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HIV/AIDS EDUCATION IN SECONDARY SCHOOLS

A study of government bilingual high schools in Yaoundé, Cameroon

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ABSTRACT

The purpose of this study was to describe secondary school students' knowledge, attitudes and behaviour in relation to HIV/AIDS and compare these aspects in two Government Bilingual High Schools in Yaoundé-Cameroon. One school runs a formal HIV/AIDS education programme and the other does not. Factors influencing students' attitudes towards people living with HIV/AIDS (PLHIV) and their trusted sources of HIV/AIDS knowledge were examined.

Altogether 618 students participated in the survey. Their ages ranged from 10 to 25 with the mean age of 15. The data was collected in November 2008.

The findings indicated that students in two schools were quite knowledgeable about modes of HIV prevention and transmission, while more students in the intervention school were conversant with facts. No differences in attitudes towards PLHIV were observed in two schools. Students of the intervention school reported positive attitudes towards condoms than the no-intervention school. Girls showed more discrimination towards PLHIV than boys and religion had an impact on attitudes toward PLHIV. Students mostly trusted doctors/nurses, parents and teachers as important sources of HIV/AIDS knowledge.

The research showed that HIV/AIDS interventions actually impact moderate behaviour changes, but there was weak correlation between HIV/AIDS education and attitudes towards PLHIV. Thus there is need for vigorous input into the formal HIV/AIDS intervention, targeting specific behavioural aspects and perhaps qualitative approaches to understanding the drivers of students' attitudes. Parents should be involved in the process of HIV/AIDS education as well.

Key words: HIV/AIDS, HIV/AIDS education, secondary schools, attitude, people living with HIV/AIDS.

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ACRONYMES AND ABBREVIATIONS

ABC	Affective, Behavioural and Cognitive
AIDS	Acquired Immune Deficiency Syndrome
ARV	Anti retroviral Therapy
AVERT	AVERTing HIV and AIDS
DHS	Demographic Health Survey
EDUCAIDS	The Global Initiative on Education and HIV & AIDS
EFA	Education For All
GBHS	Government Bilingual High School
GBPHS	Government Bilingual Practicing High School
GCE	Global Campaign for Education
HIV	Human Immunodeficiency Virus
IATT	Inter Agency task team
IPPE	International Planned Parenthood Federation
IRESCO	Institute de Recherche et des Étude de Comportements
MDG	Millennium Development Goal
NACC	National AIDS Control Committee
NGO	Non-Governmental Organization
NRCS	Nigerian Red Cross Society
PLHIV	People Living with HIV/AIDS
PRSP	Poverty Reduction Strategy Paper
SSA	Sub-Saharan Africa
STI	Sexually Transmitted Infection
UNAIDS	Joint United Nations Programme on HIV & AIDS
UNDP	United Nations Development Programme
UNESCO	United Nations Educational Scientific and Cultural Organization
UNGASS	United Nations General Assembly Special Session
UNICEF	United Nations Children's Fund
WHO	World health Organization
VTC	Voluntary Testing and Counselling

1 INTRODUCTION

The Human Immunodeficiency Virus (HIV) which causes the Acquired Immune Deficiency Syndrome (AIDS) was first discovered in the early 1980s. It has spread more rapidly than most diseases in recent history, having social-cultural, economical and moral repercussions on individuals, families, communities and threatening foundations of entire societies. Over the years, the link between HIV/AIDS and impoverishment has grown and even stronger as the disease is infecting and affecting the younger generation who are the productive labour force of every economy. HIV infections are spreading quickly within the youth populations and what happens to them today will determine what becomes of them and their communities in the future. An estimated 11.8 million young people aged 15–24 are living with HIV/AIDS, and half of all new infections, over 6,000 daily, are occurring among them. (The Joint United Nations Programme on HIV/AIDS, UNAIDS, 2003.)

The World Health Organization (WHO) has identified HIV/AIDS as one of the world's first health emergency and an urgent threat to global public health. It reveals that HIV/AIDS is the worlds second widely spread communicable disease and the sixth common cause of death globally. (WHO, 2004.) In international circles in recent years, it has received as much attention as other pressing global questions like war, terrorism, environmental degradation among others. According UNAIDS (2006), about 65 million people have been affected and more than 25 million people have died of AIDS related causes. The situation is made even gloomier, with 29 million new infections estimated by 2020 if prevention and treatment are not accelerated.

The United Nations Millennium Development Goals (MDGs) report for 2006, states that several countries report success in reducing HIV infections.

However, the overall infection rate is on the rise. Sub-Saharan Africa (SSA) remains the highest affected region. The WHO (2004) has classified HIV/AIDS as the main cause of adult mortality in Africa. It affirms that about 3,1% and 3,9% of all male and female deaths respectively are caused by AIDS related diseases. In the same vein, UNAIDS (2006) fact sheet states that 63% of the global HIV/AIDS infections are in Africa, South of the Sahara with the prevalence rate highest among the age group 15-49 years. It is for which reason African heads of states declared AIDS as a state of emergency in the continent during the African development Forum (2000).

This does not give a promising picture for the African Continent because this age group constitutes youths and adults who are the most active and productive and should be leading the process of development and social change. The international community has come to acknowledge that HIV/AIDS is not only a health problem. It is a developmental disaster of alarming proportions which will affect development goals at the human, financial and material levels. Although one of the Millennium Development Goals (goal 6) particularly addresses HIV/AIDS, an effective response will enhance the achievement of all other Millennium Development Goals. According to UNAIDS (2008, 13) no disease in history has prompted a comparable mobilization of political, financial and human resources and no development challenge has lead to such a strong leadership by communities and countries most heavily affected. By reducing life expectancy, increasing child mortality and proliferating the number of orphans, HIV/AIDS impoverishes individuals, communities and nations by eroding the capacities of socio-economic systems through losses of human resources which is the most important resource for meaningful and sustainable development. The devastating effect of the HIV/AIDS pandemic especially on the young generation is therefore a major impediment to development.

UNAIDS/WHO (2007) estimate that the number of persons living with HIV worldwide is 33.2 million. Deaths related to HIV/AIDS declined from 2,2 million in 2005 to 2,0 million in 2007. However, the number of new infections rose to 2,5 times higher than the number of infected persons receiving treatment (UNAIDS, 2008). Rather than being complacent, this underscores the need for countries to increase their commitment to prevention efforts. This is necessary if this pandemic must start reversal in order to meet the 2015 target by the MDGs and to save humanity from an impending scourge.

1.1 HIV/AIDS in Cameroon

Cameroon has a population of about 18,175.000 million, (WHO Cameroon, 2009). According to the 2008 country report for Cameroon submitted to the United Nations general Assembly Special Session (UNGASS), HIV adult prevalence stands at 5,5%. The number of people living with HIV/AIDS (PLHIV) is 543,295. The number of infections for those aged 15-24 years is 3,2%, 44.813 children aged 0-14 are living with HIV and children orphaned by AIDS related diseases amount to 305,000. Deaths related to AIDS infections are 43,632, (UNAIDS, 2008).

These figures are based on the Demographic Health Survey (DHS) method. It includes sub groups like university students, commercial sex workers, long distance truck drivers among others and has been employed since 2004 as opposed to the sentinel surveillance method (counts from pregnant women who go for anti-natal care) which gave adult prevalence rates at 11% in previous year. This drop can also be explained by the fact that many people who were infected in the late 1990s and early 2000s have died of AIDS related diseases, since Antiretroviral therapy (ARV) drugs were very expensive in

those years. Despite this drop in prevalence, new infections have been on the increase especially among the 15-24 age brackets.

The WHO (2005) observes that young people in Cameroon are highly affected. Indeed, a third of Cameroonians infected are 15-29 years of age. This age group constitutes all Cameroonians who are in secondary school, high school, University, vocational schools, professional schools and those in active service. In their article, Mbanya, Martyn & Paul (2008, 2) state that the socio-economic impact of the disease is profound with growing numbers of sectors being affected, and high hospital bed occupancy rampant. They add that this results in overstretched medical personnel and extra burden to the health and education sectors where school teachers are reported to be unproductive on several counts and morbidity increasing from opportunistic infections. This of course, poses a major challenge to the socio-economic development of the country considering the fact that the age group below 15 makes up about 42% of the entire population (Population Reference Bureau, 2009).

While the adult HIV prevalence in Cameroon is still one of the highest in the Central African Sub-Region it can be described as relatively lower compared to other countries in SSA particularly in the South and Eastern African Countries. This, however, does not imply that Cameroon should be complacent while the younger generation is engulfed by the AIDS pandemic. A look at other regions from the Global statistics on HIV/AIDS still confirms that Sub-Saharan Africa with a very high prevalence rate has an overwhelming majority of HIV infections (appendix II).

The Government's commitment

In recent years, the government of Cameroon has been quite committed in the fight against HIV/AIDS and has declared HIV/AIDS a health emergency and a

priority programme for the Poverty Reduction Strategy Paper (PRSP). A National Aids Control Committee (NACC) was instituted in 1998, to co-ordinate all activities geared towards prevention, treatment and care of PLHIV. It also monitors the spread of the pandemic and controls the finances that are allocated to all stakeholders in the fight against HIV/AIDS. ARV drugs have been subsidized over the years beginning with a 53% subsidy in 2002. Cameroon also developed national treatment guidelines and a multi-sectoral plan for decentralizing the provision of ARV drugs in 2004-2005 in collaboration with the NACC and WHO, (WHO, 2005). Early in 2007 the distribution of ARV drugs was declared free by the government, as a result of subsidies from the Association Esther France and drugs for opportunistic infections from the Clinton Foundation HIV/AIDS Initiative (CHAI).

Mbanya, Martyn & Paul (2008, 5) state that the Government of Cameroon has achieved quite a lot in its strategic plans towards curbing the spread of HIV. These interventions have been very timely to reduce the impact and especially the social burden on people infected and affected by HIV/AIDS. The 2008 progress report by the NACC reveals that 50,005 patients are on treatment, thus representing 55% of patients eligible for treatment. This represents 9,8% of the total number of people living with HIV/AIDS (NACC, 2008). The National Strategic AIDS Plan (2006-2010) addresses the full range of HIV/AIDS strategies, including care, prevention, support and treatment. The government is committed to promoting universal access to treatment, prevention and voluntary testing and counselling (VTC) centres have been integrated into all, regional and district hospitals in all ten regions of the country. Recent global reports from UNAIDS still confirm that young people aged 15–24 account for 45% of all new HIV infections in adults, and many young people still lack accurate and complete information on how to avoid exposure to the virus. It

emphasizes that preventing new infections is the key to reversing this epidemic. (UNAIDS 2008, 96.)

Despite all these interventions it has been observed that prevalence among the 15-24 years old is staggering, and they still remain the highest risk group in Cameroon. In fact, children infected and affected by HIV/AIDS are more likely to drop out of school at some point in time. The entire school systems are themselves affected by HIV/AIDS, 95% of HIV positive teachers have difficulties with punctuality in school and 73% of them affirm that they have to stop lessons from time to time when they are not physically fit. Up to 67% of students living with HIV face similar problems. (UNESCO Cameroon, 2007.) These circumstances make it difficult for students to have a decent education. The Paranoid situation created by this pandemic is putting the entire educational systems and the society at large under pressure. The education system must be supported through prevention, for education is the major driver of economic and social development. Indeed, countries education sectors have a strong potential to make a difference in the fight against HIV/AIDS (Bundy 2002, 7). Prevention and coping strategies can only be ensured through education for it is true that with the current state of scientific knowledge and development, the only protection available to society is through education (Kelly 2004, 38).

Personally, my motivation to study this topic stems from my relationship with students infected by HIV/AIDS, orphaned by HIV/AIDS and others affected and stigmatized because of their relationships with HIV/AIDS patients. During my years as a teacher, I realized that most students orphaned by AIDS related causes and infected students could not afford school requirements and they were also under a lot of psychological pressure as a result of stigma and discrimination. Consequently, some students who were infected and affected

were perpetual absentees because of the social effects, exclusion, anxieties and impoverishment perpetrated by the AIDS pandemics. These experiences have moved me to research on HIV/AIDS education and the relevance of such an education to secondary school students as one means to disenable the vicious cycle of HIV/AIDS. This is an attempt to mitigate the impact of the pandemic on the students in particular and on the educational system in general.

The youth are the focus of this study because they are the future driving force of the economy and their well being will improve every aspect of the nation's development, including demographic aspects such as life expectancy, which is currently at 50 years (UNDP, 2008).

1.2 Awareness of HIV/AIDS and objectives of the study

In Cameroon there appears to be increased HIV/AIDS awareness, yet this highly infected age group needs more education in order to ensure sustainable awareness of the impact of the pandemic. Such an awareness that has the potential to be translated into unrisky sexual behaviour, reduce their vulnerability and increase tolerant attitudes towards PLHIV. It is for this reason that the Ministry of Education has taken a more vigorous approach towards addressing this issue in schools so as to ensure even greater prevention and awareness among this age group. If Cameroon is to achieve Education for All (EFA) and the MDGs by 2015, education at this stage must incorporate aspects of HIV/AIDS. According to UNESCO (2006, 5)

> *Halting the spread of HIV and AIDS is not only a Millennium Development Goal (MDG) in itself (Goal 6), but is a prerequisite for reaching the others including Goals 2 (achieving universal primary education) and Goal 3 (promoting gender equality and the empowerment of women).*

This emphasizes the inter-connections between HIV/AIDS and all other pledges that have been taken by the international community to improve the lot of global population. The global campaign for education (GCE) has observed that Education can have a dramatic effect on the health of a Nation. Girls and boys who complete primary school are 50% less likely to be infected with HIV, implying that 7 million cases of HIV could be prevented in a decade by the achievement of EFA (GCE, 2007).

The UNAIDS Cameroon (2008) country report concludes that there is less emphasis on national prevention programmes and much attention is focused on treatment and care of PLHIV. A report by the International Planned Parenthood Federation (IPPE) indicates that HIV/AIDS is still a problem in Cameroon especially for young women and girls. They further that stigma and discrimination is a distinct problem in Cameroon. (IPPF, 2007.) This issue is further emphasized by Njechu (2008) who reports that the non-collection of HIV results after screening has been blamed for the increase in HIV incidences in Cameroon. His report was based on information from researchers from the Yaoundé based Institute of behavioural Research (IRESCO) who warned that only 7% of young people aged 15-24 who went for voluntary testing collected their results. The research revealed that many who did the screening test and failed to collect their results either feared stigmatization or thought if they were HIV positive it will eventually lead to their death. The research also stated that only a few Cameroonians within this age group go in for voluntarily testing. (Njechu, 2008.)

Before the introduction of formal HIV/AIDS Education into the schools' curricula in the academic year 2007/2008, there has been some unsystematic education within schools, over the years, offered by local and international

Non-Governmental Organizations (NGOs), multilateral organizations, religious denominations, public and private enterprises. Because of the susceptible nature of the age group most affected by HIV/AIDS, this study seeks to describe the effects of the type of HIV/AIDS interventions in secondary schools in Cameroon. This entails looking at two schools, the one doing the new pilot programme and the other with no such intervention.

According to AVERT (2007), schools play a major role in and shaping the attitudes, opinions and perhaps most importantly the behaviour of young people. It is estimated that more than half of all new infections occur before the age of 25 and many of these infections occur because young people don't have the knowledge and skills to protect themselves. Today's generation of secondary school children have been born into a world where HIV/AIDS is an unavoidable reality. These children have many years to be in school, therefore their time in school can help them to prepare for the realities of this pandemic. AVERT (2007) stresses that considering the effects that HIV/AIDS is having on schools, addressing the issue through schools will be the most cost-effective and efficient ways of reaching young people. In schools, all students will have consistent and coherent messages. Earlier studies have also shown that education is the key to an effective response to HIV/AIDS because it has the capacity to accelerate behaviour change among young people therefore making them more receptive to prevention messages. The more educated the young people are, the more likely they are to protect themselves and the less likely they are to engage in risky sexual behaviour that exposes them to the dangers of HIV/AIDS. The benefits of education come from actual knowledge that students gain about HIV, from training in negotiation and life skills and from their increased ability to think critically and analytically before acting. Since the scale of the problem has been reported by many prominent organizations and other institutions have affirmed that education is one of the most preventive

approaches to combat the spread of HIV/AIDS, it is important to appraise how this awareness influences the secondary school students in Cameroon.

The general objective of this study is to examine the effects of HIV/AIDS education on the secondary school students' and its impact on their attitudes and behaviour. More specifically, this study describes their level of knowledge, attitudes and behaviour, and compares these aspects in two schools in Yaoundé-Cameroon. It also examines the factors that drive intolerance towards PLHIV and explores students most trusted sources of HIV/AIDS knowledge. Finally, it also aimed at providing information that will be useful for policy, decision makers and all working in the domain of HIV/AIDS and education.

2 HIV/AIDS EDUCATION

This chapter considers the different concepts used in this study and the theories that guide the study. It also examines the different questions about HIV/AIDS education and discourses surrounding this subject.

2.1 Abstinence-only versus comprehensive sex education

The debate about abstinence-only and comprehensive sex education has come up quite often in recent years in secular and religious spaces. Many opinion holders and political leaders have taken their stance based either on their doctrines, or evidence-based research. This sub section shows the different arguments by proponents of each of these schools of thought and some of the major drivers of their judgments.

Sex education, has been broadly defined as the process of acquiring information and forming attitudes and beliefs about sex, sexual identity, relationships and intimacy (AVERT, 2009). In pedagogic terms it is further describes as curricula grouped in two broad categories; comprehensive sex education (or abstinence-plus) and abstinence-only until marriage (or abstinence-only education). The former generally emphasizes the benefits of abstinence but also teaches about contraception and disease-prevention methods, including condom and contraceptive use. Whereas, abstinence-only programs generally teach abstinence from all sexual activity as the only appropriate option for unmarried people. (Collins, Priya & Summers 2002, 4.)

Abstinence only programs often do not provide detailed information on contraception for the prevention of sexually transmitted diseases and

unplanned pregnancies. Proponents of the abstinence-based approach argue that sex education should focus on teaching young people that abstaining from sex until marriage is the best means of ensuring that they avoid HIV infection, Sexually Transmitted Infections (STI) and unintended pregnancy (Collins et al 2002, 4). As well as seeing abstinence from sex as the best option for maintaining sexual health, many supporters of abstinence-based approach to sex education also believe that it is morally wrong for people to have sex before they are married (AVERT 2009). Most of these advocators are groups based in the United States of America who argue that sex before marriage is inappropriate and immoral and that abstinence is the only method that is 100% effective in preventing STIs and unwanted pregnancies. Further, many abstinence-only advocates are deeply concerned that information about sex, contraception and HIV can encourage early sexual activity among young people. (Collins et al, 2000, 15.) Religious circles have also been part of this debate, most especially leaders of the Catholic Church have spoken out time without number, in clear terms stating their support for this version of sex education. Bijelic (2008, 4) states that;

> *Catholic teaching on human sexuality and reproduction is unambiguous and is a part of Catholic instruction. The church advocates the protection of human life from conception and is opposed to abortion. It approves sexual activity only within heterosexual marriage and is against mechanical or chemical contraceptives.*

Many supporters of abstinence-based sex education have a background or connection to Christian Organizations that have strong views about sex and sexuality. Therefore many fundamentalist religious thinkers have supported this idea from a purely moralistic point of view. The United States government has also been a major actor in proclaiming this education and a Federal law mandates abstinence-only education. In her article, Pardini (1998) observes that

> *The legislation throws the full weight of the federal government behind programs that teach that abstinence is the "only certain way" to avoid pregnancy and sexually transmitted disease that the expected standard of human sexual activity is "a monogamous relationship within the context of marriage.*

She furthers that States that agree to teach abstinence could receive annual budgetary allocations over a period of five years. Although back at home former US president George Walker Bush supported abstinence-only programmes, his Presidents Emergency Plan for AIDS Relief (PEPFAR) finances evidence based comprehensive programmes abroad as part of its projects, (PEPFAR, 2009). This again raises questions of mixed approaches for some of the advocates of abstinence-only school of thought.

Not much literature has been published on the empirical evidences on the impact of abstinences-only sex education programmes. Denny & Michael (2006, 1) posit that rather than research showing that abstinence programmes are ineffective, there are simply few studies that have examined the impact of such education on sexual behaviour of students. In their study, they examined the results of an 18 month follow-up evaluation of an abstinence education curriculum with students from 15 school districts. Their results at short and long term indicated that students of the intervention school had more knowledge and greater intent to remain abstinent than students of the comparison school. This study was followed by Underhill, Paul & Don (2007) who assessed the effects of abstinence-only programmes for HIV prevention among participants in High income countries. They reviewed articles from 30 electronic data bases and their results revealed that these programmes did not have any significant effect on participants' behaviour. They concluded that such

programmes do not seem to affect the risk of HIV infection in high income countries as measured by self-reported and behavioural outcomes.

In yet another study, Kohler, Lisa & William (2008) compared the sexual health risk of adolescents who received abstinence-only and comprehensive sex education to those who received no formal sex education. The results showed that adolescents who received comprehensive sex education were significantly less likely to report teen pregnancy and also a lower likelihood of engaging in vaginal intercourse. Abstinence-only education did not reduce the likelihood of engaging in vaginal intercourse. AVERT (2009) concludes that despite generating considerable debate and political support particularly in the United States, abstinence education represents primarily, a minority moral movement rather than an effective response.

On the other hand, proponents of comprehensive sex education contend that sex education should encourage abstinence but should also provide young people with information about contraception, STIs and HIV. They believe that comprehensive sex education that is appropriate to students' age, developmental level and cultural background should be an important part of education at every age. (Collins et al 2000.) Over the years, a lot has been researched on comprehensive sex education and its impact on adolescents. Rose & Dickinson (2005) studied the impact of abstinence-only education and comprehensive sex education in the United States and Denmark respectively. They found that Teenagers in the United States had higher rates of unintended pregnancies, STIs and abortions, than the Danish teenagers who received comprehensive sex education.

Many other studies have focused on evaluating comprehensive sex education school based programmes. Kirby, Laris & Rolleri (2007) reviewed articles on the impact of sex and HIV/AIDS education on sexual behaviours of young people through out the world. They reviewed 83 articles from both developed and developing countries and found out that although the studies had common characteristics many of them integrated characteristics of programs previously found to be effective. They concluded that there is evidence of positive impact on behaviour, of curriculum-based sex and HIV/AIDS education for adolescents and young adults. Contrary to fears by some sectors of population, the study revealed that the programmes in general did not have negative effects and did not increase sexual behaviour. Furthermore, many programs reduced sexual behaviour and also increased condom or contraceptive use, therefore they would logically reduce both STIs and pregnancy rates.

Kaaya, Mukoma, Flisher, & Klepp (2002) reviewed articles of sexual behaviour of students age 12-24 in SSA. They concluded that there was an early onset of sexual activity for both male and female students. Therefore, abstinence or faithfulness alone in interventions did not properly consider the huge number of already sexually active youths. They also identified the absence of information on other sexual practices other than penetrative virginal sex as an important knowledge gap. They recommend that countries should therefore do a proper behavioural risk assessment which will determine the objectives of school-based sexual health interventions. For example, Nigeria Red Cross Society's (NRCS) goal of HIV/AIDS youth peer education programme is in creating awareness of HIV infection risks among youth and safer sexual behaviour (NRCS, 2003).

Other studies from African countries have equally proven that comprehensive sex education has greater positive impact on students. Fawole, Asuzu, Oduntan

& Beiger (1999) studied the effectiveness of a School-based HIV education programme for secondary school students in Nigeria. Their sample comprised of students who according to the researchers, were more at risk as a result of ignorance, poverty and high prevalence of disease. They studied the knowledge attitudes and sexual behaviour of 223 students who received a comprehensive health education programme compared to 217 students of a control group. At post-test, intervention students demonstrated higher knowledge about HIV transmission and prevention. Their attitudes also revealed more tolerance towards PLHIV. After the intervention, the number of reported sexual partners decreased for the intervention group while it increased for the control group. Reported condom use also increased for the intervention group. They concluded that students could benefit from specific education programmes that transmit important information necessary to prevent risky behaviour and improve knowledge on HIV/AIDS and attitudes towards PLHIV.

From other African countries, Bennell, Karen & Nicola (2002) did a comprehensive study on the impact of HIV on the education sector in primary and secondary school in Botswana, Malawi and Uganda. Part of the study was an assessment of the effectiveness of school-based HIV/AIDS prevention programmes in these countries. The survey schools were randomly selected in two urban and rural areas, which were among those in each country with the highest recorded levels of HIV infection. Their results proved that there was significant change in behaviour among the Ugandan adolescents and in Malawi it was on the rise in the rural areas. The reverse was true for Botswana where some indicators suggested that more limited changes towards safer sexual behaviour were occurring. They concluded that there was little hard evidence to show that school-based HIV/AIDS education and, more generally, sexual reproductive health and life skills education has had a major impact on sexual behaviour of school persons in all three countries. However they also observed

that the interventions were able to inform students on the causes and consequences of HIV.

2.2 HIV/AIDS and sex education

Programme and curriculum planners have also been faced with problems of terminology within the sex education context. So far, no clear consensus exists regarding a universally acceptable term to describe the educational activities, methodologies and process that constitute school-based 'sex education (UNESCO, 2007). In some settings, the use of terms such as 'sex' or 'sexuality' has been seen as too explicit and making parents, teachers and policy makers uneasy. They add that, programmes use terms such as 'family life education', 'life-skills education' or 'population education' which may provide an opportunity to overlook discussions on sex totally. It is for which reason, UNESCO's Global Advisory Group on Sex, Relationships and HIV Education has suggested the term sex, relationships and HIV education be used to describe educational activities in this area. (UNESCO 2007, 8.) This study will therefore focus on the HIV/AIDS education aspect of this definition since it is based strictly on HIV/AIDS issues.

HIV/AIDS education refers to the broad range of interventions given to a people or to an individual about the characteristics of HIV/AIDS and STIs. It can be through media advocacy, in schools, in communities, in social gatherings and to individuals all in an attempt to create awareness, impact knowledge that can help the target population to make informed choices. UNESCO (2007, 15) gives it a broad definition by positing that,

> *HIV education can be conceptualized as a continuum from risk reduction to risk elimination and vulnerability reduction…At one end of the continuum is 'abstinence-*

> *only' which seek to eliminate risk through promotion of sexual abstinence until marriage…At the other end of the continuum are approaches that seek to reduce vulnerability through broader changes at the whole school or community level. Between these two ends of the continuum lie the majority of approaches best described as 'risk reduction', which focus on reducing risk to HIV prevention and other STIs... Throughout the continuum, sex, relationships and HIV education can range from didactic learning…through to participatory approaches (exploration of values and attitudes) and acquisition of skills through skills-based approaches.*

In addition, specific contents for these different approaches are likely to overlap considerably with major differences at the level of focus on intended out comes.

Formal HIV/AIDS education incorporates the above definition as part of a regular school curriculum. According to Tiendrebeogo, Meijer & Engleberg (2003, 27), it is usually delivered in three models. In the first case, HIV/AIDS is delivered as a topic integrated with another subject such as science. Secondly, it is delivered as a topic integrated with health, environment, population and family life education. This is mostly a cross disciplinary approach where HIV/AIDS is introduced in a variety of subjects including mathematics, science, home economics, health education and language learning. The third approach considers HIV/AIDS education as a specialized subject. This study will be concerned with the second model of HIV/AIDS education which is used for HIV/AIDS instructions in schools in Cameroon.

2.3 Attitudes and behaviour

Attitudes have traditionally been shared into affective, behavioural and cognitive (ABC) components. Learning and teaching of HIV/AIDS issues could also be delivered using this classical ABC model. In every learning situation,

instructions target one, two or all of these aspects. The affective objectives emphasize the feelings and emotions that learners have towards the subject. It deals with motivation and willingness to participate in a subject and often targets the growth of attitudes. It addresses the importance that learners attribute to a subject and how this is ultimately translated into their way or life. In their study, Meyer, John, Frank, Kirsty & Lynanne (2008, 16) state that there is strong empirical connection between students academic outcomes and self-reported motivation beliefs and values. This emphasizes the need of incorporating understandings of student motivation into research to enhance educational outcomes in the behavioural domain.

However, they contend that motivation is influenced by other variables like student's sex, age, class, family background, subject area, career goals and teacher's attitude and beliefs. The affective domain is usually implicit in the learning process and as such it is sometimes difficult to measure students affect in a given situation. From a broader perspective other research has proven that both unpleasant and pleasant mood can influence ones evaluation and that positive affect will always have positive outcomes. Exceedingly strong feelings may have such a powerful influence on ones thoughts and inclinations that they overcome whatever ideals one holds regarding the necessity of fair and objective assessment. (Berkowitz 2000, 135.) In the same vein, Gagne (1988, 48-49) asserts that while many attitudes are naturally acquired outside school, schools are often expected to establish socially approved attitudes towards issues like knowledge and learning and self-efficacy. He adds that if school instructions are able to instil basic positive attitudes in students, it will definitely modify their attitudes in a particular direction. However, the choices that students will have to make towards person, events or things may be stronger in one student than in another. In the context of HIV/AIDS education,

students' motivation towards the subject might have an impact on their attitudes toward PLHIV and condom use.

Behavioural outcomes usually target specific behaviour change in learners. In the behavioural domain, learning is context specific, behaviour-centred and more process oriented because behaviour change does not occur at the end of the lesson. According to Fishbein (2000) the definition of any given behaviour includes at least four elements; the action, the target, the context and the time period during which the behaviour is observed or expected. He furthers that changes in one of these elements also changes the behaviour being observed. He elaborates on these elements with typical examples in sex education. He argues that effective health interventions should focus on specific rather than at multiple behaviours, because each behaviour is unique, and the substantive factors influencing one behaviour are often very different to those influencing another behaviour. (Fishbein 2002, 2.) In the context of HIV/AIDS education, behaviour change is usually the target outcome. Therefore interventions could be very specific and given a time frame during which change may or may not occur, and of course there should be monitoring and evaluation to see if learning has had any impact on desired outcome.

The cognitive domain is directly concerned with actual knowledge, comprehension and intellectual skills like thinking, perceiving, recognizing, judging and reasoning (Berliner & Gage 1988, 43). According to Lorin, David & Benjamin (2001), schooling can be expanded to include a broader range of cognitive processes, making learning more meaningful by enforcing the educational goals of retention (the ability to remember what was learned at some later time) and transfer (the ability to use what was learned to solve new problems, answer new questions), (Lorin et al 2001, 63). This could well be

applied in the context of HIV/AIDS education so that learners' knowledge would influence their ability to change attitudes and behaviour.

All three objectives are essential because they help teachers focus on what to teach and help students focus on what to learn. Although all three ABC aspects are intertwined, it is often useful to focus on one at a time. (Berliner & Gage 1988, 46.) It is therefore based on these three components that the following theories have been selected to guide this study. This study has therefore attempted to capture theoretical frameworks that incorporate the ABC aspects of learning and also social issues which influence sexual behaviour.

The theory of Reasoned Action (Ajzen & Fishbein, 1980) and social learning theory (Bandura, 1977) guide this study. Both theories assert that attitude impacts behaviour. The theory of reasoned action explains how and why attitude impacts behaviour, why people's beliefs change the way they act. The theory states that a person's behaviour is determined by their attitude towards the outcome of that behaviour and by the opinions of the person's social environment. Main constructs of this theory are attitudes, subjective norms and intentions. Attitudes in this case are beliefs that a person accumulates over his life time, formed from direct experiences and outside information, and others inferred or self generated. If a person has positive belief about the outcome of his behaviour then he is said to have positive attitude and if a person has negative beliefs about the outcome of his behaviour, he is said to have negative attitude. A person's subjective norms are his beliefs about what others will think of the behaviour. They are perceptions about how family and friends will perceive the outcome of the behaviour and the degree to which this influences whether the behaviour is carried out. Intentions are the probability that the individual will perform the behaviour. The intention is influenced by the

attitude and the subjective norm and the behaviour is the transmission of the intention into action. (Ajzen & Fishbein 1980, 4-6.)

Previous studies carried out in Cameroon reveal that students are knowledgeable about HIV/AIDS and its modes of transmission yet they do not perceive themselves as at risk of contracting the disease. Following the theory of reasoned action this study assumes that despite the level of knowledge, students still have mixed beliefs as to how at risk and vulnerable they are, and these beliefs influence their attitudes towards PLHIV. Therefore this study will find out if students' knowledge about their risk and vulnerability influence positive behaviour and attitudes towards PLHIV even after the introduction of HIV/AIDS education in schools.

Bandura's social learning theory holds that people learn more from one another through observation, imitation and modelling. According to Bandura (1977), people observe others behaviours, attitudes and outcomes of those behaviours. Modelling effects produce learning mainly through their informative function. If people observe positive desired outcomes in the observed behaviour, they are more likely to model, imitate, and adopt the behaviour themselves. This theory is used in this study to explain how students of the school with no HIV/AIDS education get information about HIV/AIDS and how it impacts their behaviour. In this case it assumes that in the application of social learning theory through peer education extra-curricular programmes, media-television and radio, and other unsystematic means, the students are encouraged to observe and imitate the behaviour of their peer educators and others, see positive behaviour modelled and practiced, increase their own capability and confidence and implement new skills with support from the environment.

Studies done in Mongolia on Bandura's social learning theory prove that peer education programmes did improve self-efficacy perceptions. In their study Cartagena, Veugelers, Kipp, Magigav & Laing (2006) demonstrated the effectiveness of peer education programmes for adolescents. They compared two schools one running a peer education programme and the other school with no such intervention. The sample consisted of 720 and 647 students from eight schools with peer education programmes and eight schools without, respectively. The results revealed that students of schools with peer education intervention were more knowledgeable than students of the no-intervention schools. Cartagena et al concluded that peer education programmes particularly those that were managed by small teams appear to be effective and should be implemented broadly. Similarly the NRCS (2003) HIV/AIDS peer education programme had a positive impact on behaviour change to reduce the spread of HIV/AIDS in Nigeria.

Another study by Kinsler, Carl, Donald & Alphonso (2004) evaluated the impact of a cognitive-behavioural peer-facilitated school-based HIV/AIDS education programme on knowledge, attitudes and behaviour among primary and secondary school students in Belize. The intervention was guided by constructs of the theory of reasoned action and social cognitive theory. Their findings indicated that the intervention had positive impact on participants. The intervention group showed higher HIV knowledge and had more positive attitudes towards condom use than the control group.

A study done in South Korea did not actually focus on the impact of HIV education in schools, rather Hyera, Lee, Kwon, Chung & Kim (2005) studied the HIV knowledge, attitudes and related behaviour and sources of knowledge among adolescent South Koreans. However, their samples were drawn from schools that were conveniently selected and included (N=1077) high school

students. Their findings showed that the level of HIV/AIDS knowledge among Korean youths was moderate and that they exhibited a fairly negative attitude towards people with HIV. They observed that parents were a very insignificant source of information on HIV and that school lessons were a fairly important source of information. Knowledge from television was signicant. Their recommendations were that HIV/AIDS interventions in schools could not only improve the level of knowledge it would also be consistent as it were.

Some studies have been carried out in Cameroon in the domain of HIV/AIDS and education. Some have taken into consideration HIV/AIDS plus STIs while others have focused only on HIV/AIDS among the youth population. Rwenge (2002) revealed that, the young people surveyed were well informed about AIDS, its main modes of transmission and methods of prevention, but they continued to have sexual relations that could expose them to infection. Thus, informing and educating young people about sex and AIDS does not seem to be sufficient to motivate them to change their sexual behaviour.

In his study, Mekou (2004) identified two major causes of the spread of HIV among youths in Cameroon which he called immediate causes and profound causes. The immediate causes are essentially connected to the willingness and behaviour of the individual. Mekou also observed that young teachers had multiple sex partners and engaged in unsafe sex practices. He added that teenage pregnancies were most common among students aged 13-16. At the level of the profound causes of the spread of HIV, Mekou concluded that general vulnerability was related to the lack of education and the fact that a bulk of the population thought that HIV was strictly a medical issue or some concept created and mystified by the Western World to sell condoms and medications. Therefore, other spheres of society think it is not their concern. He

recommended that the government should give priority to health issues instead of other aspects such as defence.

Similarly, Banen (2000) carried out a quantitative study in Government High School Leclerc –Yaoundé among students aged 13-25 years. He hypothesized that the quality of education that students received at home and in schools was inadequate in the fight against STIs and HIV/AIDS. The study however was limited because the researcher did not interview parents. The study confirmed the hypothesis that students did not get appropriate education from family as well as from schools. Banen also identified that there was no formal programme to educate students on STIs and HIV/AIDS. She realized that sex education was still a taboo topic in the school arena. In this light, she recommended that social education be instituted as an instrument for sensitization on STIs and HIV/AIDS.

2.4 Schools as a medium to impart HIV/AIDS education

> *"Young people are the key in the fight against AIDS. By giving them the support they need, we can empower them to protect themselves against the virus. By giving them honest and straightforward information, we can break the circle of silence across all society. By creating effective campaigns for education and prevention, we can turn young people's enthusiasm, drive and dreams for the future into powerful tools for tackling the epidemic"*
>
> *--Kofi Annan, Former UN Secretary General*

The HIV epidemic can be very devastating to every sector of an economy. Kelly (2000a, 10-11) says that it can handicap the education sector by affecting the demand (fewer children to be educated and fewer can afford to be educated)

and supply (quality) of education, the resources it needs, its potential clientele, its process, content, school organization, sector-wide planning and management and even donor support for the system. He adds that it is only education that can mitigate these potential impacts (Kelly 2000b). As mentioned in the first chapter of this study, HIV and poverty have a strong connection but studies have shown that education is the key to an effective and sustainable response to HIV/AIDS. Coombe (2004, 20) posits that education and HIV/AIDS thrive on each other and education inherently offers hope, that individuals and communities may rise above their circumstances. Schools can be a primary source of information about prevention modes in the fight against HIV/AIDS. UNAIDS/IATT (2008, 23) observes that,

> *Good quality HIV and AIDS education programmes can reduce risk by building knowledge and skills to initiate and sustain behaviours that protect individuals from HIV. These include delaying the age of first sexual encounter, increasing the consistent use of condoms among young people who are sexually active, limiting the number of sexual partners, and addressing the risks associated with alcohol and drug use.*

Be it comprehensive sex education or abstinence only education, they all have an impact on the psychosocial behaviour of youths and equips the students with skills necessary to decide, negotiate and take actions about the reality of their sexuality. Kirby, Short, Collins, Rugg, Kolbe, Howard, Miller, Sonenstein & Zabin (1994, 341) affirm that many people perceive schools a public institution with a broad opportunity and responsibility for addressing and reducing sexual risk-taking behaviour, because young people attend school regularly and nearly 95 % of school-aged children and youths are in elementary or secondary school at some point in time. They further that most youths attend school before they initiate sexual risk-taking behaviour and they are mostly

enrolled in schools when they initiate sexual activities. In the same light, Maticka-Tyndale and Gallant (2004, 2) argue that the schools locations are known, they are sustained within the community, their hours and modes of operation are known, they have established mechanisms for introduction of new programmes and accessing students, and the size of the target population is known. Caillods, Michael & Barbara (2008) equally state that although many countries have introduced HIV/AIDS education, the subject often remains on the margins of existing curricula and are not always properly delivered. In spite of all the problems, there is evidence that school-based interventions can reduce unsafe sexual practices especially interventions guided by teachers and other adults have a positive impact on reported sexual behaviour. (Caillods et al 2008, 10-11.)

Education gives the individual the broad range of choices one can make among which is the abstinence only means of protection. Indeed the 'education vaccine' is the only social cure, at least for the foreseeable future. Since this disease is behaviour driven, the spread of education also changes the family and the community in which such behavioural change become socially acceptable. (Vandermoortele & Enrique 2000, 1-2.) The education sector provides students with facts about the realities of their sexuality, the world around them and of course empowers them to make informed choices. It is only through proper understanding of the facts about HIV/AIDS that stigmatization and discrimination can be minimized. Schools ensure that students get scientifically accurate facts that will be coherent and systematic in all schools across the nations. Nevertheless, UNICEF (2007) observes that merely furnishing students with facts about sex and HIV is not even enough to reduce vulnerability or alter risky behaviour. Knowledge must be supplemented with life skills so they can better decide among life's opportunities and to act upon these decisions. According to AVERT (2007), young people are likely to be

affected by HIV/AIDS than any other age group but then they are also more likely to change their behaviour as a result of education than any other group. A former UNAIDS executive director supports this with his supposition that,

> *The education sector has a special place in the national multi-sectoral response because it not only helps form the thinking of the next generation especially addressing stigma and prevention but also is responsible for the care and support of some 60 percent of the public sector (UNICEF 2007, 2).*

UNICEF contends that the education sector has a central role in the multi-sectoral response to HIV and AIDS and it is now apparent that it has a key role in reducing stigma, promoting prevention, and providing access to care and treatment. It also observes that there is reduced vulnerability to HIV among people with secondary or higher education. While schooling increases earning power, self confidence and social status it also allows people to take greater control over their sexual choices. Therefore, countries should invest in schools as HIV prevalence is likely to decrease as education increases. (UNICEF 2007, 2-3.) In deed education is not only important in preventing HIV infection, but preventing HIV is also crucial for education as it affects the demand and supply and quality of education, limiting the ability for countries to meet the EFA and MDG goals, (WHO, 2008).

Nevertheless, if the relationship between HIV/AIDS and education must be made meaningful, much effort is required to make the desired impact on the education system and on development goals as a whole. For this to happen, Coombe (2004, 25), supposes that something must change from the old systems to the new systems of education. She asserts that,

> *In this new context, education can no longer be 'business as usual'. Learning institutions in an AIDS-infected world cannot be the same as those in an AIDS-free world. Challenged by this pandemic, the paradigm of education is shifting. It is necessary to change education planning and the management principle, curriculum development goals and the way we do education, if the quality and level of education are to be sustained at reasonable levels and hard-worn gains of Education For All era retained.*

This implies that programme planners must take all these new fields into consideration so that interventions can have a proper focus. The Global Initiative on Education and HIV/AIDS (EDUCAIDS) emphasizes that education in this new context has to seek out learners from HIV/AIDS affected households and acknowledge learners experiences and obstacles. The contents of learning materials should be culturally appropriate, gender-sensitive, age-specific and accurate information on HIV/AIDS. From broader perspective, inclusion should be emphasized with participation and dialogue that address HIV/AIDS-related stigma and discrimination from classmates, teachers, parents and communities. (EDUCAIDS 2008, 13-14.) Education policies, procedures and regulations should by and large be reformulated to take into account HIV/AIDS (Kelly 2004, 42).

2.5 Secondary education in Cameroon

Secondary school is a formal post primary/elementary learning institution which is made up of seven years of studies in Cameroon. Students within this institution are usually of ages 11-16 for first cycle (5 years) and 16-18 for second cycle (2 years). Cameroon has two formal educational systems, English and French systems which are further divided into grammar, technical and vocational schools. This study focuses on students in the secondary/grammar

schools which have both systems of education. This is because more than 60% of secondary school students attend grammar school. Their age range is sometimes not likely to be the average range mentioned above, occasionally, they range between 12-17 years and 17-19 years or perhaps even more for secondary and high schools respectively.

2.6 Overview of HIV/AIDS education in schools in Cameroon

There are two types of HIV/AIDS interventions implemented in schools in Cameroon, the formal comprehensive sex education carried out by trained teachers and the informal education implemented through health clubs, peer educators and mobile health personnel. The formal education is still in its pilot phase, although it has been fully integrated into the primary and secondary schools curricula. Following a joint inter-ministerial decree passed by the Ministries of Basic Education and Secondary Education, in January 2007, HIV/AIDS education was formally introduced into the curricula of both primary and secondary schools. The formal HIV/AIDS education is a comprehensive programme elaborated for schools in Cameroon. It is focused on the teaching of family life education, population education material and HIV/AIDS within school programmes. Following the outline prepared by the former Ministry of National Education (MINEDUC), learning outcomes are focused on social and family life education, reproductive health and basic knowledge on HIV/AIDS. Emphasis is on vulnerability, risk personalization, care and support of people living with HIV/AIDS and the fight against stigmatization and discrimination (MINEDUC, 2004). It consists of thirty eight themes which include the family, reproductive health, boy-girl relationship, family planning, sexually transmitted diseases, HIV/AIDS and environmental education among others. Seventeen institutions have been selected nation wide

to pilot this programme. With the help of UNESCO Cameroon, some 1896 teachers have been trained on the new comprehensive HIV/AIDS curriculum (UNAIDS Cameroon, 2008). It is expected that by the end of the academic year 2007/2008 the pilot phase would have been be over and following academic year the formal programme will be extended to other schools around the country.

3 RESEARCH QUESTIONS

1. What is the secondary school students' knowledge, attitudes and behaviour, related to HIV/AIDS?

2. What kind of similarities and differences exist in the knowledge, attitudes and behaviour of students in Government Bilingual Practicing High School (GBPHS) and Government Bilingual High School (GBHS)?

3. What factors influence stigma and discrimination towards People Living with HIV/AIDS (PLHIV)?

4. What are the most important and trusted sources of HIV/AIDS knowledge to students of two schools?

4 METHOD

The data was collected in November 2008 in Yaoundé the capital city of Cameroon. This study was carried out in two secondary schools in Yaoundé. The choice of the schools studied was based on several criteria. First, one school was the pilot school for the new HIV/AIDS education intervention and the other school had no HIV/AIDS education. Secondly the geographical location of schools, that is, the schools were about 12 kilometres apart from each other, they were far enough to ensure that there was little or no interaction between students of two schools to influence students' knowledge, attitudes and behaviour. Thirdly, the schools had similar characteristics, that is, both schools have the two systems of education in Cameroon, are typically in the city centre and most of the students live in the city and a few live in the outskirts of the city.

Based on these characteristics, the Government Bilingual High school Yaoundé (GBHS) and Government bilingual practicing High school Yaoundé (GBPHS) were chosen for this study. GBPHS was the formal HIV/AIDS intervention school and GBHS was the no-intervention school. Letters of application for authorization and copies of the research plan were sent to principals of the schools, seeking their participation and explaining the purpose of the research (appendix I). This was necessary to address ethical concerns and as Creswell (2005, 150) puts it, permission ensures that the participants cooperate in your study and provide data. It also acknowledges that they understand the purpose of your study and that the researcher would treat them ethically. Confidentiality was emphasized in the introduction of the questionnaire (appendix III) and reiterated orally before administering the questionnaires. Only the English speaking students in each school were considered for this

study. The choice of the site was based on the multicultural nature of the city. Other schools which were also doing the formal HIV/AIDS education programme were situated in the Southern Regions and distant Northern Regions, which do not have a very multicultural population. Yaoundé is situated in the centre of Cameroon and it is the administrative capital. Yaoundé as well as all the other big towns have many bilingual secondary schools both public and private.

To achieve the objectives of this study, a quantitative research approach was employed. It was important as it provided statistical data on the actual number of students involved in the research, their basic characteristics, and level of education, gender differentiation, and religious backgrounds among other variables. Most importantly the quantitative research approach was selected because generalizations can be made from sample to population. Secondary data from the NACC, reports by multilateral organisations, journals, newspapers among others were consulted. Secondary analysis can give fresh insight into data, and ready made data do provide valuable and cost-efficient resources to researchers (Blaxter, 2001). These sources gave valuable insights throughout the research process and gave an opportunity to compare studies by providing the statistical information that was required for the background to this study.

4.1 Sample

This study utilized a random sampling frame. The two schools formed appropriate basis for comparison as the age group required for this study was easily identified. The sampling process ensured representativeness, which refers to the selection of individuals from a sample of a population such that the

individuals selected are typically of the population under study enabling you to draw conclusions from the sample about the population as a whole (Creswell 2005, 145). The main guiding criterion for choice was the age of the students and this lead to the next level of sampling. The class of the students strictly followed the age. The classes had different age ranges but then each level, for example, all form 4 classes had the same age range between 14-15 years. For this reason, cluster sampling of classes was done for each level that was considered, with the classroom as the unit of sampling.

The two schools had different populations. Gall, Joyce & Walter (2007, 166) state that the researcher always starts by defining a population of interest which typically includes too many members to study all of them. Thus the researcher attempts to select a manageable sample, one that is representative of the population. GBHS had a total population of 6000 with 3000 English speaking students and 3000 French speaking students. The sample size for this school was 308 (5%) and it consisted of students of ages between 11-23 years. While GBPHS had a total population of 4800 students with 2300 English speaking students and 2500 French speaking students. The sample size was 310 (6, 5%). The sample also consisted of students of ages 10-25 years. Of the 618 questionnaires administered, N= 600 were considered. Some were disqualified because they were not properly completed or some students did not complete them at all.

TABLE 1: Schools

School	N	%
GBPHS	296	49.3
GBHS	304	50.7
Total	600	100.0

From the total participants, 38% were male and 62% were female. Although national education statistics show that 32% of girls and 34% of boys are enrolled in secondary school, in the big cities there are more girls in schools than in the rural areas because girls in the rural areas are more likely to be out of school for various socio-cultural and economic reasons.

The typical ages of respondents were 14, 15 and 16. This is because majority of the sample was drawn from forms 4, 5 and lower sixth (L6th) classes where the ages range from 14-17 years. There were a few cases above 19 years in high school. These cases might have had problems related to health, finances or school performance which made them to still be in secondary school at this age (see table 2 for students' distribution).

TABLE 2: Students' age distribution

Age	N	%
<12	36	6,1
13	64	10.7
14	94	15.7
15	123	20.5
16	89	14.8
17	80	13.3
18	60	10.0
20 >	54	9.0
Total	600	100.0

Family

Students' family backgrounds were also varied, majority of students reported that they lived with both parents. About 1/5 of the students lived in single parent families, which was almost as high as living with a family member. In

Cameroon some parents who cannot afford to educate their children or who think that education in the city is better, send their children to study and live with family members in the city as illustrated in table 3 below.

TABLE 3: Students' family background

Family	N	%
both parents	346	57.7
mother	80	13.3
father	33	5.5
family member	132	22.0
alone	9	1.5
Total	600	100.0

Religion

Majority of students were Christians, 89%. Other religions were sparsely distributed. Muslims made up 6% of the sample while 3% made up other religions. Students who did not have any religious inclination were 2%. Active "believers" meaning those who visit church services weekly, were the majority 60% and only 4% never visited the church.

4.2 Instrument

A questionnaire was used to collect data. Gall et al (2007, 228-229) contend that the questionnaire is advantageous because they are cost effective and time saving but they cannot probe deeply into respondents' beliefs, attitudes and inner experience. Bearing these in mind, questions were adapted from the international questionnaire for HIV/AIDS studies in schools and from studies done in Africa, Asia and Canada.

Questionnaires were administered to students in the English language. The questions were highly structured (appendix III). Cohen, Lawrence & Keith (2007, 321-322) assert that highly structured closed questions are useful because they can generate frequencies of responses amenable to statistical treatment and analysis. In addition, they enable comparisons to be made across groups in the sample. Nonetheless, they do not enable respondents to add any remarks, qualifications and explanations to categories and there is a risk that categories might be biased or not exhaustive enough. Considering these aspects, two open questions were introduced in the questionnaire, to enable respondents answer as much as they wished in certain circumstances (appendix III, sections 3 and 4). The questionnaire took into account the target age group for this study. It was divided into four sections; section one consisted of seven socio-demographic issues where respondents were asked to report their gender, age, educational level, religion and person with whom they lived. Section two comprised of sixteen questions, twelve of which were statements on modes of transmission of HIV, respondents ticked responses on a likert-type scale. Four questions were on the actual knowledge on HIV/AIDS facts, completed as 'true' or 'false'. Section three consisted of twenty four statements fourteen on HIV prevention and eight statements on issues related to stigma and discrimination, all were answered on a likert-type scale. One questions was open ended and students were expected to choose from dichotomous 'yes' or 'no' answers and give explanations thereafter. Section four consisted of twenty two questions, five questions on reported behaviour and another open ended question. In the same section, there were aspects of sources of knowledge and students were asked to tick the degree of importance each was, as a source of knowledge to them. There were three questions for respondents to rate HIV/AIDS studies in their school. Two questions were about testing for HIV/AIDS and one question about respondents knowing an infected person and their relationship with infected persons. Questionnaires were administered during class time and

participants completed them within approximately 25-30 minutes with relative ease.

4.3 Reliability and validity

Cronbach alpha was used to determine the reliability of the attitude measurement. In the attitude scale (variables 31 to 38, appendix III, section 3) some of the questions in the negative were reversed so that all responses were towards the positive direction. The alpha for the whole sample was .61, which is acceptable. The reliability was higher at .64 for older students (14 years and above). This was because there were many younger students in the sample who probably have not had much experience with PLHIV as much as the older students.

Validity of the data was enhanced through the processes of piloting and by cross-checking of information between different sources and participants. According to Blaxter, Hughes & Tight (2000, 200), validity has to do with whether your methods, approaches and techniques actually relate to, or measure, the issues you have been exploring. The items on the questionnaire had been used in other contexts for similar studies, however, the instrument was verified for content validity, through some expert inputs. The questionnaire was pilot tested with a group of students in another school that has similar characteristics like the two schools understudy. 20 students whose ages range from 11-20 years were randomly selected from four different levels. The questionnaire was completed after regular school hours within approximately 20-30 minutes and the contents were evaluated for proper understanding. This led to the restructuring of a few questions.

All analysis was conducted with SPSS (Statistical Package for Social Science version 13.0) software. The total number of questionnaires distributed were N = 618 and 615 were returned. 600 questionnaires were properly completed and analysed. Some questionnaires, 15 of them were either not properly completed or not completed at all by some respondents. This can be explained that either they were not willing to participate or they were in a hurry to go on lunch break since some classes were given questionnaires shortly before lunch break time.

5 RESULTS

5.1 Knowledge, attitudes and reported behaviour

Knowledge is interpreted in this study as knowing the facts about HIV/AIDS, modes of transmission, and modes of prevention.

HIV/AIDS Facts. Questions were asked about the characteristics of HIV/AIDS which students responded 'true' or 'false'. Some questions (variables 13, 14, 16, appendix III, section 2) were reversed so that all right responses scored 2, an indicator of high knowledge, and the wrong responses scored 1, an indicator of poor knowledge. The sum of scores was computed and the highest score was 8,00. The mean was 6,65 and a score at 7,00 and above was considered to be very good knowledge. The results showed that about 61% of respondents had very good knowledge. About 12% of cases scored 5,00 or less which was considered to be poor knowledge. The least scores (1,00 and 2,00) were obtained by 1.3% of cases. The distribution of scores was actually skewed to the right direction (see figure 1 overleaf).

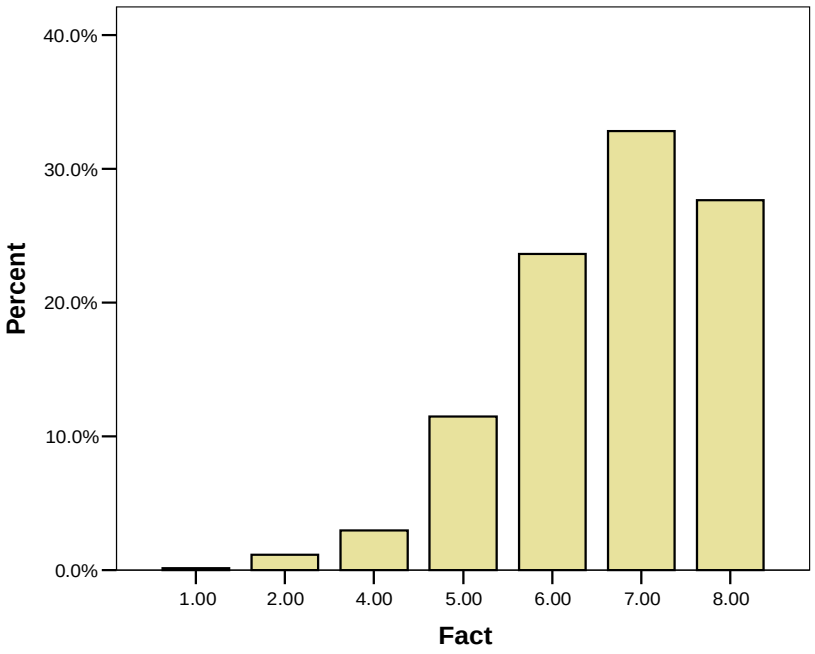

FIGURE 1: Students' scores on knowledge of facts about HIV/AIDS

Modes of transmission. There were twelve statements on the modes of HIV transmission. The knowledge scale was also adjusted so that 6 negative responses (variables 2, 3, 8, 9, 10, 11, appendix III, section 2) were reversed, 4 (strongly agree) indicated very high knowledge and 1 (strongly disagree) indicated very low knowledge. The 'don't know' responses were also considered as the wrong response, interpreted as 1 in this case. Hence all students were scored from 1-4. The mean was computed and scores at 3,00 or higher were considered very good knowledge. The results revealed that 2/3 of the cases have very good knowledge on modes of HIV transmission. With the mean at 3,1 no students scored below 2 which was considered very poor knowledge. Therefore the total sample understood many of the statements in this section which indicates they actually have very good knowledge (see figure 2 overleaf).

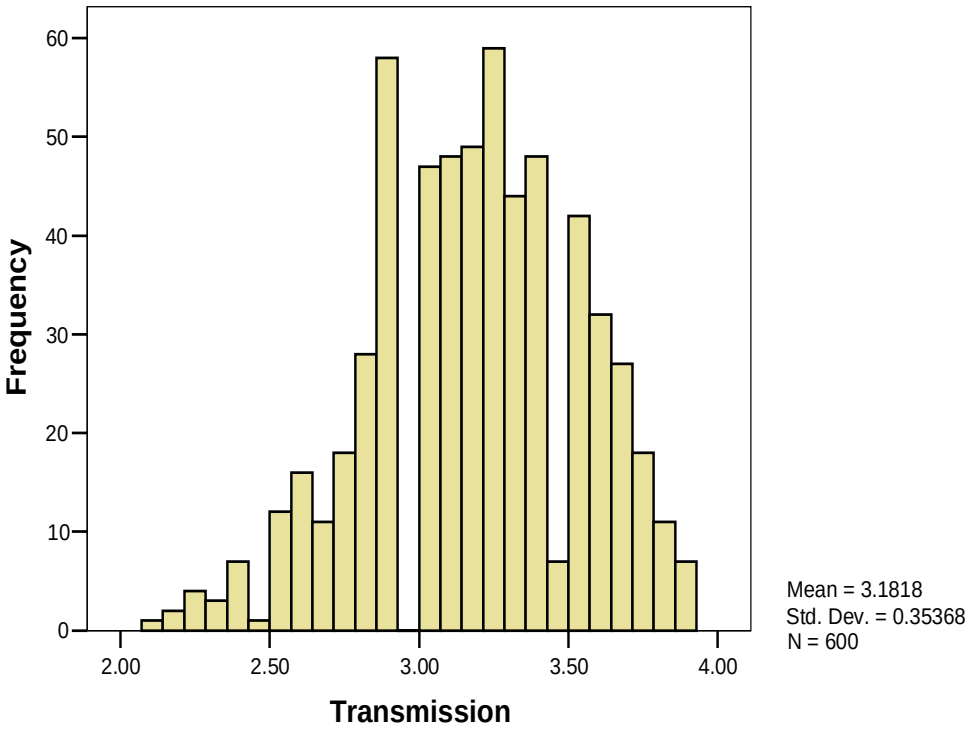

FIGURE 2: Students' scores on knowledge of modes of HIV Transmission

Modes of prevention. There were 16 statements on modes of HIV prevention. 6 responses (variables 24, 25, 26, 27, 29, 30, appendix III, section 3) were also reversed so that 4, 'strongly agree' was very good knowledge, 1 'strongly disagree' was very poor knowledge and 'don't know' responses were considered the wrong response and analysed as 1. All respondents scored from 1-4. Scores at 3,00 and above were considered very good knowledge. About 64% of the students had scores that indicated very good knowledge. The mean score was 3,1 and the distribution was almost normal and very slightly skewed to the right direction, (see figure 3 below). The least score was about 1,8 obtained by 0,2% of cases. The results show that many students have very good knowledge on modes of prevention.

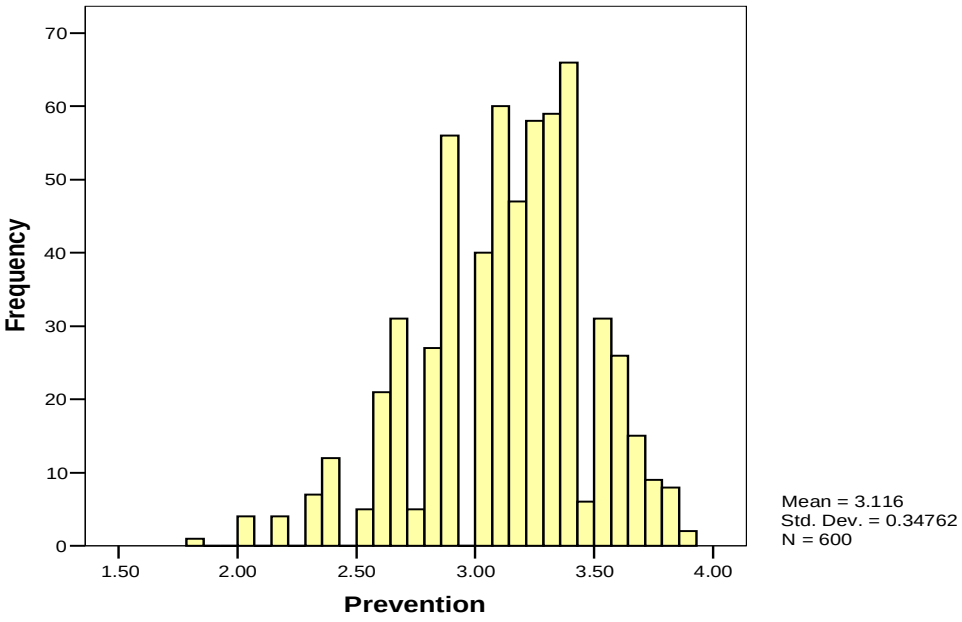

FIGURE 3: Students' scores on knowledge of modes of HIV prevention

Attitude

Attitudes were studied through broad statements related to students' relationships with PLHIV. Recent studies in Cameroon reveal that stigma is still a major problem especially for the youth population who do not collect their HIV test results because of the fear of stigmatization if they happen to be HIV positive. Eight statements on attitudes were also measured on a five point scale of 'strongly disagree', 'disagree', 'agree', 'strongly agree' and 'don't know'. This gave every respondent the possibility to express their attitudes. Some responses (variables 31, 32, 35, 36, 37, 38, appendix III, section 3), were also reversed as in the above sections. The 'don't know' response was interpreted as 'missing system' because having no opinion cannot be parallel to having low tolerance in this case, therefore each student's opinion was maintained. Respondents were therefore scored on 1-4. Scores less than 2,00 were considered very low tolerance and scores 3,00 and above were considered very high tolerance. About 1/2 of the respondents scored less than 2,00 which indicated low tolerant attitudes towards PLHIV. Just about 7% who scored 3,00 and above indicated

very positive attitude towards PLHIV. Majority of responses clustered around the mean which was 2,1, with the distribution curve is almost normal and a bit skewed to the negative direction (see figure 4 below).

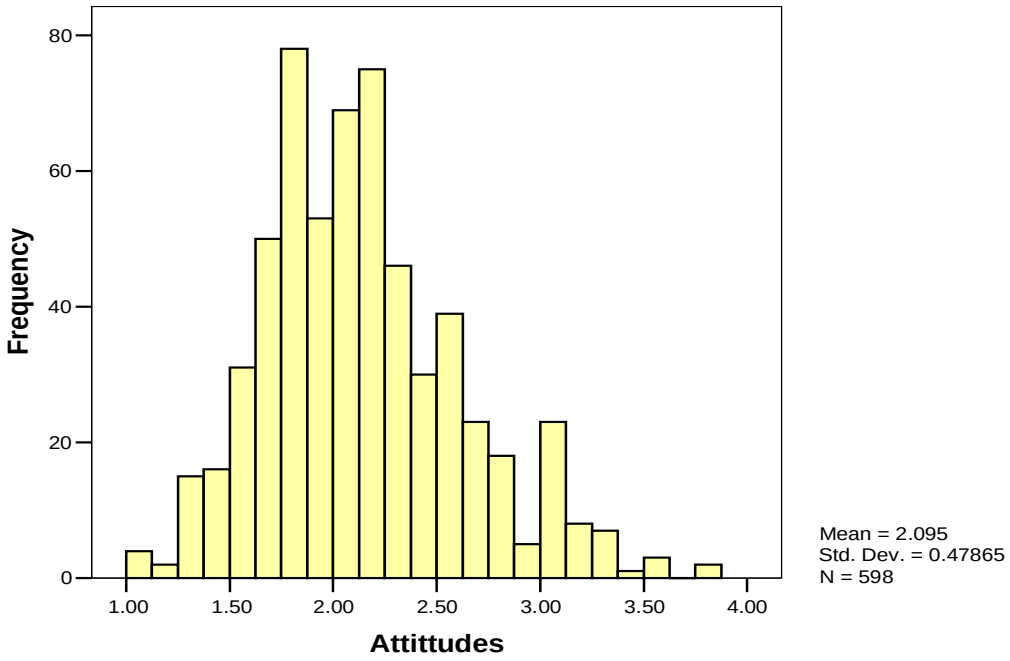

FIGURE 4: Students' attitudes towards PLHIV

From the above data, scores were grouped into three. Students who scored 0,00-1,99 were the least tolerant, those who demonstrate negative attitudes and are extremely discriminatory against PLHIV. Students who scored 2,00-2,99 were averagely tolerant those who fairly accept PLHIV and students who scored 3,00 or higher were most tolerant. The distribution below is very uneven with over 40% of cases demonstrating negative attitudes, 50% reporting fairly tolerant attitudes and less than 8% demonstrate high tolerance or positive attitude, (see figure 5 below). This is definitely an indicator that the issue of stigmatization and discrimination is still a problem in Cameroon. These groups are further cross examined with other variables in subsequent sections.

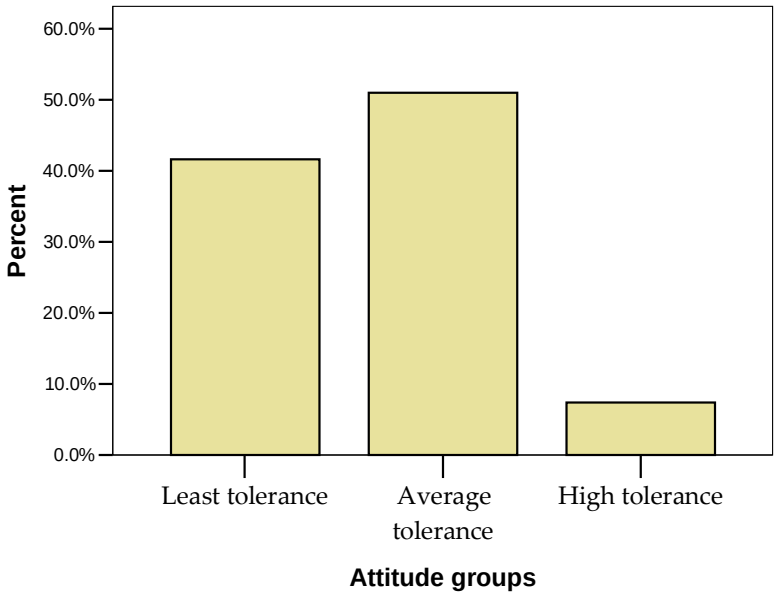

FIGURE 5: Attitude Groups

Reported sexual behaviour

This section describes the sexual experiences of respondents. Heterosexual sex is the most common form of sexual activity among young people in Cameroon. Therefore students were asked if they had ever had sexual intercourse and other questions about condom use as a common mode of prevention. There were five questions and findings revealed that only 1/4 of students reported that they have had sexual encounters. About 20-25% of students did not respond to questions 42-45 in this section (appendix III, section 4). This could be attributed to the fact that these were very personal questions and they might not be willing to respond, or that they had never had sex hence they could not provide answers to these questions. Cases who reported to have had sexual encounters were selected and frequencies for all other questions in this section were calculated. It was realized that about half of those who have had sex, used a condom the very first time, and about 42% had more than one sexual partner. Attitudes towards condom can be described as poor because only 55% of

sexually active students used a condom during the first sexual encounter, whereas majority of them reported that condom use was necessary even if one has one sexual partner, (See table 4).

TABLE 4: Reported Sexual Behaviour

Variables	yes %	N
41. Have you ever had sexual intercourse?	26	156
42. Did you use a condom the very first time you you had sex?	55	83
43. Do you have more than one sexual partner?	42.5	65
44. Do you ever say NO to sex without condom?	70.4	107
45. Condom use is necessary even if you have One sexual partner?	85.8	133

* Percentages calculated against sexually experienced (N=156)

5.2 Comparisons of means of knowledge attitude and behaviour of students in two schools.

This section is a description of the means of knowledge, attitudes and behaviour of students in both schools under study. These aspects have been compared so that differences and similarities that are significant can be used to comment on the HIV/AIDS education intervention. These comparisons also lead to the conclusions about the implications of the new formal HIV/AIDS education. The Independent- samples T-test has been used to compare two schools. Cross tabulation and Chi-square test have also been used to identify the intensity of significance where necessary. Knowledge in this section has

been described as the knowledge on HIV/AIDS facts, modes of transmission, and modes of prevention.

HIV/AIDS Facts

There was significant difference in the knowledge of HIV/AIDS facts in two schools. The T-test results showed a difference in the means. The school with a formal intervention was slightly more knowledgeable than the other with a lower mean as seen in table 5.

TABLE 5: Mean of knowledge of HIV/AIDS facts for two schools.

School	N	Mean	Std. Deviation	df	t	p
GBPHS	296	6.78	1.07	598	2.641	.008
GBHS	304	6.52	1.32			

Other methods were used to identify the differences between schools, in responses to all four questions on HIV/AIDS facts. Cross tabulation was computed and the results showed similarities in both schools in two questions and significant differences in two questions. The students of the formal intervention school had slightly more knowledge than the other, which indicates that formal HIV/AIDS education has had some impact in the intervention school (see table 6 below).

TABLE 6: Differences in knowledge of HIV/AIDS facts for two schools.

Variables	School	True (%)	False (%)	p value
14. Someone can have HIV without symptoms?	GBPHS	53.4	45.3	P=.054
	GBHS	46.6	54.7	
16. There is no cure for AIDS?	GBPHS	52.7	41.2	P=.011
	GBHS	47.3	58.8	

Modes of transmission

The T-test showed that the means of both schools were almost the same, therefore no significant difference in the knowledge of modes of HIV transmission among students in both schools (see table 7).

TABLE 7: Mean of knowledge of modes of transmission for two schools.

School	N	Mean	Std. Deviation	df	t	p value
GBPHS	296	3.17	.355	598	-.668	.504
GBHS	304	3.19	.352			

Modes of prevention

There was no significant difference between schools in the knowledge of modes of prevention. The means were almost the same (t=.917, df=598, p=.360). Therefore the students of the no-intervention school knew the modes of HIV prevention as much as those of the intervention school.

Attitudes

The means of two schools were almost the same which indicates that generally there is no difference in the attitudes of students in both schools, towards

PLHIV (see Table 8). Students of the interventions school were generally as tolerant as those of the no-intervention school.

TABLE 8: Mean of attitudes for two schools

School	N	Mean	Std. Deviation	df	t	p value
GBPHS	295	2.08	.445	596	-557	.577
GBHS	303	2.10	.509			

Cross tabulation and Chi-square test was used to find out if two schools differ in their responses in eight statements on attitudes. Significance differences were seen in two statements. In variable 36 students of the intervention school demonstrated more tolerant and variable 38, was almost significant as most of the students of the no-intervention school strongly agreed to the statement (See table 9).

TABLE 9: Differences in attitudes in two schools

Variables	School	Strongly disagree (%)	Agree (%)	Strongly agree (%)	p value
36. If a family member is HIV positive it should be kept a secret?	GBPHS	37.9	37.9	24.2	p=.025
	GBHS	30.2	35.6	34.2	
38. HIV is a curse from God?	GBPHS	21.0	20.6	64.2	p=.056
	GBHS	21.0	13.5	65.3	

Reported sexual behaviour

The cross tabulation and Chi-square test indicated that more students of the intervention school have had sexual encounters and they said 'NO' to sex without condoms more often than students of the no-intervention school. They

equally thought that condom use was necessary even if one has one sex partner. Generally, the respondents of intervention school reported more positive attitudes towards condom use than those of the other school (see table 10).

TABLE 10: Reported sexual Behaviour of two schools

Variables	School	Yes (%)	N	p value
41. Have you ever had sexual intercourse?	GBPHS	30.1	89	p=.025
	GBHS	22.0	67	
44. Do you ever say **NO** to sex without condom?	GBPHS	73.1	177	p=.021
	GBHS	63.3	152	
45. Condom use is necessary even if you have one sex partner?	GBPHS	88.5	254	p=.029
	GBHS	82.1	238	

5.3 Factors that influence stigma and discrimination towards PLHIV

In this section students' attitudes towards PLHIV were further cross examined with other background variables like sex, age, religion, school performance, knowing someone with HIV/AIDS and knowing their HIV status. The independent sample T-test, Chi square test and One-Way- ANOVA were used to bring out the relationship between attitudes and other variables.

Comparisons were made between sex and attitudes and the T-test was statistically significant. The results revealed that boys were more tolerant than girls as can be seen in the difference in means on table 11.

TABLE 11: Mean of attitudes of boys and girls

sex	N	Mean	Std. Deviation	df	t	p value
male	227	2.14	.492	596	2.18	.030
female	371	2.06	.467			

One-Way-ANOVA showed no interaction between age and attitudes (p=.415). The attitude groups in the previous section (5.1) were also cross examined by school and sex. The T-test indicated no difference between schools (p=.802) however, there were differences in sex of two groups (p=.014) with the least tolerant group (girls 67%, boys 33%), average tolerant group (girls 60%, boys 40%) and very tolerant group (girls 50%, boys, 50%). Girls were much more represented in the least tolerant group than boys, which was a confirmation that girls were more intolerant. One-Way-ANOVA revealed very significant differences in aspects of knowledge in three attitude groups. Knowledge of facts was significant (p=.009). Knowledge on modes of transmission was very significant (p=.000). Knowledge on modes of prevention was also very significant (p=.000). Cross tabulation revealed that in all three knowledge aspects, the least and average tolerant groups were more knowledgeable than the most tolerant group. This is good evidence that knowledge does not have an impact on attitudes because those who know the most demonstrate negative attitudes towards PLHIV.

Almost 1/4 of cases reported they had been tested for HIV and the T-test results showed very significant difference in the attitudes of those tested and those not tested (df=592, t=3.27, p=.001). Cases who had been tested had a higher mean and were significantly more tolerant than those who had not been tested. Although 1/3 of students stated that they knew their HIV status, the T-test showed no difference in their attitudes and those who did not know their status

(df=594, t=1.56, p=.117). In variable 62, respondents were given five options to tick one or more options as it applies to them (appendix III). Responses where grouped such that 1 was entered for students who new nobody living with HIV/AIDS, 2 was entered for those who knew one person and 3 was for those who knew two or more persons. 5% of cases knew more than two persons living with HIV/AIDS, 21% knew one person and the 74% did not know anyone living with the disease. One-Way-ANOVA did not reveal any significant difference in attitudes between these three groups (p=.356).

One-Way-ANOVA with Post Hoc Test (LSD) showed significant interactions between religions in two variables with the same p value (see table 12).

TABLE 12: Religion and attitudes

	variables	df	f	p
33.	I am willing to volunteer with AIDS patients.	552	3.29	.020
36.	If a family member contracts HIV it should be kept a secret.	556	3.28	.020

In variable 33 (see table 12 above) there was almost significant difference between Christians and Muslims (p=.050), significant difference between Christians and no-religion (p=.031) and other and no-religion (p=.031). Post Hoc test indicated that Christians and other religion were significantly more tolerant than Muslims and no religion as can be seen in figure 6 below.

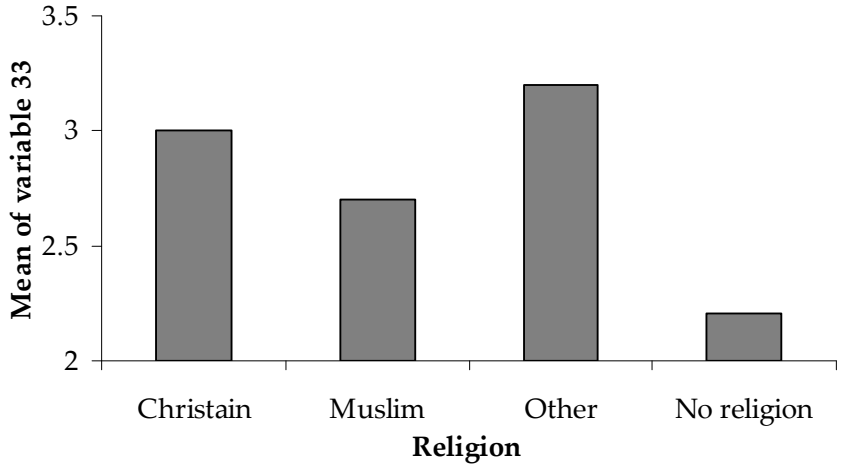

FIGURE 6: Attitudes of different religions towards willingness to volunteer with HIV/AIDS patients

In variable 36 (see table 12 above) Christians were significantly more tolerant than Muslims (p=.015) and Muslims were significantly less tolerant than other religions (p=.003) as seen in figure 7.

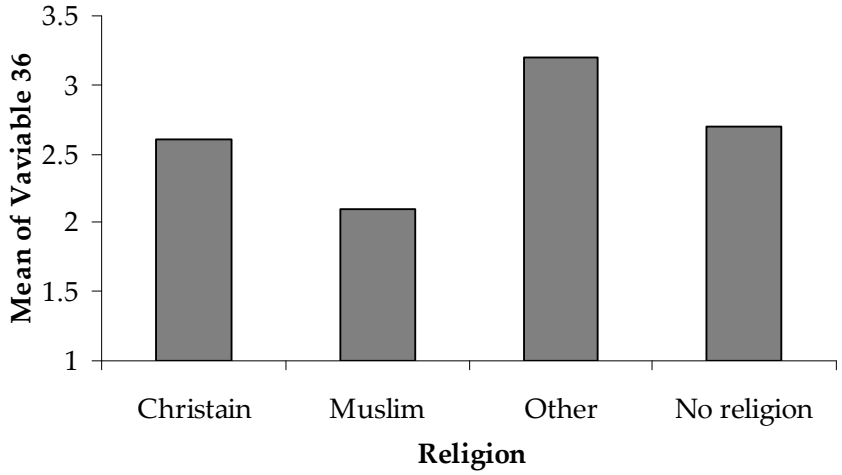

FIGURE 7: Attitudes of different religions towards keeping the secret if a family member is HIV positive

Religion has some impact on attitudes and the above analysis shows that Muslims are generally less tolerant probably because HIV prevalence is higher in the regions with predominantly Christians than the Muslim regions in Cameroon. Therefore Muslims have somewhat less interaction with PLHIV than Christians, other and no-religion.

One-Way-ANOVA did not reveal any significant interaction between attitudes and schools subjects. Therefore students who performed differently in the Arts or science subjects demonstrated similar attitudes towards PLHIV.

5.4 Important and trusted sources of HIV/AIDS knowledge to students of two schools

This section describes what respondents think is important and trusted sources of HIV/AIDS knowledge to them. There were ten options for students to indicate how important it was, as a source of HIV/AIDS knowledge. Students entered responses on a scale from 'not at all important, a little important, quite important and very important' (appendix III, section 4). The responses were regrouped so that 'not at all important' and 'a little important' became one group- 'not important', then 'quite important' and 'very important' became another group- 'very important'. Results are reported for the total sample and followed by a comparison of two schools. Findings revealed that more than 90% of cases trust doctors/nurses as important sources of knowledge to them. 4/5 of cases thought that parents were a very important source of HIV/AIDS knowledge. Teachers, health clubs and television were also viewed by 4/5 of students as very important. Friends were the least trusted source of knowledge. Very few students did not respond to some of the questions (see table 13).

TABLE 13: Students trusted sources of HIV/AIDS knowledge.

Source of knowledge	Very important (%)	N
Doctors/Nurses	91.6	548
Parents	86.6	515
Teachers	82.2	490
Health Clubs	80.9	483
Television	78.9	468
Church	72.4	433
Magazines	68.2	403
Relatives	58.5	347
Internet	57.0	335
Friends	50.7	303

When two schools were compared by cross tabulation and chi-square test there was almost significant difference on their views on television and significant difference on their views about the church. More than 4/5 of cases in the no-intervention school thought that television was very important. More students in the no-intervention school thought that the church was very important (See table 14). Students of the intervention school do not see these sources as important as the other school perhaps because they get more from HIV/AIDS lessons at school. However, it was also realised that 36% of students in of the intervention school reported that HIV/AIDS education in their school was not at all enriching, this probably explains why the T-test showed no significant difference (p=.506) in two schools in their trust in teachers.

TABLE 14: Differences in trusted sources of Knowledge in two schools

Sources of knowledge	School	Very important (%)	No. of cases	p value
Television	GBPHS	75.6	220	p=.052
	GBHS	82.1	248	
Church	GBPHS	68	200	p=.018
	GBHS	76.6	233	

6 DISCUSSION

This section is a general summary of the findings where relevant information found between schools is discussed. The meaning of the results vis-à-vis the two schools studied is also discussed and finally some recommendations for future studies are made.

6.1 Findings

The findings from the above analysis revealed that knowledge on modes of transmission and prevention among students is quite high. More than half of the samples also demonstrated correct knowledge of HIV/AIDS facts. This matches UNESCO Cameroon (2007) findings that, 48% of students in the city of Yaoundé had good knowledge on the modes of transmission of HIV/AIDS. This was only second to another big city (Douala) where 60% of students had good knowledge on modes of transmission. However, the mean score on the modes of prevention in their study was 37% but this study has revealed that in recent years students in Yaoundé have improved knowledge on modes of prevention. Similarly, Rwenge (2002) found that students in the North West regional of Cameroon where quite informed about HIV/AIDS and its main modes of transmission and prevention.

Students' attitudes towards PLHIV were still staggering and majority of them were fairly tolerant. This finding is almost similar to results obtained in South Korea. In their study, Hyera et al (2005) found that South Korean students also exhibited a somewhat negative attitude towards PLHIV. It would rather be expected that with high knowledge of modes of transmission, facts and modes of prevention, baseless fears would be reduced and students should be more

tolerant as an outward expression of their understanding of the etiology of the disease. But it is not yet the case, as far as this study has shown. Much effort is required to overcome stigma and discrimination which are usually driven by irrational and judgmental preconceptions (UNESCO/BIE, 2006). This study has also shown that religion has some impact on students' attitude towards PLHIV as Muslims demonstrate least tolerance in certain instances. Sex has an impact on attitude as girls show more intolerance than boys and having been tested for HIV has positive impact on students' attitudes towards PLHIV.

Students' reported sexual behaviour was generally not positive. Students were mostly sexually active from the age of 14 and above. Majority of students understand that condom use is necessary even if one has one partner yet among sexually active students only 55% reported condom use at first encounter and 43% had more than one sexual partner. Despite all the knowledge that students demonstrate, it does not automatically translate into positive or less risky behaviour. This result matches with Rwenge (2002) who also found that young people's knowledge about sex and AIDS does not seem to be sufficient to motivate them to change their sexual behaviour. Similar findings from UNESCO Cameroon (2007) study reveal that about 42% of secondary school students do not use condoms because they claim they have confidence in their partners.

The most significant and trusted source of information on HIV/AIDS was doctors/nurses. It was closely followed by parents whom most cases trust as important source of information. The results revealed that students trust their parents 4% more times than their teachers. This finding is rather surprising and a big lesson in this case is that while students trust their parents for information, cultural barriers do not allow parents to freely discuss sexuality with their children. Banen (2000) who also studied a school in Yaoundé

concluded that students did not get appropriate information from parents. Similarly UNESCO Cameroon (2007) states that 77% of parents confessed that they had never had any talks with their children on sexuality and HIV/AIDS issues. They further that 72% of parents still think that encouraging students to use condoms as a mode of prevention will instead lead them into premature and experimental sexual activities.

An Appraisal of formal HIV/AIDS education in Cameroon.

After comparing schools, there was some difference only at the level of knowledge of HIV/AIDS facts with students of the formal intervention school slightly more knowledgeable than those of the no-intervention school. However, no differences were seen in the knowledge on modes of transmission and prevention between two schools. This is contrary to what other researchers have found. In Nigeria, Fawole et al (1999) observed that students of the intervention school were generally more knowledgeable than those of the control school and that after the intervention, the number of reported sexual partners decreased for the intervention group.

Attitudes of respondents in both schools were basically not different except for two of eight statements where students of the intervention school showed more tolerance. Therefore, it was concluded that the formal HIV/AIDS education in Cameroon, had weak impact on the students' attitudes towards PLHIV. This finding also differs from what some studies have found. Fawole et al (1999) found that attitudes of students of the intervention school revealed more tolerance towards PLHIV. Yet, it was similar to what Letamo (2004) found in Botswana. His study revealed that HIV/AIDS related stigma and discrimination were still a public health problem among adolescents in Botswana. The participants in his study however showed some misconceptions about modes of transmission which to him were encouraging intolerance towards PLHIV. His

conclusion that there is a clear need for qualitative studies on stigma and discrimination could also be applicable to the students in Cameroon so that mitigating approaches that address these issues are designed and implemented.

This study has revealed that the new HIV/AIDS programme has had moderate impact on the behaviour of students of the intervention school as they report more positive attitudes towards condom use than the other school. This is in line with what Kirby et al (2007) and Fawole et al (1999) found in their review of articles. They concluded that there is evidence of positive impact on behaviour, of curriculum-based sex and HIV/AIDS education for adolescents and young adults and that such programs reduced sexual behaviour and also increased condom use.

ABC aspects of theories of reasoned action and social learning.

This study has also shown that the new HIV/AIDS education has affected the cognitive domain of students as they demonstrate very good knowledge. Cognition however, has not had significant impact on their attitude towards PLHIV as they exhibit almost equal level of tolerance with students of the no-intervention school. It is generally concluded that there has been a weak-no correlation between cognition and positive attitudes. In the affective domain, knowledge has had some impact on behaviour as students of the intervention school tend to be more positive towards condom use. In the case of this school therefore, the theory of reasoned action proved true to an extent because knowledge led to some amount of less risky behaviour, although it did not automatically lead to positive attitudes towards PLHIV. Therefore, the level of stigma and discrimination showed that there is some influence of subjective norms which cannot be explained by the knowledge aspects. Hence, to fully understand why students exhibit such intolerance, it is necessary to identify more subtle beliefs or norms related to their understanding of such behaviour.

Behaviour change is ultimately the result of changes in beliefs and this can only happen when individuals are exposed to information which will produce change in their beliefs. (Ajzen & Fishbein 1980, 79-81). Thus, while knowledge is not enough to alter certain attitudes towards PLHIV and boost less risky behaviour, it could perhaps be explained by students' subjective norms, that is, beliefs they have accumulated over-time as to what family and friends will think of them as far as these attitudes and behaviour are concerned. In the case of the no-intervention school, the social learning theory proved true to an extent as well, as students' knowledge from popular media and peers was quite high and although their behaviour was not significantly affected by knowledge, they demonstrated almost the same level of tolerance with the intervention school.

6.2 Implications of the study

This study is an opportunity to give an appraisal of the formal HIV/AIDS education in secondary schools in Cameroon. It has shown that the new programme has little significant difference from other unsystematic media where students can get information about and HIV/AIDS. It has also been observed that despite the level of knowledge students still exhibit fairly positive attitudes towards PLHIV. There is every indication that the programme needs more effort to achieve its intended objectives of translating knowledge into less risky behaviour and reducing stigma and discrimination. Focus has to be on specific behavioural out comes as posited by Fishbein (2000, 2). Emphasis should be on life skills which can enable adolescents to negotiate condom use regularly, reduce the number of sex partners when they become sexually active and understanding the main drivers of stigma and discrimination.

It has also been shown that interventions should include parents as much as possible. About 77% of students in this study live with both or one parent. Their

input will be very essential in supporting the children in the fight against HIV. Indeed parents will need their own kind of intervention to brainwash and break the wall of silence that surrounds the disease in the home environment (Vandermoortele & Enrique, 2000). This will begin to convince them about their role in impacting change on their children as far as the fight against HIV/AIDS is concerned. It is evident that students have been benefiting from unsystematic HIV/AIDS discourses from the media and a popular peer education programme- 'Holiday without HIV', run during the summer holiday by youths and for youths. Therefore, the media and all other informal means of educating adolescents can be credited for the much knowledge that the no intervention school has also demonstrated.

From the macro level, if the HIV/AIDS intervention must make meaningful impact on the target population, the Government of the Republic of Cameroon must endeavour to step up its health budget from the current 5,2% (WHO Cameroon, 2009) to meet up with the pledge it took during the African development forum (2000) of allocating 15% of its annual budget to the health sector. This would probably have a trickledown effect to the different ministries so that more teachers can be trained in HIV/AIDS education, to increase the current number that stands at just 8,2% for secondary level (UNESCO Cameroon, 2007). Even more importantly, the Ministries of Primary and Secondary Education would be able to support the full integration of HIV/AIDS education into the curriculum, with enough trained staff and time allocated to the implementation of such interventions. This is because more than 1/3 of students in the intervention school reported that HIV/AIDS education study in their school is not at all enriching. Therefore, the quality, quantity and contents of the intervention should be reviewed and students' motivation also addressed. Attention needs to be paid not only to the transfer of knowledge, but also to

behaviour change and self-management skills which equip young people to deal with daily problems and situations (Caillods et al, 2008).

Some researchers have observed that knowledge on how HIV/AIDS education is being implemented in school is scanty and HIV/AIDS education in schools is not always implemented as envisaged. (Boler 2006, 9.) Therefore in as much as formal HIV interventions are necessary, schools must be committed to monitoring the progress of programmes through periodic evaluation and feed back to programme planners so that gaps can be identified and filled and reinforcements could be made where necessary. The UNAIDS/WHO (2004) add that since the HIV epidemic is mostly driven by behavioural aspects, it is also critical to assess behaviour changes over time to see the results of prevention efforts. There should be clear priorities for short and long term actions and appropriate monitoring and evaluation mechanisms put in operation. The evidence of positive correlation between HIV/AIDS and education is overwhelming but as far as the problem is concerned in Africa as whole and Cameroon in particular, progress will only be staggering until senior educationists and governments make a true commitment to fight this battle: the money, the resources and enough senior managers to make things happen. (Coombe 2004, 24.) According to Caillods et al (2008, 42) monitoring the implementation of different programmes and evaluating their impacts is essential because it does not only identify corrective measures, it allows for good practice to be identified and advertised.

6.3 Recommendations for further research

This study is just one of the few studies in Cameroon to examine the adolescent knowledge, attitudes and reported behaviour in relations to HIV/AIDS. It is perhaps the first study done with the schools running the new HIV/AIDS

education programme. However, it has a few limitations in that, the nature of this research was focused strictly on quantitative aspects. It was limited to one geographical location and only one of the many schools piloting the programme, was studied. Therefore very broad generalizations cannot be made at this point from the results.

It would be remarkable to do the same study while considering both quantitative and qualitative approaches with aspects like interviews with the students and teachers, to see how they feel about the programme itself. It would be important to study the attitudes of students with qualitative approaches because it appears that there is much more to stigmatization and discrimination than just knowing so well about HIV/AIDS. Other research might also focus on studying the programme itself, through observations of lessons to evaluate how teachers deliver lessons because a study in South Africa revealed that social implications of HIV/AIDS are manifest in the ways teachers address issues around stigma, discrimination and discourses of care, and many times lessons are delivered with discourses of sexuality ignored, overlooked and silenced (Bhana 2009, 13).

The same study could be replicated in the same schools a few years later to see if the intervention has had a different impact on behaviour and attitudes over time. It could also be done in some of the other regions where other pilot schools are located to also see the results in those geographical locations. All these would definitely help inform policy makers and programme planning and implementation in the future.

REFERENCES

African Development Forum 2000. Viewed 16 .03. 2009. http://www.uneca.org/ADF2000/Abuja%20Declaration.htm

Ajzen, I. & Fishbein, M. 1980. Understanding attitudes and predicting social Behaviour. Englewood Cliffs, NJ: Prentice-Hall.

AVERTing HIV and AIDS. Viewed 10 .03. 2009. http://www.avert.org/aidsyoun.htm.

Bandura, A. 1977. Social Learning Theory. New York: General Learning Press.

Banen, D.T A. 2000. L'Education sexuelle de jeunes Camerounais en milieu familial et scolaire et sa contribution dans la lute contre les maladies sexuellement transmissibles et le SIDA: Le cas de jeunes de Lycee Générale Leclerc, (unpublished thesis) INJS, University of Yaoundé 1, Yaoundé.

Bennell, P., Karen, H. & Nicola, S. 2002. THE IMPACT OF THE HIV/AIDS EPIDEMIC ON THE EDUCATION SECTOR IN SUB-SAHARAN AFRICA. A synthesis of the findings and recommendations of three country studies, Centre For International Education, University of Sussex Institute of education. Viewed 15.02.2009 http://www.sussex.ac.uk/education/documents/aidssynpublished.pdf

Berliner, D, C. & Gage, L. N. 1988. Educational Psychology. Fourth edition, Boston, USA: Houghton Mifflin.

Berkowitz, L. 2000. Causes and Consequences of Feelings. New York: Cambridge University Press.

Bhana, D. 2009. 'They've got all the knowledge': HIV education Gender and Sexuality in South African Primary Schools. British Journal of Sociology of Education 30 (2) 165-177.

Bijelic, N. 2008. Sex Education in Croatia: Tensions between Secular and Religious Discourses. European Journal of Women's studies 15 (4) 329.

Blaxter, L., Hughes, C. & Tight, M. 2000. How to research. Buckingham-Philadelphia: Open University Press.

Blaxter, L., Hughes, C. & Tight, M. 2001. How to research, Buckingham: Open University Press.

Boler, T. 2006. The sound of silence: Difficulties in communicating on HIV/AIDS in schools, Action Aid International HQ, UK. Viewed 17 .01. 2008 http://aidsportal.org/store/538.pdf

Bundy, D. 2002. Education and HIV/AIDS: A Window of Hope. World Bank, Washington DC.

Caillods, F. Michael, J. K., Barbara, T. 2008. HIV and AIDS: Challenges for the Education Sector. UNESCO/ International Institute for Education Planning, Paris, France.

Cartagena, R. G., Veugelers, P. J., Kipp W., Magigav K. & Laing, L. M. 2006. Effectiveness of an HIV prevention programme for secondary school students in Mongolia. Adolescent Health 39 (6) 925.e9 –925.e16.

Cohen, L., Lawrence, M. & Keith, M. 2007. Research Methods in Education. New York: Routledge

Collins, C., Priya, A. & Summers, T. 2000. Abstinence-only Vs Comprehensive Sex Education: What are the arguments? What is the evidence? AIDS research Institute. University of San Francisco. Viewed 25 .03.2009. http://ari.ucsf.edu/science/reports/abstinence.pdf

Combe, C. (Ed) 2004. The HIV Challenge to Education: A collection of essays, UNESCO International Institute for Education Planning, Paris. Viewed 17 .01.2008. http://aidsportal.org/store/538.pdf

Creswell, J. W. 2005. Educational Research. Planning, Conducting and Evaluating Quantitative and Qualitative Research, Pearson Education, Inc., New Jersey

Denny, G. & Michael, Y. 2006. 'An Evaluation of an Abstinence-Only Sex Education Curriculum: An 18-Month Follow-up'. School Health 76 (8) 414-422.

EDUCAIDS/UNESCO 2008. EDUCAIDS Technical Briefs. Viewed 25.01.2009. http://unesdoc.unesco.org/images/0015/001584/158436e.pdf#3

Fawole, I. O., Asuzu, M., Oduntan, S. & Beiger, W. 1999. A School-Based AIDS Education Programme for Secondary Schools in Nigeria: A Review of Effectiveness. Health Education Research 14 (5) 675-683.

Fishbein, M. 2000. The Role of Theory in HIV prevention. AIDS CARE, 12 (3) 273-278.

Gall, M. D., Joyce, P. G. & Walter, R. B. 2007. Educational Research. An Introduction. United States of America: Pearson Education, Inc.

Gagne, R. M. & Leslie, J. B. 1988. Principles of Instructional Design, New York: The Dryden Press,

Global Campaign for Education 2007. Viewed 25 .11. 2007 http://www.campaignforeducationusa.org/hivaids

Hyera, Y. Lee, S. H., Kwon, B. E., Chung, S. & Kim, S. 2005. HIV/AIDS

Knowledge, attitudes, related behaviours and sources of information among Korean Adolescents. School Health 75 (10) 393-399.

International Planned Parenthood Foundation (IPPF)/ UNFPA 2007. Report Card. HIV prevention for girls and young women, Cameroon. Viewed 16 .02.2009. http://www.unfpa.org/hiv/docs/reportcards/cameroon.pdf

Kaaya, S. G., Mukoma, W., Flisher, A. J. & Klepp, K. I. 2002. A review of studies of sexual behaviour of school students in sub-Saharan. Scandinavian Journal of Public Health 30, 64–88.

Kinsler, J., Carl, D. S., Donald E. M., & Alfonso, A. 2004. Evaluation of a school-based Intervention for HIV/AIDS prevention among Belizean adolescents. Health Education Research 19 (6) 730-738.

Kirby, D., Laris, B., & Rolleri, L. 2007. Sex and HIV Education Programs: Their Impact on Sexual Behaviours of Young People throughout the World. Adolescent Health 40 (3) 206-217.

Kirby, D., Short, L., Collins, J., Rugg, D., Kolbe, L., Howard, M., Miller, B., Sonenstein, F. & Zabin, L. S. 1994. School-based Programs to Reduce Sexual Risk Behaviours: A Review of Effectiveness. Public Health Reports 109 (3) 339-360.

Kelly, M. J. 2000a. The Encounter between HIV/AIDS and Education. Lusaka: University of Zambia.

Kelly, M. J. 2000b. Planning for Education in the Context of HIV/AIDS, UNESCO International Institute for Education Planning, Paris, France.

Kelly, M. J. 2004. Preventing HIV Transmission through Education. In Combe, C. (Ed 2004) *The HIV Challenge to Education: A collection of essays*, UNESCO International Institute for Education Planning, Paris. Ch. 2.

Kohler, k., P., Lisa, E. M., and William E. L. 2008. Abstinence-only an Comprehensive Sex Education and the initiation of Sexual activity and Teen pregnancy. Adolescent Health 42, 344-351.

Letamo, G. 2004. HIV/AIDS-related Stigma and Discrimination among Adolescents in Botswana. African Population Studies 19 (2) 191-203.

Lorin, W. A., David, R. K., Benjamin, S. B. (Eds) 2001. Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives. Newyork: Longman.

Maticka-Tyndale, E. & Gallant, M. 2004. Schools-Based HIV Prevention Programmes for African Youths. Social Science & Medicine 58, 1337-1351.

Mbanya, D., Martyn, S. & Paul, T. 2008. Current status of HIV/AIDS in Cameroon: How Effective are Control Strategies? Environmental Research and Public Health 5 (5) 378-383.

Mekou, J. 2004. SIDA en Milieu Scolaire au Cameroun. http://hivaidsclearinghouse.unesco.org/search/resources/Bloc-notes.pdf

Meyer, H. L., John, M., Frank, W., Kirsty, F. w., & Lynanne, M. 2008. Secondary Student Motivations Orientations and Standards-Based Achievement Outcomes. British Journal of Educational Psychology.Viewed15.02.2008. http://select.ingentaconnect.com/fstemp/e5b85f680c10e593cc70a5074de7e6c7pdf.

Ministère De L'Education Nationale, Cameroun 2004. Projet II du Guide II de L'Enseignement en Education à la vie familiale et en Matière de Population avec l'appui de l'UNFPA. Yaoundé: Cameroun.

Mutonyi, H., Nielsen, W. & Nashon, S. 2007. Building scientific literacy in HIV/AIDS education: A case study of Uganda. Science Education 29 (11) 1363-1385.

National AIDS Control Committee 2008. Towards Universal Access to Treatment and Care for Adults and Children Living with HIV/AIDS in Cameroon, Progress Report No 10. Yaoundé: Cameroon

Njechu, J. 2008. Non-Collection of Test Results increases HIV Infection' The Post Newspaper, 14th January. Viewed 20 .01.2009 http://www.postnewsline.com/2008/01/non-collection.html

Nigerian Red Cross Society 2003. HIV/AIDS Projects Questions and Answers. Akanji Bada, Lagos.

Population Reference Bureau 2009. Washington DC, USA. http://www.prb.org/Countries/Cameroon.aspx

Pardini, P. 1998. 'Federal law mandates Abstinence-only Ed' Rethinking Schools Online. Viewed 24 .03. 2009. http://www.rethinkingschools.org/archive/12_04/sexmain.shtml

President's Emergency Plan For AIDS Relief (PEPFAR) 2009. Viewed 20.03.2009. http://www.pepfar.gov

Rose, S. & Dickinson, C. 2005. Going Too Far? Sex, Sin and Social Policy. Social Forces 84 (2) 1207-1232.

Rwenge, M. 2002. Sexual Risk Behaviour among Young People in Bamenda, Cameroon. International Family Planning Perspectives 26 (3) 118-123+130.

Tiendrebeogo, G., Meijer, S. & Engleberg, G. 2003. Life skills and HIV Curricular in Africa: Methods and Evaluations. USAID Bureau for Africa. Viewed 20.11.2007. http://www.phishare.org/files/3031_Life_skills.pdf

United Nations Millennium Development Goals Report, 2006. Viewed 20. 11. 2007. http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2006/MDGReport2006.pdf

UNAIDS/WHO 2004. Epidemiological Fact sheet Update-Cameroon. Viewed 31 .03. 2009. http://www.who.int/GlobalAtlas/predefinedReports/EFS2004/EFS_PDFs /EFS2004_CM.pdf

UNAIDS CAMEROON, 2008. Mise en ouvre de déclaration D'engagement sur le VIH/sida. Viewed 17 .02.2009. http://data.unaids.org/pub/Report/2008/cameroon_2008_country_progress_report_fr.pdf

UNAIDS 2003. HIV/AIDS and Young People: Hope for tomorrow. Viewed 15.11.2007. http://data.unaids.org/publications/IRC-pub06/jc785-youngpeople_en.pdf

UNAIDS 2006. Global Facts and Figures, viewed 18- November 2007. http://data.unaids.org/pub/GlobalReport/2006/200605-FS_globalfactsfigures_en.pdf.

UNAIDS/WHO 2007. AIDS epidemic update, viewed 25.11. 2007. http://data.unaids.org/pub/EPISlides/2007/2007_epiupdate_en.pdf.

UNAIDS/ IATT, 2008. HIV&AIDS and Education, A Strategic Approach, Conference Ready Version, viewed 25 .02. 2009. http://unesdoc.unesco.org/images/0016/001627/162723e.pdf

UNAIDS, 2008. The global HIV Challenge; Report on The Global AIDS Pandemic, Viewed 16.02.2009. http://data.unaids.org/pub/GlobalReport/2008/jc1510_2008_global_report_pp95_128_en.pdf

UNDP 2007/2008. Human Development Report. Viewed 05.02.2009. http://hdrstats.undp.org/2008/countries/country_fact_sheets/cty_fs_CMR.html

UNESCO, EDUCAIDS 2006. Towards a Comprehensive Education sector response. A Framework for Action, Viewed 19.11.2007. http://www.educaids.org/

Underhill, K., Paul, M., Don O. 2007. Sexual abstinence only programmes to Prevent HIV infection in high income countries: Systematic Review. The British Medical Journal 335(7613) (248).

UNESCO/Bureau International D'Education 2006. Éducation VIH et SIDA en Afrique centrale : Comment l'école peut-elle agir sur les Comportements ? http://www.ibe.unesco.org/fileadmin/user_upload/archive/AIDS/doc/Rapport_final_Yaounde.pdf

UNESCO 2007. Review of Sex, relationships and HIV Education in Schools. Viewed 06 .03.2009. http://unesdoc.unesco.org/images/0016/001629/162989E.pdf

UNESCO Cameroon 2007. Results of Study on the impact of HIV and AIDS on the Education Sector. Viewed 02.03.2009. http://portal.unesco.org/education/en/ev.php URL_ID=52354&URL_DO=DO_TOPIC&URL_SECTION=201.html

UNICEF 2007. Accelerating Educations Response to HIV and AIDS: Contributing to a better future for Children in Africa. Viewed 09 .09.2008. http://origin-www.unicef.org/infobycountry/files/AIDS.pdf

Vandemoortele, J. & Delamonica, E. 2000. The Education Vaccine against HIV, Current Issues in Comparative Education 3 (1).

Valerio A. & Bundy D. 2003. Education and HIV/AIDS: A source book of HIV Prevention programmes. The World Bank, Washington DC. Viewed 20.11.2007. http://www.ibe.unesco.org/aids/doc/worldbank_sourcebook.pdf.

WHO 2004. The Global Burden of Disease. Viewed 24 .02.2009. http://www.who.int/healthinfo/global_burden_disease/GBD_report_2004update_full.pdf

WHO, Cameroon 2005. Viewed 13 .03. 2007. http://www.who.int/3by5/support/june2005_cmr.pdf

WHO, Cameroon 2009. Viewed 28 .02. 2009. http://www.who.int/countries/cmr/en/

WHO, 2007. EDUCATION AND HIV/AIDS, a source book of HIV Prevention Programmes, Washington DC. Viewed 20 .02.2009 http://siteresources.worldbank.org/EDUCATION/Resources/278200-1099079877269/547664-1099080042112/SourcebookofHIVAIDSvolume2.pdf

APPENDICES

Appendix I: A letter to schools seeking their permission

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09TH October 2008

THE PRINCIPAL
GOVERNMENT BIINGUAL
PRACTISING HIGH SCHOOL
YAOUNDE—CAMEROON,

Dear Sir,

APPLICATION FOR AUTHORISATION TO ADMINISTER QUESTIONNAIRE

I am a Masters Degree student studying in the programme for Development and International Cooperation and I am majoring in Education. I am presently doing my internship here in Cameroon and also using the opportunity to collect data for my thesis entitled "***HIV/AIDS education in secondary schools in Cameroon***". I t is quantitative comparative study of two schools in Yaoundé and your institution happens to be one of my chosen populations. The survey will require a total sample of about N = 650 from the two schools.

The research focuses on the youths in schools and aims at describing the students' knowledge, attitudes and behaviour and comparing these aspects between two schools. One school is running the new HIV/AIDS education program and the other with no such intervention. The schools will be compared on the bases of sex, age, and other relevant variables like knowing an infected person closely (a friend) or distantly (someone in neighbourhood) among others. The data will be statistically analyzed to provide answers to the research questions.

I am therefore writing to ask for your permission to administer my questionnaire to some students in this institution. Sir, your permission will help to facilitate the sampling process and administration of this research instrument. I look forward to your consideration.

Sincerely
Yvonne Bekeny

Appendix II: Regional/Global HIV/AIDS Statistics

REGION	Adults (aged 15+) and children living with HIV/AIDS, 2007	New HIV infections among adults (aged 15+) and children, in 2007	Adult (aged 15-49) prevalence (%), 2007	Adult (aged 15+) and child deaths due to AIDS, in 2007
Sub-Saharan Africa	22.0 million	1.9 million	5.0%	1.5 million
South/Southeast Asia	4.2 million	330,000	0.3%	340,000
Eastern Europe/Central Asia	1.5 million	110,000	0.8%	58,000
Latin America	1.7 million	140,000	0.5%	63,000
North America	1.2 million	54,000	0.6%	23,000
East Asia	740,000	52,000	0.1%	40,000
Western/Central Europe	730,000	27,000	0.3%	8,000
Middle East/North Africa	380,000	40,000	0.3%	27,000
Caribbean	230,000	20,000	1.1%	14,000
Oceania	74,000	13,000	0.4%	1,000
Global	32.9 million	2.7 million	0.8%	million

Source. UNAIDS/WHO, July 2008.

Appendix III: Questionnaire

You have probably heard about **HIV/AIDS**. In this academic research we are interested in **YOUR** knowledge and attitudes about HIV/AIDS. This is not a test about your actual knowledge, but we are more concerned about your **PERSONAL** attitudes and understanding of the topic. Sometimes there are not even any right answers!

This research is being carried out in two schools in Cameroon. This form will be filled anonymously. Don't write your name on the paper! Your personality or identity will not be revealed in anyway during the research process and no individual information will be reported. Only **YOUR** opinion is important. Don't look at how your friend is possibly answering and do not show anybody your own answers.

This data will be kept in a very safe location in the University of Jyväskylä, Finland when this research process is finished. Again, this is **NOT A TEST**, so please give only your **PERSONAL OPINION**.

SECTION ONE : SOMETHING ABOUT YOU

I. Sex: Male__ Female __ Age: _____

II. School _____

III. Class _____

IV. Who do you live with: Both parents___ Mother __ Father__ Family member__ alone__

V. Religion: Christian___ Muslim___ Other___ No religion___

VI. How often do you attend church? Weekly ___ monthly___ sometimes___ never___

VII. Rate your school performance in the following subjects

TICK THE CORRECT BOX	Below Average	Average	Above average
Mathematics			
English			
Biology			
literature			
chemistry			
History			

SECTION TWO

INDICATE YOUR OPINION ABOUT THE FOLLOWING STATEMENTS. TICK THE CORRECT BOX	Strongly	disagree	Agree	Strongly Agree	Don't know
1. AIDS is caused by HIV- The Human Immunodeficiency Virus					
2. HIV is transmitted through hugging an infected person					
3. HIV can be spread through coughing and sneezing					
4. HIV is can be spread by sharing needles or syringes with someone who has the virus					
5. HIV is commonly spread by getting HIV-infected blood					
6. HIV is spread through sex					
7. HIV can also be passed from infected pregnant woman to her unborn baby during pregnancy, birth and breast milk.					
8. HIV is transmitted by simple casual contact such as kissing					
9. HIV is transmitted by sharing water glasses					
10. HIV can be contracted on toilet seats					
11. Mosquitoes can transmit HIV					
12. Condoms will decrease the risk of HIV transmission					

Which of the following statements describe HIV/AIDS (Tick the correct boxes)

	TRUE	**FALSE**
13. AIDS is the most advanced stage of HIV infection		
14. Someone can have HIV without symptoms		
15. AIDS can be cured if treated early		
16. There is no cure for HIV/AIDS		

SECTION THREE

TICK THE APPROPRIATE BOX ACCORDING TO <u>YOUR OWN PERSONAL OPINION!</u> **HIV could be avoided by ……**	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly agree**	**Don't know**
17. Abstaining from sex					
18. Using condoms					
19. Limiting sex to one partner					
20. Avoiding sex with prostitutes (Commercial sex workers)					
21. Avoiding sex with person with many partners					
22. Avoiding sex with persons of same sex					
23. Avoiding blood transfusions (everywhere)					
24. Avoiding injections					
25. Avoiding kissing					
26. Avoiding mosquito bites					
27. Seeking protection from traditional healers					
28. Avoiding to share used razor blades					
29. Avoiding doctors who help HIV positive					

people						
30. Avoid speaking with HIV positive people						
You are doing very fine! Just continue like that! **WHAT IS YOUR OPINION ON THE FOLLOWING STATEMENTS……**						
31. People with HIV should be kept out of school.						
32. I would end my friendship if my friend had AIDS.						
33. I am willing to do volunteer work with AIDS patients.						
34. I would buy vegetable from an HIV positive shop keeper						
35. If a family member contracts HIV they should move out of home.						
36. If a family member is HIV positive it should be kept a secret.						
37. People with HIV should stay indoors or in a hospital						
38. HIV is a curse from God.						

39. Is there anything a person can do to avoid getting the virus the causes HIV/AIDS? **Yes ___ No ___**

40. If **YES** or **NO**, please, give reasons for your answer:

_____

_____

_____

SECTION FOUR:

	YES	**NO**
41. Have you ever had sexual intercourse?		
42. Did you use a condom the very first time you had sexual intercourse?		
43. Do you have more than one sexual partner?		
44. Do you ever say **NO** to sex without condom?		
45. Condom use is necessary even if you have one sexual partner?		

46. What measures do you personally take to protect yourself from HIV/AIDS?

_____

_____

How important as a **source of knowledge** about HIV/AIDS are the following to **YOU** personally?	**Not at all**	**A little**	**Quite important**	**Very important**
47. Television				
48. Parents				
49. Magazines				
50. Friends				
51. Relatives				
52. Teachers				
53. Internet				
54. Health Clubs				
55. Doctors/Nurses				
56. Church				

57. Is HIV/AIDS a subject of study in your school? **YES** __ **NO**__

58. How often do they teach the subject in your school?

Almost daily ___ Once a week ___Once in 2 weeks ___Once a month ___ Once a term ___Never__

59. How would you rate your study of HIV/AIDS in your school?

Very enriching ___ Enriching ___ Not at all enriching ___

I don't know___

60. Have you been tested for HIV? **YES**___ **NO**__

61. Do you know your status? **YES**__ **NO**__

62. Do you know anyone living with HIV/AIDS? Choose one or more of the following options.

No one__ Neighbour__ Family member__ Classmate__ Friend__