) which evaluated the relationship between knowledge of and attitude towards AIDS and safer sex practices among adolescents, there was moderately high positive attitude toward safer sex (74%) across all groups. The implication is that the pupils may have received adequate knowledge on safer sex practices; they may also have estimated the threat posed by HIV/AIDS to be high thus influencing their attitude as they saw the need to protect themselves from the disease. However a positive attitude does not necessarily translate into behaviour change.

4.2 Hypotheses test results

This section presents the inferential statistics used to analyse the research questions and the hypotheses.

4.2.1 Differences between visually impaired and sighted pupils knowledge of HIV/AIDS

The hypothesis stated that: There is no statistically significant difference between visually impaired and sighted pupils' knowledge of HIV/AIDS. Tested at 0.05 level of significance using Kruskal Wallis/ANOVA test. The results of the analysis are shown in Table 4.5

Table 4.6: Kruskal-Wallis test for differences between visually impaired and sighted pupils' knowledge of HIV/AIDS

Knowledge score	Ranks			Test statistics ^{ab}	
	Visual type	N	Mean Rank		Knowledge score
	Sighted	59	71.59	Chi-Square	18.506
	Visually impaired	57	44.95	df	1
	Total	116		Sig.	.0002

a. Kruskal Wallis Test b. Grouping Variable: visual type

The summary of results analysis in Table 4.6 shows that there was a statistically significant difference in HIV/AIDS knowledge scores between the visually impaired and sighted pupils. The null hypothesis was therefore rejected at 0.05 level of significance because the calculated P value .0002 was less than 0.05. Thus, the difference in the mean ranks for each group (i.e., 44.95 and 71.59 for visually impaired and sighted, respectively) was significant.

These findings are similar to those reported in a research by Rambiyawo (2006) in South Africa, where visually impaired people registered lower scores on the HIV and AIDS knowledge index than other people thus indicating low levels of knowledge of AIDS issues among visually impaired. Kudzai, (2003) carried out a study on visually impaired adolescents in Zimbabwe and reported low HIV/AIDS knowledge levels. Other studies in South Africa and Uganda by Groce, (2003) and Health and Disability Working Group, (2004) carried out on visually impaired women registered similar results.

4.2.2 Differences between visually impaired and sighted pupils perception of HIV/AIDS risk of infection.

The hypothesis stated that: There is no statistically significant difference between visually impaired and sighted pupils' perception of risk of infection with HIV/AIDS. The Kruskal-Wallis/ANOVA test was used to test the hypothesis at 0.05 level of significance. The results of the analysis are shown in Table 4.7

Table 4.7 Kruskal-Wallis test for differences between visually impaired and sighted pupils' risk perception

Ranks				Test statistics ^{ab}	
Perception	Visual type	N	Mean Rank		Perception Score
	Sighted	59	65.59	Chi-Square	5.357
	Visually impaired	57	51.16	df	1
	Total	116		Sig.	.021

a. Kruskal Wallis Test b. Grouping Variable: visual type

The summary of results analysis in Table 4.7 shows that there was a statistically significant difference in risk perception scores between the visually impaired and sighted pupils. The null hypothesis was therefore rejected at 0.05 level of significance. Thus, the difference in the mean ranks for each group (that is, 51.16 and 65.59 for visually impaired and sighted, respectively) was significant. The implication is that the sighted pupils may be more informed than the visually impaired thus consider themselves at higher risk of HIV/AIDS infection compared to the visually impaired. These results support the theory of reasoned action by Ajzen (1985) that people are usually rational and make predictable use of information available to them. In this case, the sighted pupils with high knowledge levels rationalized and considered themselves at higher risk of HIV/AIDS infection than the visually impaired whose knowledge level was lower.

4.2.3 Differences between visually impaired and sighted pupils' positive attitude towards safer sex practices

The hypothesis stated that: There is no statistically significant difference between visually impaired and sighted pupils' attitude towards safer sex practices. The hypothesis was tested at 0.05 level of significance using Kruskal Wallis/ANOVA test. The results of the analysis are shown in Table 4.8

Table 4.8: Kruskal-Wallis test for differences between visually impaired and sighted pupils' attitude towards safer sex practices

attitudes	Ranks			Test statistics ^{ab}	
	Visual type	N	Mean Rank		Attitude Score
	Sighted	59	70.07	Chi-Square	14.254
	Visually impaired	57	46.53	df	1
	Total	116		Sig.	.0001

a. Kruskal Wallis Test b. Grouping Variable: visual type

Table 4.8 shows that there was a statistically significant difference in attitude scores between the visually impaired and sighted pupils. The null hypothesis was therefore rejected at 0.05 level of significance. Thus, the difference in the mean ranks for each group (that is, 46.53 for visually impaired and 70.07 for sighted) was significant.

In summary, there were significant differences between visually impaired and non-visually impaired pupils' knowledge of HIV/AIDS, perception of HIV/AIDS risk of infection, and attitude towards safer sex practices. The implication is that, in spite of the high knowledge levels reported by the visually impaired and sighted pupils, the visually impaired pupils had less knowledge and probably more misconceptions compared to the sighted pupils. This indicates that very little has been done to address issues of HIV/AIDS among the visually impaired population. This affirms the alarm raised by NACC, (2006) and AFUB (2006) that very little had been done to address HIV/AIDS education and other issues among the visually impaired.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents a summary of the study findings. Conclusions, recommendations and implications of the findings are explained. Lastly further research areas are suggested as well as future projection based on the study.

5.1 Summary of the findings

This study investigated and compared the visually impaired and sighted pupils' HIV/AIDS knowledge, perception of risk of infection with HIV/AIDS and their attitude towards safer sex practices. The results of the study revealed that:

- i. A majority of the sighted pupils had knowledge of less than 90% and a mean score of 92.949 on the HIV/AIDS knowledge scale. Those who scored above 90% were well informed on aspects of HIV/AIDS transmission and prevention. The visually impaired pupils had a mean score of 87.596 and they scored much lower compared to the sighted pupils. More visually impaired pupils reported more misconceptions compared to the sighted pupils. This difference means that the visually impaired may have received inadequate education regarding HIV/AIDS compared to the education of the sighted pupils. Their impairment may also be a hindrance to their accessibility to HIV/AIDS information.
- ii. On a YES/NO question about whether pupils considered themselves at risk or not at risk of HIV/AIDS infection, the study reported that: 57% of both the visually impaired pupils and sighted pupils considered themselves not at risk of contracting HIV/AIDS while 43% of pupils perceived themselves at risk of contracting HIV/AIDS.

- iii. Thirty two percent 32% of sighted pupils considered themselves not at risk of contracting HIV/AIDS compared to 25% of visually impaired pupils. 25% of visually impaired pupils considered themselves at risk of contracting HIV/AIDS compared to 18% of sighted pupils. More visually impaired pupils considered themselves at risk compared to the sighted pupils.
- iv. A majority of the visually impaired who considered themselves at risk felt that they were likely to be raped by a stranger who was HIV positive, they were not sure of their ability to protect themselves adequately they did not know the difference between risky sexual behaviour and safer sex.
- v. The fact that more pupils considered themselves not at risk of infection affirmed the personal fable or adolescent belief that 'one is special and invulnerable to the risks that befall other people' (Moore & Rosenthal, 1993). In addition, this may be because they did not have enough information regarding HIV/AIDS risk factors.
- vi. The study revealed that; a number of the pupils who considered themselves at low risk of getting HIV/AIDS felt that they were not at risk because of the following reasons:
 - Forty five percent strongly agreed that they were confident in their ability to protect themselves against HIV/AIDS
 - That they knew the difference between risky sexual behaviour and safer sex
 - They did not consider HIV/AIDS to be a big problem as the media suggest.
 - That their boyfriend/girlfriend could not infect them with HIV/AIDS because they trusted them

Those who considered themselves to be at high risk felt that;

- Twenty seven percent strongly agreed and an equal 27% agreed that they were likely to be raped by a stranger. A majority of the visually impaired who considered themselves at risk felt that they were likely to be raped by a stranger who was HIV positive.
 - Thirty percent were terrified at the thought that they may have been exposed to HIV/AIDS
- vii. Those in the middle who considered their risk to be neutral indicated most of their position to be neutral, they demonstrated a lack of adequate information on HIV/AIDS which put them in a position of not being able to decide whether they were at risk or not. There was significant statistical difference in HIV/AIDS knowledge scores between the visually impaired and sighted pupils.
- viii. Eighty one percent 81% of visually impaired pupils had a positive attitude toward safer sex practices compared to 95% of the sighted pupils. 11% of the visually impaired and 5% of the sighted pupils had a negative attitude toward safer sex practices.
- ix. There was a statistically significant difference in HIV/AIDS knowledge scores between the visually impaired and sighted pupils.
- x. There was a statistically significant difference in risk perception scores between the visually impaired and sighted pupils.
- xi. There was a statistically significant difference in attitude scores between the visually impaired and sighted pupils.

5.2 Implications of the findings

It is only the visually impaired pupils that constituted the age's between 17 and 21. This implies that a number of visually impaired may begin school when they are much older thus they finish school at an advanced age. This may be attributed to their visual impairment.

There were gaps in Knowledge of transmission and prevention of HIV/AIDS. These gaps were exhibited by both the visually impaired and sighted pupils. This implies the current HIV/AIDS education programmes in Kenya have not effectively addressed aspects of HIV/AIDS in Kenyan primary schools.

Pupils' knowledge of HIV/AIDS risk factors was wanting. They did not really seem to understand what constituted risk factors for HIV/AIDS. A number of them who felt that they were not at risk of contracting HIV/AIDS did not demonstrate an ability to protect themselves from HIV/AIDS. For instance, some believed that they trusted their boyfriend/girlfriend not to infect them with HIV/AIDS, they did not believe that HIV/AIDS was a serious problem as the media put it, they also felt that HIV/AIDS was most common among drug users, barmaids and thus they could not get HIV/AIDS. The implication is that HIV/AIDS education concerning risk factors has not been adequate.

More visually impaired pupils considered themselves at risk of HIV/AIDS infection compared to the sighted pupils. The implication of this finding is that the pupils may have seen HIV/AIDS to be a big health threat thus they felt they were at risk. However, this may not be because they were well informed about HIV/AIDS because of the obvious gaps they showed in their

knowledge of HIV/AIDS. It is probably due to the belief that they were vulnerable and likely to be raped by strangers. Additionally it may be because they lacked adequate information about HIV/AIDS. The implication of this finding is that awareness on HIV/AIDS risk factors has not been addressed adequately in the HIV/AIDS education of Kenyan primary schools.

Eighty one percent of visually impaired pupils had a positive attitude toward safer sex practices compared to 95% of the sighted pupils. The pupils demonstrated a positive attitude towards safer sex practices. However some did not really understand what safer sex practices were and for whom they were meant for. Others did not believe in certain safer sex practices such as proper use of a condom and abstinence. In addition, some felt that condoms were not meant for young people who were not married. For those who had a positive attitude towards safer sex practices and specifically condom use, the question remains ‘do they know how to use a condom properly? How can the blind pupils determine that a condom is safe to use when they are not able to visualize it? Can they be taught this, and if so how? These are some of the questions that need to be answered concerning attitude toward safer sex practices. They did not seem to have grasped the concept of HIV testing and its implications. This implies that the both sighted and visually impaired pupils are not likely to adequately protect themselves from HIV/AIDS infection in spite of the positive attitude towards safer sex practices.

The results of the statistical hypotheses tested revealed significant statistical difference in visually impaired and sighted pupils HIV/AIDS knowledge, perception of risk of infection with HIV/AIDS and attitude towards safer sex practices. This means that the differences in the mean rank were significant and the visually impaired pupils scored much lower on these scales. Thus it

is clear that there is very little that has been done in regard to HIV/AIDS education campaigns and support for the visually impaired. The implication is that the visually impaired continue to be inadequately informed, at risk of HIV/AIDS infection and unable to make informed choices regarding safer sex practices.

5.3 Conclusions

In conclusion, it is clear that:

- i. Both the visually impaired and sighted pupils hold misconceptions about HIV/AIDS.
- ii. They also lack understanding of risk factors for HIV/AIDS and on safer sex practices. This means that education campaigns on HIV/AIDS have not been specific in their awareness programmes to address the needs of the adolescent pupils.
- iii. The significant statistical differences in the HIV/AIDS knowledge, risk perception and attitude towards safer sex practices between the visually impaired and sighted pupils, indicates that the visually impaired have been segregated in the awareness campaigns with the information not taking in hand their specific shortcoming of visual impairment thus their needs have not been met. Thus there is a lot that still needs to be done for this population to increase awareness and tackle specific HIV/AIDS issues.

5.4 Recommendations

- i. It is recommended that the government increases the education programmes to address the various misconceptions about HIV/AIDS transmission, ways through which HIV can and cannot be transmitted.

- ii. Availability of information in accessible formats for the visually impaired through Braille, audio tapes and large print visual aids should also be considered. That is the education material should be revised to suit the needs of the visually impaired and it should be readily available and easily accessible.
- iii. Visually impaired persons that have been affected and infected with the virus should also be used to educate them.
- iv. The language used should suit the pupils' level of development; understanding and the language of the catchment's area should also be used to make things clearer.
- v. Teachers also need to be re-educated on the various misconceptions that pupils exhibited and be trained on how to reach out to the visually impaired with the HIV/AIDS education programmes adequately.
- vi. The information education and communication (IEC) programmes must clearly address the HIV/AIDS risk factors broadly. The information has to be comprehensive and clear about what it means in terms of being at risk or not and what exactly constitutes risk factors. The information must also be packaged to address the needs of the visually impaired.
- vii. The values and role of the significant others such as peers, parents, teachers among others is vital. As noted by Ajzen, (1984) in the theory of reasoned action subjective norms are affected by pressure from significant others for example parent, teacher and peers. The opinions of these others will have an impact on perceptions of social pressure to engage in certain behaviours and these affect one's attitude.

5.5 Suggestions for further research

- i. A study should be carried out to compare sources of HIV/AIDS information for the visually impaired and sighted pupils.
- ii. A similar study should be carried out involving sighted and visually impaired students in secondary schools.
- iii. A study comparing actual sexual risk taking behaviours should be conducted for the blind and sighted adolescents.
- iv. A study on the visually impaired people living with and affected with HIV/AIDS should also be conducted.
- v. A study should also be conducted with inclusion of variables such as home background, religious affiliation, and type of school (that is day, boarding, mixed, girls or boys only, private, boarding).

REFERENCES

- Abbot, S. (1998). AIDS and young women. *The Bulletin of the National Clearinghouse for Youth Studies* 7:38-41.
- Aggleton, P. & Campbell C. (2000). *Working with young people towards an Agenda for sexual health. Sex and relationship therapy* 15: 283-296.
- Anderson, S.R., Bainbridge, J.W.B. & Shah, A. (1998). AIDS education in rural Uganda. *International journal of STD and AIDS*, 4. 335-339
- Ajzen, I. (1985). *From intentions to actions. A theory of planned behaviour. Action control: From cognition to behaviour*. Helderberg.
- Ajzen. I. & Fishbein, M.(1980). *Understanding Attitudes and Predicting Social Behaviour*. Englewood Cliffs: Prentice-Hall.
- Akeyo, P. (2005). *AIDS Campaigns have failed to address the plight of the disabled*. Daily Nation (Newspaper), Nairobi, Thursday, December, 22, pp.10 col. 2.
- Ahlberg, B.M., Kirumbi, L.W., Kimani, V.N., Kaara, M.W. & Kranz, (1999). *Male circumcision: practice and implication for transmission and prevention of STD/HIV in central Kenya* in Becker, C., Dozon, J., Obbo, C. & Toure, M. (eds). *Experiencing and understanding AIDS in Africa* (pp. 613-620) Dakar: Editions Karthala et CODESRIA
- Amsale, C., Mitkie, G., Shabbir, I. & Yemane, B. (2005). Perceived sufficiency and usefulness of IEC materials and methods related to HIV/AIDS among high school youth in Addis Ababa, Ethiopia. *African Journal of Reproductive Health*, 9(1), pp. 66-77.
- Amirkhanian, Y.A. Kelly, J. A & Issayev, D.D., (2001). *AIDS knowledge*,

- attitudes and behaviour in Russia: Results of a population based random digit survey in St. Petersburg*. International Journal of STD and AIDS. 2001, January; 12 (1), pp. 50-57.
- Amuyunzu, N. M. (2001). HIV/AIDS in Kenya: Moving beyond policy and Rhetoric. *African Sociological Review*. 5, 2.
- Anderson, S.R., Bainbridge, J.W.B., & Shah, A. (1998). AIDS education in rural Uganda. *International journal of STD and AIDS*, 4. 335-339
- Anugwon, E.E. (1999). Perception of AIDS among university students in Nigeria. Implications for AIDS prevention programmes in Becker, C., Dozon, J., Obbo, C. & Toure, M. (eds) *Experiencing and understanding AIDS in Africa* (pp 589-698) Dakar: Editions Karthala et CODESRIA)
- Ballard, D. J., White, D.m. & Glascoff, M.A. (1990). AIDS/HIV education For oreservice elementary teachers. *Journal of school Health*, 60 (6), 262-265.
- Baltazar, G., Mwololo, P. & Chebet, K. (2003, September). *Correct HIV/AIDS knowledge, attitudes and stigma and discrimination*. Paper presented at the 13th ICASA conference, Nairobi, Kenya.
- Barnes, G.M. (1996). AIDS research in new phase. *Science* 233 (4761), 282-283.
- Barnett, T. & Blaike, P. (1994). *AIDS in Africa: Its present and future impact*. England: John Wiley & sons' Ltd., 46.
- Becker, M.H., & Maiman, L. A. (1975). Social behaviour determinants of Compliance with health and medical care recommendations. *Medical care*, 13, 12.
- Bell, J. (1993). *Doing your research project*. Philadelphia: Open University Press.

- Cacioppo, J. T., Gardner, W. I., & Berntson, G.G. (1997). Beyond bipolar Conceptualizations and measures. The case of attitudes and evaluative Space. *Personality and social Psychology Review*; 1, 3-25
- Center for Behavioral Epidemiology and Community Health (C-BEACH) (2004). *Gender differences in Conom-Related Behaviours and Attitudes Among Mexican Adolescents living on the United States-Mexico Border*. Graduate School of Public Health, San Diego State University, San Diego, CA.
- Edwards, J. & Lusnar, M. (1997). *The propriety component of AIDS attitudes*. Paper presented at the sixty-ninth annual meeting of the Midwestern Psychological Association, USA: Chicago.
- Edwards, J., Milenkovic, M. (1999). Sense of propriety as a component of attitudes expressed in newspaper editorials. Presented at the 11th annual convention of the American Psychological Association, Chicago.
- Edwards, J. & Mumah, S. C. J. (2002, December). *HIV/AIDS knowledge questionnaire & HIV/AIDS attitude questionnaire*.
1. Department of Psychology, Loyola University of Chicago, Illinois, USA.
 2. Department of Educational Psychology, Kenyatta University, Nairobi, Kenya.
- Edwards, J., Smillie, P., (1994). *Meta-analysis of surveys on AIDS-related knowledge and attitudes*. Presented at the 45th annual conference of the American Association for Public opinion Research, Danvers, M.A.
- EFA NEWS, (2005). *Education for all: Education provides key to fight against HIV/AIDS*, 6, 2, and 7.
- Fishbein, M., & Ajzen, I. (1980). Content analysis of measures of attitudes

- Towards six social issues. Presented at the meeting of the Midwest Association for Public opinion research. USA. Chicago.
- Fisher, A.A., Foreit, J.R., Laing, J., Stoeckel, J., Townsend, J. (2002). *Designing HIV/AIDS intervention studies*. An operations research handbook. New York: Population council.
- Forysthe, S. & Rau, B. (1996). AIDS in Kenya: Socioeconomic impact and policy Implications. USA: Family health international. Pp. 1-3.
- Foreman, M. (ed), (1996). Taking risks or taking responsibility? London: Panos/Zed Books.
- Groce, N.E. (2003). HIV/AIDS and people with disabilities. *Lancet*, 361 (9367), 1401-1403.
- Groce, N.E., & Trasi, R. (2004). Rape of individuals with disability: AIDS and The folk belief of virgin cleansing. *Lancet*, 363 (9442), 1663-1664.
- Health and Disability Working Group, (2004). *HIV/AIDS and people with Disabilities*. Boston: School of Public Health, Boston University.
- HIV Center for Clinical and Behavioral Studies, (1989). The relationship of knowledge and attitudes towards AIDS to safe sex practices among runaway and gay adolescents. New York: New York State Psychiatric Institute and Columbia University. *International conference on AIDS*. 1989 Jun 4-9; 5:728
- Hyde, K. (2002). *The impact of HIV/AIDS on formal schooling in Uganda*. Centre for international education. University of Sussex: Institute of Education.
- Jonsen, A.W. & Styker, J.K. (1993). *The social impacts of AIDS in the USA*. New York. National academy press.

- Johnston, T. (2000). *The adolescent AIDS epidemic in Kenya*. A briefing book. (4th Ed) Kenya: New World Printers.
- Juma, M.N. (2001). *Coping with HIV/AIDS in education: case studies of Kenya and Tanzania*. London: Commonwealth Secretariat.
- Kelly, M.J. (2000). *Planning for education in the context of HIV/AIDS*. Paris. UNESCO International Institute for Educational Planning.
- Kenya National AIDS and Sexually Transmitted Diseases Control Programme, (2005). *AIDS in Kenya: Trends, Interventions and impact*. Nairobi: NASCOP.
- Kichamu, G. & Mwangi, J. (2005, April-June). Youth and development. *Kenpop News*, 1(3), 12.
- Lunani, A.M. (2006). *Primary School adolescents' HIV/AIDS knowledge and Their self perceptions of risk in Nakuru municipality Kenya*. Unpublished Master's thesis. Kenyatta University.
- Mwai, E. (2006). *New Aids infections fall despite cash constraint*. The Standard (Newspaper), Nairobi, Thursday, October, 12, pp. 3 col 2-5.
- Ministry of Education, Science and Technology. *Primary education syllabus*. (2002). Vol. 1. Nairobi:KIE. Vol.2.
- Ministry of Health & CDC, (2004). *AIDS Situation in Kenya*. Published in UNAIDS Report July 2004. Geneva: UNAIDS.
- Ministry of Health, (2001). *AIDS in Kenya: A Manual for Health workers*. Kenya: Government Printer.
- Moore, S., Rosenthal, D. (1991). Adolescent invulnerability and perceptions of AIDS risk. *Journal of adolescent Research*, 6 (2), 164-180.

- MOH, (1997). AIDS in Kenya, Sessional paper. Kenya: Government of Kenya.
- Mulatu, M., Adamu, R. (2003, September). *Is HIV/AIDS reaching early Adolescents in Ethiopia?* A KAP survey. Report presented at the 13th ICASA conference. Nairobi: Kenya.
- Mumma, C., J. (2003). *Relationship between knowledge, attitudes and sexual practices of primary school teachers in Rachuonyo District, Kenya*. Unpublished Master's thesis, Kenyatta University, Kenya.
- Mutema, E. (2004, March 18). Equipping visually impaired Zimbabweans for the Fight against HIV/AIDS. Latest News. Retrieved May 19, 2007 from <http://www.afub-uafa.org/forum/ezadmin/>
- Mwayonga, C., & Nduta, S., (2006). *Inclusion of marginalized groups. The experience of persons with visual impairment*. National peer educator's conference held at Kenyatta international Conference Centre (KICC) Nairobi, Kenya. Retrieved, August 20, 2006, from <http://www.afub-uafa.org/forum/ezadmin/>
- Mwesigwa, M., B. (2004). *The forgotten tribe*. Paper presented by National Union of Disabled Persons in Uganda (NUDIPU) at the 4th National HIV/AIDS conference held at Speke resort, Munyongo, Uganda: Kampala Retrieved August 31, 2008, from http://www.afub-uafa.org/forum/ezadmin
- Mutua, F. M., (2003). *An analysis of knowledge and attitudes pertaining to HIV/AIDS as they relate to sexual behaviour among the youth in Kibera slums in Nairobi*. Unpublished M.A. thesis, Kenyatta University. Kenya: Nairobi.
- Muvandi, I., Dover, P. & Ilinigumugabo, A. (2000). Heads, tails or equality? Men

Women and reproductive health in Zambia. Centre for African Family studies and Planned Parenthood Association of Zambia.

NACC. (2003). *Kenya National HIV/AIDS Communication Strategy (2002 – 2005)*. Nairobi: Government of Kenya.

NACC, (2003). *Kenya National HIV/AIDS strategic plan*. Kenya: Government printer.

NACC & JAPR. (2006). *HIV and AIDS prevalence rates decrease*. The Standard (Newspaper). Nairobi, Friday, October, 13, pp. IV V.

National AIDS and Sexually Transmitted Diseases Control Programme, (July, 1996). *AIDS in Kenya*: NASCOP.

Nduati, R. & Kiai, W. (1996). *Communicating with adolescents on HIV/AIDS in East and Southern Africa*. Kenya: Regal Press.

Ngunju, A., W. (2004). *Assessment of the extent of AIDS awareness and strategies of AIDS education among High school students in Kabete constituency*. Unpublished Master's thesis, Kenyatta University, Kenya.

Nguu, C., (2001). *Teacher's knowledge and attitudes towards HIV/AIDS; A case of technical institutes in Nairobi, Kenya*. Unpublished postgraduate diploma in HIV/AIDS project. Kenya: Kenyatta University.

Nwoye, A. (1994). *AIDS counseling and nutritional therapy*. Nigeria: Fab Anieh ltd.

Ochieng, M., R. (2004). *Impact of HIV/Aids on education of primary school girls in South Kisa Location of Butere-Mumias District Kenya*. Unpublished masters thesis, Kenyatta University, Kenya.

- Orval, G. J. (1976). *Tests and measurement in Child development: Handbook II*
Vol II. San Francisco. Jossey Bass inc. Publishers.
- Oyoo, A. (2003). *A study of HIV/AIDS awareness among adolescents in some selected rural primary school. Nyanza province*. Unpublished Master's thesis. Kenyatta.
- Philander, J. H. & Leslie S. (2006). Needs, Barriers and Concerns regarding HIV Prevention among South Africans with Visual Impairments: American Foundation for the Blind. A Key informant Study. *Journal of Visual Impairment and Blindness*, February 2006, print edition pages 111-115.
- Rotheram-Borus, M.J., Selfridge, C., Koopman, C., Haignere, C., Meyer-Bahlburg, H. & Ehrhardt, A. (1989). The relationship of knowledge and attitudes towards AIDS to safe sex practices among runaway and gay adolescents. *International Conference on AIDS*. 1989 Jun 4-9; 5:728
- Rosenstock, I.M., Stretcher, V. & Becker, M. (1994). *The health belief model and HIV Risk behaviour change*, in R.J., Diclemente (Ed). Preventing AIDS: Theories and Methods of Behavioural interventions. New York: Plenum Press. Pp. 5-24
- Sabwa, P.L. (2000). *Sexual risk taking behaviours, perception of risk and prevention of HIV/AIDS among students of HIV/AIDS among students of Kenyatta University*. Unpublished master's thesis, Kenyatta University, Kenya.
- Shauri, H. & Maina, W.L. (2004). *Ethical issues in conducting social research with vulnerable groups in kenya*. In J.K. Kibwage, G.W. Netondo, & C.E Etzod-(Eds.), workshop on research ethics (pp 126-136). Kenya: Maseno University institute of research and postgraduate studies.
- Spehr, T., Suarez, P., E. Nyokabi & Torres, V. (2003, September). *Sexual*

behaviour and condom use amongst secondary school students in Thika, Kenya. Paper presented at the 13th ICASA conference, Nairobi, Kenya.

- Synder, L.B. & Rouse, R.A. (1995). *The media can have more than an impersonal impact: The case of AIDS risk perceptions and behaviour.* Health Communication, 7, 125-145.
- SINA, (2005). African urban crises of exclusion, AIDS and UN millennium declaration. KENYA. Mazingira institute. No. 63.
- Turner, C., Anderson, P. Fitzpatrick, R. Fowler, G. & Mayon-White, R. (1998). *Sexual behaviour, contraceptive practice and knowledge of AIDS of Oxford University Students.* Journal of Biosocial Science, 20, 445-451.
- UNAIDS, (1999). *Peer education and HIV/AIDS: Concepts uses and challenges.* Switzerland: Geneva.
- UNAIDS, (1999). *Sex and youth: contextual factors affecting risk for HIV/AIDS. A comparative analysis of multi-site studies in developing countries.* Switzerland: Geneva
- UNAIDS, (1999). *Sexual Behavioural change for HIV. Where have theories taken us?.* Switzerland: Geneva
- UNAIDS & WHO. (2005). *Aids epidemic update. Special report on HIV prevention.* Switzerland: Geneva.
- UNAIDS & World bank, (2005). *Mainstreaming AIDS in development instruments and process at the national level.* New York: United Nations.
- UNAIDS, (2008). Global AIDS epidemic.
- UNESCO & UNFPA. (2005). *Generations and gender programme: Survey instruments.* New York: UN

- UNESCO, (2005). *Education for all: Education provides key to fight against HIV/AIDS*, 6, 2, and 7.
- Unuigbo, I. E. & Osafu, O. (1999). Sexual behaviour and perceptions of AIDS among adolescent girls in Benin city, Nigeria. *African journal of reproductive Health*, 3(1): 39-44
- Weinstein, N.D. (1984). Why it won't happen to me: Perceptions of risk factors And susceptibility. *Health Psychology*, 3, 431-457.
- Williamson, E., G. & Biggs, D., A. (1975). *Student personal work. A program of development relationships*. New York: John Wiley & sons inc.
- World Bank, (2002). *Confronting AIDS: Public priorities in a global epidemic*. Washington: World bank.
- World Bank, (2005). *Improving women's lives: World Bank actions since Beijing*. Washington: The World bank.
- Yale University/World Bank, (2004). HIV/AIDS and Disability: Capturing hidden Voices. Report of the World Bank/Yale University global survey on HIV/AIDS and Disability. Washington: World Bank/Yale University.

APPENDIX A

HIV/AIDS KNOWLEDGE QUESTIONNAIRE FOR PUPILS

INSTRUCTIONS: The information given here will be treated as private and confidential and will only be used for the intended purpose of research. Answer the questions honestly.

Do NOT write your name anywhere on this questionnaire.

Background information:

School..... Class.....

Age: Male..... ..Female.....

SECTION A

The following are statements about HIV/AIDS

I) Tick [√] YES or NO [] according to what you know

1. Can a person get HIV by living in the same room with a person who has HIV? YES []
NO []
2. Is it possible for a person to get HIV through a taboo, a curse, or by other witchcraft?
YES [] NO []
3. Do you think that if one has HIV and spreads it around through unprotected sexual intercourse with different people, the amount of virus will reduce and that the person will live longer?
YES [] NO []
4. Can having sexual intercourse with a virgin cure AIDS?
YES [] NO []
5. One can get HIV through unprotected sexual intercourse with an infected person YES
[] NO []
6. One can get HIV through sharing piercing and cutting instruments like needles and razor blades. YES [] NO
[]
7. One can get HIV through blood transfusion
YES [] NO []
8. One can get HIV through deep kissing.
YES [] NO []
9. A baby can get HIV from the mother during breastfeeding YES []
NO []
10. A person can get HIV from mosquitoes or other insect bites.
YES [] NO []
11. HIV/AIDS can be transmitted by being sneezed on or coughed on by a person infected with HIV/AIDS.
YES [] NO []
12. HIV/AIDS can be transmitted by shaking hands/touching a person infected with HIV/AIDS.
YES [] NO []

13. Sharing a toilet with someone who has HIV can transmit the HIV virus.
YES [] NO []
14. A person can be exposed to the HIV virus the first time he/she has sex.
YES [] NO []
15. One can contract HIV from someone who shows no symptoms of AIDS.
YES [] NO []
16. A person must have many different sexual partners to be at risk of getting HIV/AIDS.
YES [] NO []
17. Sharing of cups, spoons, glasses and other utensils can transmit HIV/AIDS.
YES [] NO []
18. Proper use of condoms helps reduce the risk of contracting HIV/AIDS.
YES [] NO []
19. Urinating and taking a shower/bath after sex greatly reduces the transmission of HIV/AIDS
YES [] NO []
20. Taking traditional herbs and other medicines that are said to cure HIV/AIDS can protect someone from getting HIV/AIDS.
YES [] NO []
21. Not having sex at all can help protect one from HIV/AIDS infection
YES [] NO []

22. Using sterilized and disposable skin piercing and cutting instruments is a way of protecting one against HIV/AIDS infection
YES [] NO []

SECTION B (HIV/AIDS ATTITUDE QUESTIONNAIRE)

Tick [√] in the blank spaces provided as it applies to you.

1. Do you consider yourself to be at risk of getting HIV/AIDS?
 YES [] NO []

The following are statements that give reasons why people believe they are at risk or not at risk of getting HIV/AIDS. Indicate (Tick [√] all that applies to you).

Strongly Agree SA
 Agree A
 Neither Agree nor Disagree (don't know)..... N
 Strongly Disagree SD
 Disagree D

		SD	D	N	A	SA
1.	I am confident in my ability to protect myself against HIV/AIDS					
2.	I do not think I am the kind of person who can get HIV/AIDS.					
3.	I am glad that HIV/AIDS is most common among drug users, prostitutes and barmaids therefore I cannot get HIV/AIDS					
4.	HIV/AIDS is a disease for adults.					
5.	I know the difference between risky sexual behaviour and safer sex.					
6.	I would decline a blood transfusion because of the risk of contracting HIV/AIDS.					
7.	I am likely to be raped by a stranger who is HIV positive					
8.	I can get HIV/AIDS					
9.	I am terrified at the thought that I may have been exposed to HIV/AIDS					
10.	HIV/AIDS is not a big problem as the media (newspapers, radio and television) suggest.					
11.	I am not likely to abstain from sexual contacts					
12.	My boyfriend/girlfriend cannot infect me with HIV/AIDS because I trust her.					

SECTION C (THE HIV/AIDS ATTITUDE QUESTIONNAIRE)

For the questions below, Indicate in the available boxes whether you

- Strongly Agree SA**
Agree A
Neither Agree nor Disagree (don't know)..... N
Strongly Disagree SD
Disagree D

		SD	D	N	A	SA
1	It is a good idea for people to delay having sex until they are older or married.					
2	If I choose, I could easily abstain from having sex.					
3	A person does not have to feel bad about delaying or refusing sex.					
4	It is alright not to have sex while you are single.					
5	I would take a free blood test to see if I was HIV positive.					
6	HIV testing facilities should be available in schools					
7	HIV tests should be part of all physical examination.					
8	An HIV test is a test like any other provided at the hospital					
9	Condoms should be available at no charge to enhance safer sex practices.					
10	It is alright for unmarried people to have sex without a condom if they know each other well.					
11	Condoms should not be given to young people who are not married.					
12	Condoms are very safe in preventing HIV/AIDS					