

**CHANGES IN HIV/AIDS KNOWLEDGE, ATTITUDES AND RISKY SEXUAL
BEHAVIOURS ATTRIBUTED TO EDUCATIONAL INTERVENTIONS AMONG
STUDENTS OF THE UNIVERSITY OF IBADAN, NIGERIA**

BY

IMALEDO, ABDULRAHMAN JOHN

(Matric No: 129637)

B.Sc. (Hons.) Political Science (Unilorin)

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of the

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August, 2010

Dedication

This work is dedicated to God the Father, God the Son and God the Holy Ghost, who in His love has help to see me through the MPH programme.

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Abstract

Human Immunodeficiency Virus (HIV) and Acquired Immuno-Deficiency Syndrome (AIDS) pose major public health problems in Nigeria. Adolescents and other young persons should receive priority interventions because they are worst hit by the impact of the pandemic. Undergraduate students of the University of Ibadan have been targets of many HIV/AIDS prevention interventions during the last five years. However, effect of these initiatives is yet to be properly evaluated. The objectives of this study were to assess reported changes in HIV/AIDS knowledge, attitudes and sexual behaviours among undergraduate students as a result of their exposure to HIV/AIDS prevention interventions.

The study was descriptive and cross-sectional in design and it aimed at measuring the impact of HIV/AIDS interventions programme in the University in the last 5 years. Ten Focus Group Discussions (FGDs) (five each for male and female students) were conducted and a standardized questionnaire was administered on 676 out of 13,029 students who were randomly selected from the 10 halls of residence in the university. The FGDs data were transcribed and analysed using thematic approach. Data from the questionnaires were analysed using descriptive and inferential statistics.

Respondents mean age was 22.9 ± 3.27 years, with a range of 16 to 40 years old. There were more males (59.0%) than females (41.0%). Most (98.2%) had never been married. More than half (62.0%) claimed that they had ever received HIV/AIDS educational/information from fellow students, many (33.0%) had heard about the MacArthur Peer educational HIV/AIDS prevention programme, and (28.1%) had participated in HIV/AIDS programme on the campus. The programmes consisted of campaign/rally (3.7%), lecture/symposium (23.0%), and drama presentation (0.7%). Majority of the students (64.6%) reported changes in behaviour directly attributed to the HIV/AIDS education they had received on campus. These changes include: reduction in number of sexual partners (45.0%), use of condoms (42.3%), avoidance of sharing sharp objects (82.4%), avoidance of blood transfusion (78.0%) and taking HIV test (50.0%). More males' respondents (48.0%) than females (40.0%) admitted reduction in number of sexual partners and use of condoms (48.0% vs. 34.0%) ($p < 0.05$) while slightly more females (72.0%) than males (69.4%) reported abstinence from sex ($p < 0.05$). The proportion of students who reported positive change in

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attitude towards Persons Living With HIV/AIDS (PLWHA) with respect to eating from the same plate rose from 48.2% before exposure to 62.3% after exposure ($p < 0.05$). There was also an increase in the number of students who took HIV test from 29.0% before to 50.0% after exposure to intervention programme ($p < 0.05$). The FGD finding showed that there was a high level of awareness of HIV/AIDS among the students. There was unanimity of opinion that the disease could be contracted through unprotected sex. All the discussants claimed they had changed their attitudes, behaviours and beliefs about HIV/AIDS and PLWHA.

The intervention on HIV/AIDS prevention is motivating students to reduce risky sexual practices and use of HIV test services. Interventions need to be intensified to reach larger proportion of students through health education campaign strategies including peer education, counseling and public enlightenment.

Key words: Adolescents, HIV/AIDS, education, knowledge, risky behaviour

Number of words: 494

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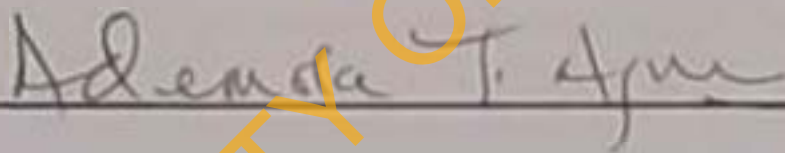
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IMALEDO, A JOHN

Certification

I hereby certify that this study was carried out by John Abdulrahman IMALEDO in the Department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan, Ibadan, Nigeria.



SUPERVISOR

Adenola J. Ajuwon, B.Sc (Lagos), MPH, PhD (Ibadan)

Associate Professor

Department of Health Promotion and Education,

Faculty of Public Health,

College of Medicine,

University of Ibadan,

Ibadan, Nigeria

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Acronyms

AAU	Association of African Universities
ACU	Association of Commonwealth Universities
ADEA	Association for the Development of Education in Africa
AFRII	Association for Reproductive and Family Health
AGAH	Action Group on Adolescent Health
AIDS	Acquired Immuno-Deficiency Syndrome
APIN	AIDS Prevention Initiative in Nigeria
ARV	Antiretroviral
BCC	Behavior Change Communication
CADRE	Centre for AIDS Development, Research and Evaluation
CDC	Centre for Disease Control
CEIAN	Centre for HIV/AIDS Intervention in Nigeria
CLTDPA	Centre for Literacy, Training and Development Programme for Africa
COMBACEPII	Community Based Centre for Partners in Health
FGD	Focus Group Discussions
HBM	Health Belief Model
HEAP	HIV/AIDS Emergency Action Plan
HIV	Human Immunodeficiency Virus
ICA	Intelligence Community Assessment
KABB	Knowledge, Attitude, Belief, and Behaviour
KAP	Knowledge, Attitude and practice
MSM	Men having sex with Men

NACA	National Agency for Control of AIDS
NIDS	Nigerian Demographic and Health Survey
NGO	Non Governmental Organisations
NPC	National Population Commission
NUC	National Universities Commission
NYSU	National Youth Service Corps
OAU	Organisation of African Unity
PABA	People affected by HIV/AIDS
PLWHA	People Living With HIV/AIDS
SACA	State Action Committee on AIDS
SAUVCA	South African Universities of Vice-Chancellors Association
SFH	Society for Family Health
SLWHA	Students Living with HIV/AIDS
STD	Sexually Transmitted Diseases
SWAAN	Society for Women and Aids in Nigeria
TALIF	Teaching and Learning Innovation Fund
TOT	Training of Trainers
UNAM	University of Namibia's
UNAIDS	United Nations Against AIDS
UNDP	United Nations Development Programme
UNESCO	United Nation Education and Scientific and Cultural Organisation
UNGASS	United Nations General Assembly
UI	University of Ibadan

UNICAP	University of Ibadan's Committee on HIV and AIDS Prevention
UNICEF	United Nation Children and Education Fund
USAIDS	United States Agency for International Development
VCT	Voluntary Counseling and Test
WAYI	West African Youth Initiative
WGHE	Working Group on Higher Education
WHO	World Health organization

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CHAPTER ONE

INTRODUCTION

Background of the study

Acquired Immuno-Deficiency Syndrome (AIDS) is the final stage of the condition caused by Human Immunodeficiency Virus (HIV) and it represents the advanced stage of HIV infection during which the infected person's immune system is not able to fight off opportunistic infections (UNAIDS, 2004). The first cases of HIV and AIDS were reported in 1981 and two decades later the disease has infected 40 million people worldwide. Sub-Saharan Africa with only 10% of the world's population has two thirds of the people living with HIV (25 million people) worldwide (UNAIDS, 2006).

The first case of AIDS was identified in Nigeria in 1986. Since then HIV prevalence continues to increase in the country with an estimated 4.4 million People Living With HIV (PLWHA) in 2005 (NACA, 2005). The trend in prevalence rate of HIV and AIDS in Nigeria shows that it has become an epidemic in the country. Current evidence suggests that the epidemic is yet emerging. The adult HIV prevalence has increased from 1.8% in 1991 to 4.5% in 1996 and 5.8% in 2001, with a slight drop to 5.0% in 2003 and the prevalence rate of 4.4 million in 2006 (NACA, 2005). Since 1991, the Federal Ministry of Health has carried out a National HIV/syphilis sentinel sero-prevalence survey every 2 years. The National Demographic Health Survey (NDHS) 2003 survey estimated that there were 3.5 million adults living with HIV/AIDS in Nigeria, more than half (57.0%) of these number were women. The numbers of orphans are 1.5 million and there are 300,000 deaths annually (NDHS, 2003)

However, the NDHS report stated that prevalence rates varied from as low as 1.2% in Osun State to as high as 12.0% in Cross River state. Overall, 13 of Nigeria's 36 states had HIV prevalence above 5.0%. These figures give support to the claim that there are explosive, localized epidemics in some states (UNAIDS, 2003). The segment of the

population mostly affected is the youths and people within the productive age bracket most of whom constitutes the nation's work force. Half of all the people newly infected with HIV worldwide are young people, with more than 10 million aged 15 to 24 years old now living with HIV/AIDS. In sub-Saharan Africa, more than 60.0% of all new infections are among youths. (UNAIDS/WHO, 2006).

Nigeria's STD/HIV Control Programme estimates that over 60.0% of new HIV infections are in the 15-25 year old age group. The prevalence rate among adults' ages 15-49 years is 3.9 percent and the country has the third-largest number of people living with HIV in the world (UNAIDS/WHO, 2006). Response to the HIV/AIDS pandemic among adolescents is crucial if progress is to be made in the prevention, impact mitigation and the provision of care and support for PLWHA and people affected by HIV/AIDS (PABA).

Little has been done on assessment of behavioural change among youths in higher institutions in Nigeria in relation to the many HIV/AIDS programme that are conducted in the campuses. This study was conducted to address this gap and proffer necessary solutions to any discovered lapses.

The statement of the problem:

According to estimates from the UNAIDS/WHO (2006) joint AIDS report, about 37.2 million adults and 2.3 million children were living with HIV at the end of 2006. In the same year, some 4.3 million people became infected with HIV. The year also saw 2.9 million deaths from AIDS- a high global total, despite anti-retroviral (ARV) therapy, which reduced AIDS-related deaths among those who received it.

Nigeria is the third most affected country in the world as its estimated 4.4 million cases account for 10.0% of the global incidence of HIV/AIDS and 20.0% of the African figure. The country's HIV sero-prevalence rate has been on the increase since the first case was officially discovered in 1986, more than half of all people who have been infected may have acquired the virus when they were less than 25 years of age (UNAIDS, 2001, 2002).

2006).

Institutions of higher education throughout Africa including Nigeria, face a major and, in many instances, an escalating threat from HIV/AIDS because students who form the greater part of the populations fall within the population hard hit by new infections of the disease. As young people become sexually active, many lack the necessary information and skills needed to have safe sex. Moreover, university life frequently creates high-risk social situations for students. For example, poverty make many a university girl to engage in transactional sex, and some others are pressured into sex in exchange for good grades or money for fees or clothes (Kelly, 2005). The potential danger of these situations according to Kelly (2005) is that it could lead to increase in HIV infection. The prevailing attitudes of denial, secrecy, fatalism and invulnerability may further aggravate the situation at hand. At the same time, universities in general show a strong tendency to regard HIV/AIDS as principally a student issue which should be dealt with by the institutions' clinic and health facilities.

Researchers have conducted several studies to determine whether the threat of HIV infection causes college students to alter risky behaviours e.g Mkumba S and Edwards JC 1993, Odun O, Asekun-Olanmoye, E, Banidele JO, Egbewale BE and Amusan OA 2008 and Oladepo O and Brieger WR 1994. Knowledge, Attitude, Belief, and Behaviour (KABB) models were used and questionnaires developed to measure behaviour change. HIV/AIDS prevention theorists believe that increased knowledge, along with positive attitudes and beliefs about HIV/AIDS, will lead to positive behaviour changes, i.e., behaviours that are less risky, or safer, such as use of condoms, abstinence, and reduction in number of partners. However, studies indicate that increased knowledge of HIV/AIDS does not always result in a positive behaviour change (CDC, 1995).

Peter and Hamabax, (2000) said that the universities in Africa are high risk institutions for the transmission of HIV. Sexual experimentation, prostitution on campus, unprotected casual sex, gender violence, multiple partners, and similar high-risk activities are all manifested to a greater degree in these institutions. For example, one study in the

University of Ibadan (UI) revealed that students take advantage of freedom from direct parental supervision and guidance to express their sexuality by initiating sexual activity (Iwungwu, Ajuwon and Olashcha, 2000). There is a popular practice in the University of Ibadan, (UI henceforth), Nigeria called 'October rush' (Oladejo and Brieger, 1994). It is a time when older students take advantage of the naivete of the new female students, particularly, those from poor economic background, to pressurize them to sexual activity. Some indigent female students resort to *aristo* – the practice of befriending older men 'sugar daddies' from outside the campus, who provide money and other material support in exchange for sex (Adekunle and Ladipo, 1992). An *aristo* is a male who spends a lot of money on a girl in exchange for sex. According to Shokunbi, Ajuwon and Ormole (2006), the activities that increase the risk of HIV infection among UI students are: sex with multiple partners, low and inconsistent use of condoms, "Aristo" phenomenon and "October rush".

Several studies conducted among students in Nigeria on the awareness of HIV/AIDS showed that HIV/AIDS awareness is increasing phenomenally with the passing of each day (Isiugo-Abanihe, 1994; Oladejo and Brieger, 1994; Unuigbo and Ogbeide, 1999; Odebiyi, 2001 and Omotoso, 2003). However, for example, a study in UI revealed that the attitude of the university students towards Students Living with HIV/AIDS (SLWHA) continues to be that of discrimination, rejection and stigmatization (Oladejo and Ogbeide, 1994).

In a study conducted on the knowledge about HIV/AIDS and sexual practice among UI students, Ogbuji (2005), found that greater proportion of older students who engaged in more sexual activities use condom than the younger ones. This shows that though there is an increase in the knowledge about HIV/AIDS, many do not practice what they know. It is also true that many students are aware of preventive measures but a few have changed their sexual behaviour (Oladejo and Brieger, 1994) in response to the high proportion of students involved in risky activities.

UI presents a particular setting where AIDS prevention activities have been implemented. Some of these programmes are in the form of HIV/AIDS awareness campaigns, training of peer educators, Bill Board messages like the 'Zip Up' programme, posters and handbill messages. Existing records at the Students' Affairs Unit of the university shows that some Non Governmental Organisations (NGO) has organized a variety of programmes on HIV/AIDS prevention. One of such NGO is Action Group on Adolescent Health (AGAH) which has organised series of programme among students between November 2007 and January 2008. These programmes included: a film show on confession of a PLWHA to encourage others to go for Voluntary Counseling and Test (VCT), awareness campaign programme on HIV/AIDS in young persons during the orientation programme for new students, symposium on sexual and reproductive health and a training workshop on peer counseling and the use of Youth Friendly Centre. But not many of these intervention programmes have not been evaluated hence the need for this study.

One major AIDS programme on UI campus is the McArthur Peer Education initiative organized by Centre for HIV/AIDS Intervention in Nigeria (CEHAIN). This was to be an innovation in address HIV/AIDS among the undergraduate of the university. This study is focusing on this Peer Education project whose general objective of the project is to empower UI students with education and skills that will enable them prevent infection with HIV. The specific objectives are to:

1. Train students peer educators who will in turn educate their peers about the HIV/AIDS and how to prevent infection with the virus.
2. Produce educational materials to be distributed by peer educators to their colleagues.
3. Provide non-prescriptive contraceptives (condoms, spermicides) to enable students use them.
4. Monitor and supervise the activities of trained peer educators to ensure that they perform their educational roles effectively.

CEHAIN which is the body coordinating the project is using Peer education because according to available records shows that there is no coordinated campus based AIDS

prevention program and also several governmental and other agencies had responded to this problem by organizing lectures and distributing condoms and educational materials to students during special events such as the World AIDS Day. However, these efforts are sporadic and uncoordinated. In addition, students had limited if any inputs in the planning and implementation of the programmes.

The goal of this study then is to assess the reported effects of intervention activities on UI students' knowledge, attitude and sexual behaviour. This study seeks to evaluate the on-going programme in UI which was targeted at training 600 students as HIV/AIDS Peer Educators over the three years period of the programme which is in its third year. The trained Student Educators are in turn expected to educate other students on prevention of HIV/AIDS.

Justification for the study

This study is significant for three reasons. Firstly, an assessment of the knowledge and awareness level of students on the mode of transmission of HIV/AIDS would indicate the level of preparedness to imbibe positive sexual attitude and behaviour towards PLWHA. The huge resources both human and material that has been invested in stemming down the prevalence of HIV coupled with its persistently high morbidity and mortality rate especially in sub-Saharan Africa, requires a multi-faceted approach in the prevention, control and treatment of the disease. A good knowledge of the modes of transmission of HIV/AIDS among students will serve as an antecedent to reducing discrimination against PLWHA and stemming down the prevalence of the disease. This study would therefore make recommendations towards these:

Secondly, various methods have been used to pass HIV/AIDS messages across to students in the campuses. These include billboards messages, posters and handbills, drama, role play, seminars and lectures. Most of these programmes have in no small way increased the awareness level of this disease in the campus and also, may have helped a good number of students to imbibe safe sex practices which is needed to prevent further spread of HIV in the campus. This study however, is to identify the effective HIV/AIDS

programme that can be conducted among university students that would help to lower its prevalence among them.

Thirdly, studies conducted in Nigeria on the awareness of HIV/AIDS showed that HIV/AIDS awareness is increasing phenomenally with the passing of each day and this is expected to translate to non-discriminative attitude towards PLWHA. However, a study conducted in 1994 (Oladepo and Ogbeide, 1994) showed that attitude of students towards PLWHA was that of discrimination, rejection and stigmatization. This study sought to know the extent to which the various educational programmes on campus have influenced the students' attitude and behaviour towards PLWHA and reveals the most appropriate means of implementing these educational programmes.

Research questions

This study seek to know the following among the study population as it relate to exposure to HIV/AIDS intervention programmes in the campus

1. What are the various HIV/AIDS educational programs students are exposed to on the campus?
2. What are the changes reported in risky sexual behaviour in response to exposure to HIV/AIDS educational programme?
3. What influence does exposure to educational programme on HIV/AIDS have on knowledge, attitude and risky sexual behaviour?
4. What are the reported changes in behavior as regards the manner they relate with a PLWHA attributed to exposure to HIV/AIDS intervention?
5. What are the components of intervention that contribute to improvement in reported change in knowledge and attitude and risky sexual behaviour?

Objectives

Main objective

The main objective of this study was to assess the extent to which UI students have responded to HIV/AIDS interventions with respect to reported changes in knowledge, attitude and risky sexual behaviour.

Specific objectives

The specific objectives were to:

1. Document the various HIV/AIDS educational programs students were exposed to on the campus.
2. Highlight reported changes in risky sexual behavior in response to exposure to HIV/AIDS educational programs.
3. Document the reported influence on exposure to educational programs on HIV/AIDS
4. Describe the reported changes in behaviour attributed to exposure to HIV/AIDS intervention
5. Identify components of intervention that contribute to improvement in reported change in knowledge, attitude and risky sexual behaviour.

Hypotheses

The following hypotheses were tested in the study:

1. There is no significant difference between reported changes in behaviour of students who were exposed and those not exposed to educational intervention.
2. There is no significant difference in attitude of students who were exposed and those not exposed to educational intervention to PLWHA
3. There is no significant difference in reported use of VCT for HIV among students who were exposed and those not exposed to educational intervention.
4. There is no significant difference between students' gender and reported sexual abstinence after intervention.
5. There is no significant difference between reported changes in behaviour of students and gender.

6. There is no significant difference between reported changes in behaviour of students and their hall of residence.
7. There is no significant difference between students' attitude to PLWHA and gender.
8. There is no significant difference in students' hall of residence and practice of sexual abstinence after intervention.
9. There is no significant difference in students' level of study and practice of sexual abstinence after intervention.
10. There is no significant difference between students' exposure to Macarthur peer educational programme and students halls of residence after intervention.
11. There is no significant difference between students' exposure to Macarthur peer educational programme and students' level of study after intervention.
12. There is no significant difference in students' course of study and change in behaviour after intervention.
13. There is no significant difference in students' level of study and change in behaviour after intervention.
14. There is no significant difference in students' religion and change in behaviour after intervention.

CHAPTER TWO

LITERATURE REVIEW

Nature and extent of problem – The global picture

It was on 5th June 1981, about twenty-seven years ago, that the United States Centre for Disease Control and Prevention (CDC) published a report about a new disease that was affecting gay men. That report marked the formal beginning of the AIDS era. It ushered in what we now know as the AIDS pandemic. During the twenty-seven years that have passed since then the disease has grown to nightmarish proportions, with almost every passing year witnessing an upward trend of estimates and predictions.

HIV/AIDS are one of the greatest unresolved challenges threatening human development. The epidemic continues to be a major public health threat in many countries of the world with 95 percent of such cases in developing countries (UNAIDS, 2006). It is estimated that half of the people who acquire HIV become infected before they turn 25 years and typically die of the life-threatening illnesses called AIDS before their 35th birthday (UNAIDS, 2005). Around the world each year, more than half of all people newly infected with HIV are between the ages of 15 and 24 years. Each day, almost 6,000 youths of ages between 15 to 24 years are infected with HIV and some 250 youth are infected every hour of the day. Worldwide, nearly 12 million youths live with HIV/AIDS, youths under the age of 25 years account for 28 percent of the 42 million people living with HIV/AIDS. Females are disproportionately affected. For example, 62.0% of infected youth are female (UNAIDS, 2006).

The statistics on the world epidemic of AIDS & HIV were published by UNAIDS/WHO in November 2006 (see Table 1). These figures show that deaths among those already infected will continue to increase for some years even if prevention programmes manage to cut the number of new infections to zero. However, with the HIV-positive population

still expanding the annual number of AIDS deaths can be expected to increase for many years, unless access to ARV medication is greatly improved

Table 2.1. Estimated number of newly infected persons and deaths in 2006

	Estimate	Range
People living with HIV/AIDS	39.5 million	34.1-47.1 million
Adults living with HIV/AIDS	37.2 million	32.1-44.5 million
Women living with HIV/AIDS	17.7 million	15.1-20.9 million
Children living with HIV/AIDS	2.3 million	1.7-3.5 million
People newly infected with HIV	4.3 million	3.6-6.6 million
Adults newly infected with HIV	3.8 million	3.2-5.7 million
Children newly infected with HIV	0.53 million	0.41-0.66 million
AIDS deaths	2.9 million	2.5-3.5 million
Adult AIDS deaths	2.6 million	2.2-3.0 million
Child AIDS deaths	0.38 million	0.29-0.50 million

Source: UNAIDS, 2007

The same report stated that more than 25 million people have died of AIDS since 1981. Africa has 12 million AIDS orphans. At the end of 2006, women accounted for 48.0% of all adults living with HIV worldwide, and for 59.0% in sub-Saharan Africa. Young people (under 25 years old) account for half of all new HIV infections worldwide - around 6,000 become infected with HIV every day. During 2006 around 6.2 million adults and children became infected with HIV, the virus that causes AIDS. By the end of the year, we estimated 39.5 million people worldwide were living with HIV/AIDS. The year also saw about three million deaths from AIDS, despite recent improvements in access to antiretroviral treatment (UNAIDS 2006).

Nature and extent of problem- The African picture

Africa is the region most affected by the virus. Inhabited by just over 12.0% of the world's population, Africa is estimated to have more than 60.0% of the AIDS-infected population (UNAIDS, 2006). In addition more than half of all people who have been infected acquire the virus when they are less than 25 years of age (UNAIDS, 2001, 2006). AIDS now kills ten times more people a year than war. In addition, one-tenth of the adult population aged 15-49 years in Africa is infested with HIV/AIDS (UNAIDS, 2006). Scholars present the current HIV/AIDS situation in the world in different pictures as follows; Akukwe asserts that 'we work in the middle of the AIDS killing fields' (Akukwe and Foote, 2001). Coombe holds that 'we have daily experience of the passive genocide of our most productive people' (Coombe, 2001) and Nyumbani writes that 'we live through a silent holocaust that makes the Jewish Holocaust in Nazi Germany pale by comparison' (Nyumbani, 2001).

In the 35 African nations with the highest prevalence, average life expectancy is 48.3 years - 6.5 years less than it would have been without the disease (Casey K, 2001). For the eleven countries in Africa with prevalence rates above 13%, life expectancy was 47.7 years -11.0 years less than it would have been without HIV/AIDS. The Joint United Nations Programme on HIV/AIDS (UNAIDS, 2006) has predicted outcomes for the region to the year 2025. These range from a plateau and eventual decline in deaths,

beginning around 2012 to a catastrophic continual growth in the death rate with potentially 90 million cases of infection.

At its Special Session on 27th June 2001, the United Nations General Assembly adopted a Declaration of Commitment on HIV/AIDS. The Heads and Representatives of States and Governments expressed deep concern that the global HIV/AIDS epidemic, through its devastating scale and impact, constituted an unprecedented global emergency. They also noted with profound concern that Africa, in particular Sub-Saharan Africa, is currently the worst affected region, with HIV/AIDS threatening development, social cohesion, political stability, food security and life expectancy, and imposing a devastating economic burden (UNGASS, 2001). AIDS is now the number one killer disease in Africa.

Two months earlier, at the conclusion of the Organisation of African Unity (OAU) summit in Abuja on 27th April, 2001, the Heads of State and Government likewise declared that they considered AIDS a state of emergency in the continent (OAU, 2001). This is because in 2001, an estimated 3.1 million adults and children were newly infected with HIV infections in Sub-Saharan Africa and by the end of the year, the region was home to an estimated 28.1 million adults and children living with HIV or AIDS (UNAIDS, 2001).

A study on Intelligence Community Assessment (ICA) carried out by the United States of America Government highlights the rising HIV/AIDS problem through 2010 in five countries of strategic importance to the United States that have large populations at risk for HIV infection: Nigeria, Ethiopia, Russia, India, and China (The Next Wave of HIV/AIDS: Nigeria, Ethiopia, Russia, India, and China). The paper did not attempt to make aggregate projections about global trends. The five countries were selected because they are:

- Among the world's most populous countries, together representing over 40 percent of the world population.
- In the early-to-mid stages of an HIV/AIDS epidemic.

- Led by governments that have not yet given the issue the sustained high priority that has been key to stemming the tide of the disease in other countries.

The report from this above study stated that the number of people with HIV/AIDS will grow significantly by the end of the decade worldwide. The increase will be driven by the spread of the disease in five populous countries—Nigeria, Ethiopia, Russia, India, and China, where the number of infected people will grow from around 14 to 23 million currently to an estimated 50 to 75 million by 2010. This estimate eclipses the projected 30 to 35 million cases by the end of the decade in central and southern Africa, the current focal point of the pandemic. It was projected that China will have 10 to 15 million HIV/AIDS cases, and India is likely to have 20 to 25 million by 2010, the highest estimate for any country. By 2010, it was also projected that Nigeria will have 10 to 15 million cases, Ethiopia 7 to 10 million, and Russia 5 to 8 million.

The report also stated that Nigeria and Ethiopia will be the hardest hit, with the social and economic impact similar to that in the hardest hit countries in southern and central Africa, decimating key government and business elites, undermining growth, and discouraging foreign investment. Both countries are keys to regional stability, and the rise in HIV/AIDS will strain their governments. The epidemic is spreading at different rates in the five countries according to the report, with the epidemic the most advanced in Nigeria and Ethiopia. In all countries, however, risky sexual behaviors are driving infection rates upward at a precipitous rate.

The Nigerian situation on HIV/AIDS

In Nigeria, the first case of HIV/AIDS was reported in 1986 (UNAIDS, 2006). Since then, the virus has continued to spread, mainly because it was initially regarded as a health issue and there was no systematic multi-sectoral response. The HIV epidemic in Nigeria is complex and varies widely by region. In some states like Lagos, Benue and Cross River, the epidemic is more concentrated and driven by high-risk behaviors, while other states have more generalized epidemics that are sustained primarily by multiple sexual partnerships in the general population. Youths and young adults in Nigeria are

- Led by governments that have not yet given the issue the sustained high priority that has been key to stemming the tide of the disease in other countries.

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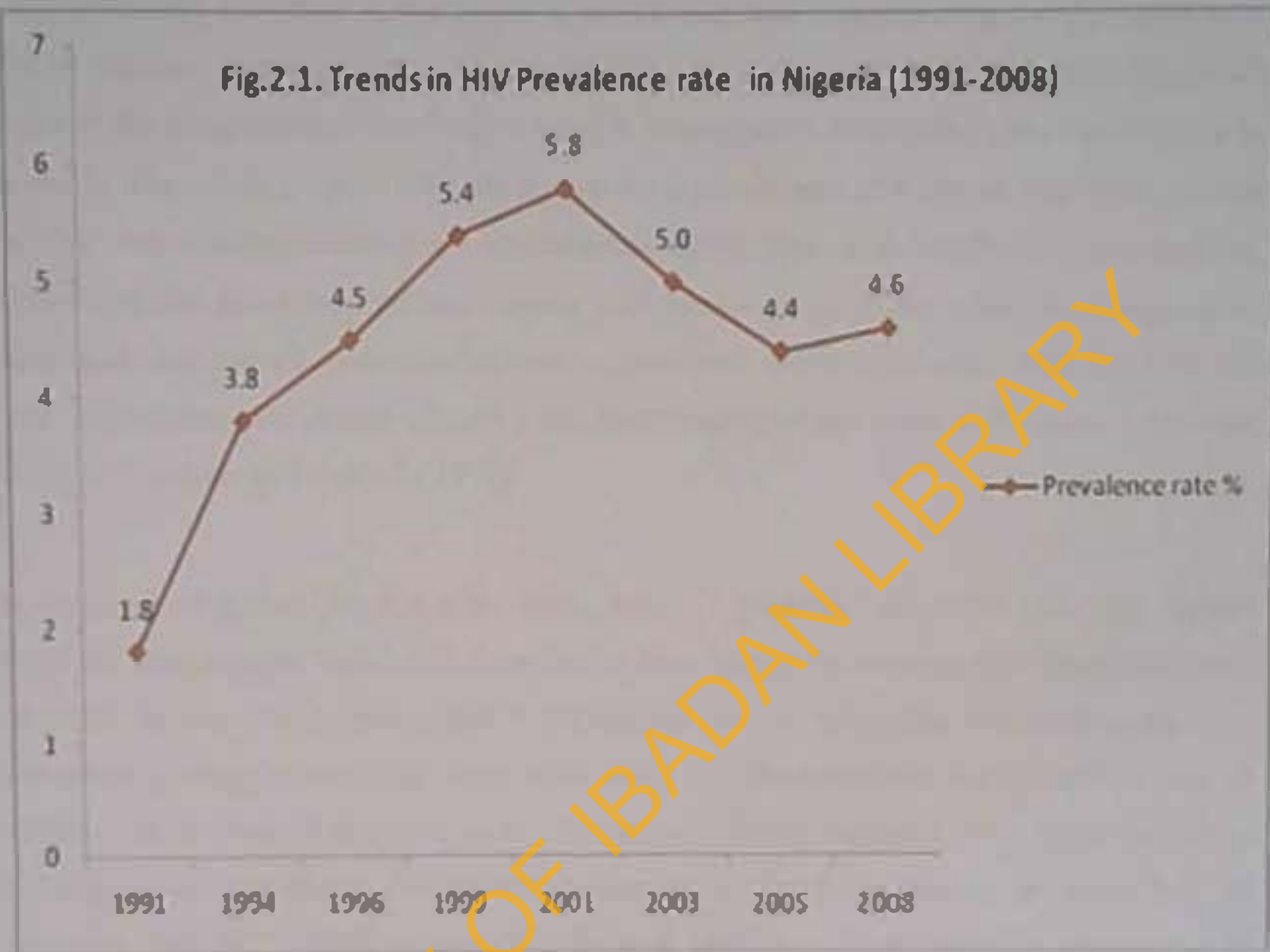
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particularly vulnerable to HIV (NDHS, 2003). The 2003 survey estimated that there were 3,300,000 adults living with HIV&AIDS in Nigeria, and 1,900,000 (57.0%) of these were women. The same document indicated an HIV prevalence rate of 5.4 percent for individuals aged 25 to 29 years; 5.6 percent for those aged 20 to 24 years, and four percent for those aged 15 to 19 years (see Fig. 1). The survey also found that State prevalence rates varied from as low as 1.2% in Osun State to as high as 12.0% in Cross River State. Overall, 13 of Nigeria's 36 States had HIV prevalence over 5.0%. In 2005 it was estimated that the overall HIV Prevalence was 4.4% and by 2008 it has slightly increased to 4.6%. Prevalence ranges were put at 1.6% in Ekiti to 10.6% in Benue State. All States and FCT had prevalence of greater than 1%. Also 17 States (FCT inclusive) had prevalence greater than the National average of 4.6%.

With the current HIV prevalence of 4.6%, it was estimated that the number of people living with HIV at the end of 2010 will be 3.11 million using Estimation and Projection Package (EPP) and Spectrum models. The number of new infections will be 339,016 (males 150,351 and females 186,665). Total number that will require antiretroviral therapy will be 910,850 (adults 807,166 and children 103,684). Estimated annual AIDS deaths in 2010 will be 181,774 (males 81,728 and females 100,046). Furthermore, the number of children orphaned by HIV will be about 2.2 million and the number of HIV positive pregnant women will be 243,730.

There are many risk factors that contribute to the spread of HIV. These includes prostitution, high-risk practices like casual sex, unprotected sexual practices among itinerant workers, high prevalence of sexually transmitted infections, clandestine high-risk homosexual practices, international trafficking of women, and irregular blood screening (Oladapo and Brieger 1994; Iwuagwu, *et al.* 2000, Sbokunbi *et al.* 2006)



Source: (Federal Ministry of Health, (FMOH, 2009)

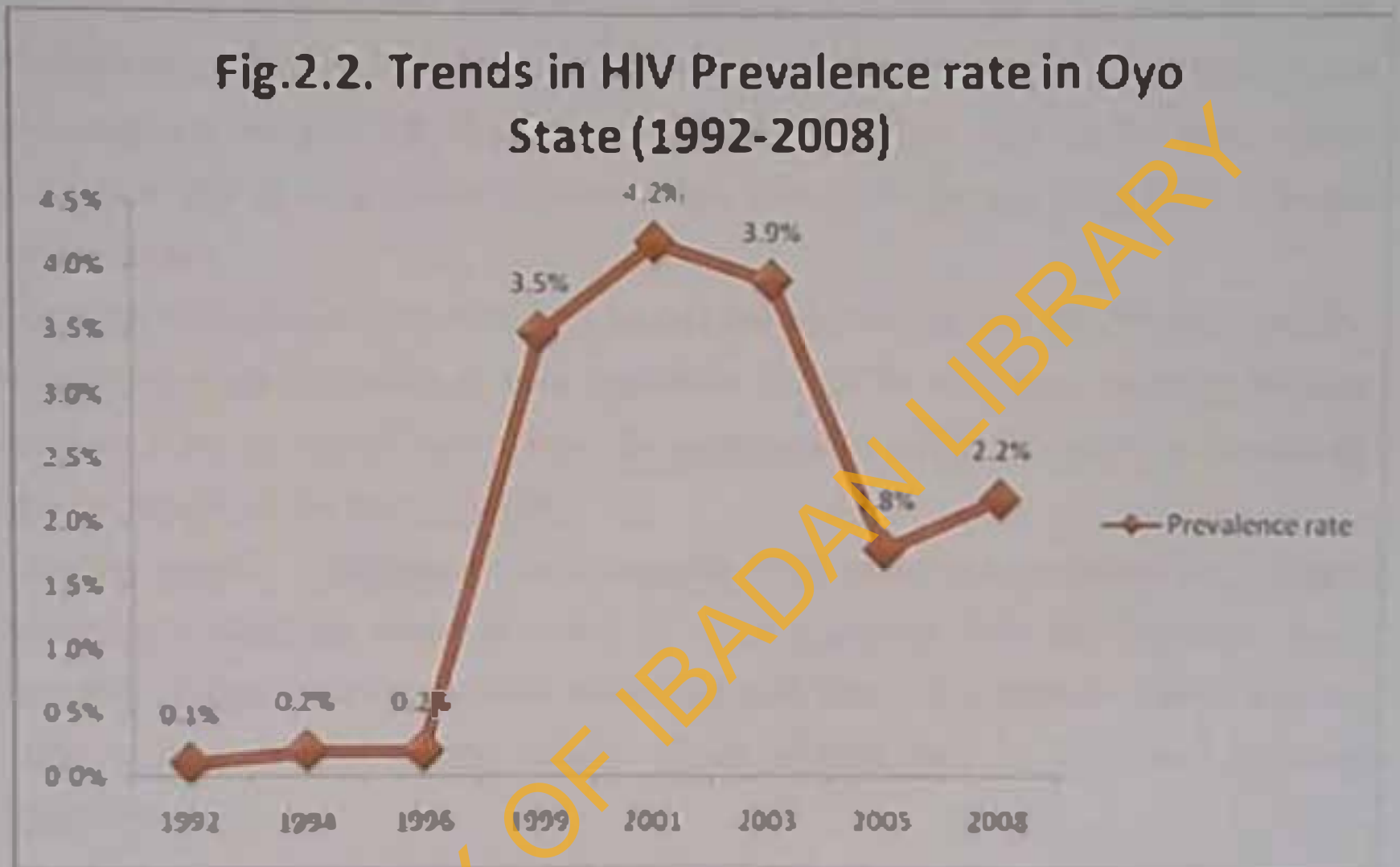
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Prevalence of HIV/AIDS in Oyo State

The economic activities at the border town of Saki and neighbouring communities have led to increase in the activities of commercial sex workers which might play significant roles in the geographical distribution of HIV transmission within the state and Nigeria as a whole. The result of 2001 HIV survey shows a prevalence of 9.5% among STD patients in Oyo state and unprotected sex heterosexual intercourse takes 85.0% of this infections. Other Cultural practices that may favour HIV transmission in the state are scarification, both male and female circumcision with unsterilized instruments, concubine keeping and wife inheritance still persist though it has decreased over the years in the state (Ajuwon, Brieger, Oladepo and Adeniyi 1993)

In the plan of action developed by State Action Committee on AIDS (SACA), figures from the state central blood screening centre have shown an average sero-prevalence rate of 2-3% among blood donors and 1.8% among women attending antenatal clinic. The document further, stresses that there is no town or village that has not reported a case of AIDS. The location of the state as an international border makes it play significant roles in the geographical distribution of HIV transmission. It can be recalled that about 85% of infection with HIV/AIDS is contracted through unprotected heterosexual intercourse in the state (see Fig.2). Available record shows that there was an increase in the prevalence rate of HIV/AIDS between 1999 and 2001 but in 2005, the rate has gone down considerably. The most recent figure of prevalence rate revealed that there is an increase in the prevalence rate to 2.2%. This calls for concerted effort to stop the trend before effort and resources of past years at keeping prevalence rate low wasted (see Fig.2.2).

Fig.2.2. Trends in HIV Prevalence rate in Oyo State (1992-2008)



Source: Oyo State Action Committee on AIDS (OYSACA 2009)

Patterns of marital and sexual behavior among Sub-Saharan African youth

The patterns of marital and sexual behaviour among Sub-Saharan African youths highlight key areas for interventions according to Jogunosimi Tawa. These include:

- In most countries, women usually get married in their teens to considerably older men, who are likely to have had more sexual partners; thus marriage may increase young women's risk of HIV/AIDS. The social cultural practices in most African set up do not give respect to the girl-child as given to her male counterpart since the girl-child is seen as one that ends up in the house of another man. She is then quickly given away to a man at a tender age.
- In most countries, at least 80% of women have had sex by age 20. Among men, the proportion ranges from 40% to more than 80%. Part of the prevailing practices in these countries is the exploits of men in sex. The eroding moral values bear more on the female who are always on the receiving end.
- Among sexually experienced 15-19-year-olds (both married and unmarried), a larger proportion of men than women have had two or more partners in the past one year - more than 40% of men in some countries, compared with fewer than 10% of women in other countries. Men brag about the number of sex partners they have in most of these countries.
- Condom use is rare among married 15-19 year olds. It is much more common among unmarried sexually active adolescents, but in some countries, fewer than 20% of women and 40% of men used a condom the last time they had intercourse. The act is still a new idea in most of these countries that have most of her population in the rural areas and with a high rate of illiteracy (Jogunosimi T 2001).

In Kenya, HIV tests done between 1995-1999 in the University of Nairobi reveals a rate of 20-25% among students and 10-15% among staff. About 1-2 lecturers die from HIV/AIDS per year. Due to students staying for only 4 years, many do not die while on campus. The rates estimated were found to be only second to commercial sex workers and warts. The study also shows that 83.4% of students practiced sex before marriage, of which only 47.7% used condoms and 43.1% were faithful to their partners. 56.9% had multiple sexual partners (Nyarambil 2000).

Young people's sexual behaviour and HIV/AIDS in Nigeria: A situation analysis

It was estimated that by 2025, the number of young people aged 10-24 years in Nigeria is expected to reach 57 million (Population Reference Bureau 2000). Available evidence suggests that the number of young people aged 10-24 years who commenced premarital sexual relations has increased in the past few years. For example, the Nigerian Demographic and Health Survey (NDHS, 2003) shows that 16% of girls become sexually active by age 15, increasing to 50% by the time they are aged 18. Among boys, 40% commence sexual activities by age 18 and by age 24 almost all boys are sexually active (NDHS 2003, see table in pg. 9). This survey also reports that young people in Nigeria have almost universal basic knowledge of HIV/AIDS regarding the major routes of transmission, and of the protective effects of abstinence and condoms. Despite the knowledge of protective measures, young people rarely use them (Peltzer and Olatimeji, 2004; Olaseha et al., 2004; Smith 2003; Arowojolu, Ilesanmi, Roberts and Okunola 2002; Amariño, Silva, Kaufman and Obikeze, 1997; Edem and Harvey, 1995), thus resulting in an escalation of negative sexual health outcomes (Otoide, Oronsaye and Okonofua 2001; Okonofua, Ogunniyi, Omoshodion, Tolan, Umana, Kaufman and Heggenhougen, 1999; Brabin, K. emp. Obunge, Ikimalo, Doherty, Ode, Hart et al. 1995). For example, only 8% of sexually active secondary school male students used a condom during their last sexual encounter (Jitadu and Odeyemi, 1993).

The UNAIDS (2004) report that young people, and increasingly girls, account for most cases of new HIV/AIDS infections in Nigeria and given the prevalence rate of HIV infection, Nigeria is already in the league of countries with the highest absolute numbers of infected people in the world. Results of the 2003 sentinel survey data indicate that currently more than three and half million Nigerians, aged between 15-49 years are living with HIV; two-thirds of these are women. UNAIDS (2002) data shows that prevalence rates were highest among young people, (6.3% for those aged 25-29 years, 4% for those aged 20-24 years and 5.9% for those aged 15-19 years). It was also reported that in 1987 in Nigeria, that majority of students sampled had already heard of HIV/AIDS. For example, a study conducted among students of the Obafemi Awolowo University, Ile-Ife, Nigeria showed that majority (90%) of the students heard of

HIV/AIDS from newspapers and magazines for the first time in 1987, with only a handful of them reporting that they had heard of AIDS between 1982 and 1986 (Fabiya, 1993).

The youths are most vulnerable group for contracting HIV for several reasons such as behavioural, physiological and socio-cultural factors do account for reasons why young people are more vulnerable than adults to HIV infection. Physiologically, the changes in reproductive organ that do occur in the life of adolescent often serve as a motivating force in their quest to experiment with sex. Adolescence is a time when young people naturally explore and take risks in many aspects of their lives, including sexual relationships. Those who have sex may change partners frequently, have more than one partner in the same time period or engage in unprotected sex. All of these behaviours increase young people's risk of contracting HIV. Adolescents who perceive their friends or peers to be sexually active are significantly more likely to engage in sex themselves, as well as have multiple sexual partners. Programmes that target peer norms and influences about sex, therefore, hold promise for changing behaviour related to sexual initiation or having multiple partners.

Taking risks is part of being an adolescent according to Psychologists. Moving from the dependency of childhood to the independence of adulthood is a major developmental task of adolescence, and this task requires that youth take risks. Developmentally normal risks might include first romantic attachments, learning to drive, and asserting opinions that run counter to those of parents or guardians. Usually, risk simply means the many actions and situations in which teens like all other people face the possibility of embarrassment and/or failure. However, in their quest for independence, adolescents also engage in risks that may bring them serious harm. One of the consequences of the involvement of young persons in risky sexual activities is that this group is disproportionately affected by reproductive morbidities including STI/HIV, unwanted pregnancies and their complications (Archibong, 1991; Brabin *et al.*, 1995; Ekweozor, Olatoye, Tonini, Saliu, Issien *et al.*, 1995; Bello, Eguh, Okwon, Nwokedi, Katung, Zoakuh *et al.*, 1997; Arowojolu, Ilesanmi, Roberts and Okunola, 2002). Research also confirms that many

young persons participate in risky sexual activities including early debut in sexual activities, sex with many partners, low and inconsistent use of condoms (Olaseha and Abo, 1993; Amarigo, Silva, Kaufman and Obikeze, 1997; Iwuagwa, 2000).

Social-cultural factors also play a major role in the growth of HIV/AIDS among the group. In Nigeria, low level of literacy among females, poor economy leading to widespread unemployment and underemployment and generalized poverty, commercial sex work as easy means of making money in urban centres, culturally approved male dominance, which supports male having multiple sex partners, heavy infectious disease burden, weak health care delivery system and lack of anti-retroviral (ARV) and poor community support for HIV/AIDS preventive programme including the use of condom during casual sexual intercourse had contributed to the high prevalence of HIV among adolescent. Several studies conducted in Nigeria on the awareness of HIV/AIDS showed that HIV/AIDS awareness is increasing phenomenally with the passing of each day (Iseju-Abejide, 1994; Oladepo & Brieger, 1994; Umuigbo & Ogbeide, 1999; Odehoyi, 2000 and Omotayo, 2004). However, the attitude of the university students towards SLWHA continues to be that of discrimination, rejection and stigmatization (Oladepo & Brieger, 1994).

Studies show that condoms are highly effective in preventing the spread of STIs/HIV and unintended pregnancies (Gates, 2001; Gardner, Blackburn and Upadhyay 1998; World Bank, 1997). When used correctly and consistently, male condoms can provide as much as a 94% reduction in the risk of HIV transmission (Holmes, Levine and Weaver 2004). However, the widespread knowledge of the protection that condoms provide does not determine use among adolescents. This is because some give reasons that they 'were first to first during coitus' and others hold the view that their sexual partners cannot be infected with the disease even though not used to ascertain their real status (Iwuagwa, 2000).

The 2003 DHS also showed that among men aged 15-19 and 20-24 years, the proportion reporting ever use of condoms was 5.8% and 10%, while among women in the

same age groups the proportion was 6.5% and 14.8% respectively (NDHS, 2003) Also, some studies in Nigeria (Onoh, Mboh, Chukwuka and Ikeme 2004; Olascha, Ajuwon and Onyejekwe 2004; NDHS, 2003; Smith, 2003; Peltzer, 2000) show that despite this knowledge on the reality of HIV/AIDS in the country and the increase in the prevalence rate, the use of condom during casual sex is relatively low among the general population and among sexually active adolescents.

HIV/AIDS in higher institutions in Africa

Higher education institutions play a vital role in human resource development. However, in Africa, many have become high-risk environments for transmitting HIV. Through well-informed scientific, medical and social research, these same institutions can actively mitigate the impact of the disease by changing the behaviour of their own staff and students and by influencing public debate and political action.

In a study carried out by International Institute of Educational Planning (IIEP) in 2007 to examine the response of higher education institutions to HIV and AIDS in three East African countries of Kenya, Ethiopia and Uganda, a key observation is that universities and teacher training institutions are inadequately addressing HIV and AIDS because of a culture of denial and concealment. Internal systems to monitor the incidence and prevalence of HIV are lacking, but its spread is negatively affecting faculty and students, as well as the functioning of the institutions themselves.

Factors which have accelerated the spread of HIV in these institutions include reduced government subsidies and the introduction of student fees in the 1990s, as well as peer pressure, multiple sex partners, inadequate information on HIV and AIDS, drug abuse and difficulties in accessing condoms. High mortality rates among teaching staff due to AIDS have resulted in increased workloads, stress levels, low morale and reduced efficiency. This negatively affects the quality of higher education and training, often leaving syllabi uncompleted as a result of prolonged staff illness or death. Increased parental illness or deaths result in students either staggering their studies or shifting to

evening classes in order to work during the day to finance their studies. In extreme cases, female students resort to commercial sex to pay for their studies.

Despite this, few higher education institutions have developed responses to HIV and AIDS and fewer still have structures or budgets to cope with the disease. Senior managers interviewed in three East African countries of Kenya, Ethiopia and Uganda did acknowledge that their institutions were severely affected by HIV and AIDS but were quick to point out that coping with it is not an institutional priority. However, some institutions have tried to integrate information on HIV and AIDS either into their formal curricula or in their extra-curricula activities, but such efforts are mostly ad hoc, fragmented and student-led initiatives, which rarely target faculty or senior management staff. (IIP-P, 2007)

According to Kiragu (2001), the young people today are the AIDS generation. They have never known a world without HIV or AIDS, no more than they have ever known a world without television or air transport. But AIDS is of much more recent origin than either television or air transport. HIV/AIDS threatens to reduce the effectiveness and efficiency of educational systems in high prevalence countries in Sub-Saharan Africa. In Nigeria, a study on sexual behaviour conducted in 2003, showed that of 609 male students of the University of Ibadan who were offered opportunity for voluntary counseling and testing 51 (8.3%) consented. Of the 51, (15.7%) tested positive for HIV (Adewole and Lawoyin, 2003). The institutions of higher education throughout Africa face a major and, in many instances, an escalating threat from HIV/AIDS. Prevalence levels among staff and students are not well documented, but there are reports of the educational sector becoming increasingly affected by absenteeism and deaths (Coombe, 2001). For example, Kelly (2001) reported that crude death rate for staff at the University of Zambia is higher than the national rate and that more than half of those who have died at this University in the past decade have been in the age-range 20-34 years, reinforcing the reality that AIDS disproportionately affects persons in their most productive years. One in every six students drops out of the University of Western Cape, South Africa each year for financial or personal reasons which are very likely HIV-related (Kelly, 2001).

estimates for South Africa are that by 2005 more than 30 percent of undergraduate students in the 25 public universities and more than 35 percent of those in the technical or polytechnics will be infected with HIV (Kinghorn, 2000).

The pandemic will affect both the demand and supply of education. Drop-out rates due to deaths, illness, financial constraints, demand for home care of the sick and other family and social circumstances will reduce enrollment rates. The cost of training academic and support staff due to premature deaths, and costs incurred in the form of employee benefits during illness or after death will divert funds from projects focused on educational improvement and growth. This will result in the reduced capacity of the educational system to provide education and training services (CDC, 2005). There are reports that HIV/AIDS has adversely affected the educational sector due to absenteeism and death (Coombe, 2001).

The pandemic also impacts on the quality of education and could further widen the gender gap in educational access because female students are more adversely affected than males. Learning may be viewed as a consequence of interaction between individual characteristics and the learning environment. In the context of the pandemic, teaching students who are sick, depressed, and demoralized will impact on instructional outcomes. Taking time off to nurse the sick, seek medical care and attend funerals will also adversely affect learning outcomes. If education is largely the sphere of the young, so also is HIV/AIDS. (UNAIDS, 2001).

In a study titled 'Challenging the Challenger. Understanding and Expanding the Response of Universities in Africa to HIV/AIDS' (Kelly, 2001), Prof Kelly reports a disquieting picture which indicates that many of the institutions studied are in the dark concerning the HIV/AIDS situation on their own campuses. According to him, the situation on these campuses is one that is worrisome as there are evidences of secrecy, silence, denial, and fear of stigmatization and discrimination about the disease in the campuses. The studies also showed that HIV/AIDS is having a serious impact on the fiscal situation of the universities in much the same way as it does on other institutions.

In response to these findings, in 1999, The Association of Commonwealth Universities (ACU) organized a symposium jointly with the University of Natal in South Africa entitled "The Social Demographic Impact of HIV/AIDS: Commonwealth Universities response". Two years later the symposium was followed by a workshop attended by senior representatives from ten universities in southern and eastern Africa (Botswana, Cape Town, Copperbelt, Eduardo Mondlane, Kenyatta, Malawi, Namibia, Natal, Zambia, and Zimbabwe) (ACU, 2001).

The workshop participating universities indicated that they attached the highest priority to the achievement of control of HIV in universities. As responsible educators and researchers, they recognized their responsibility to commit their intellectual resources and energies to reducing the spread of HIV infection, caring for the infected and affected, and providing support. They also indicated their intention to develop policies and management structures that would take adequate account of HIV/AIDS; to mainstream HIV/AIDS perspectives into the professional training of all students at all levels; to engage in dialogue and outreach activities in their AIDS affected communities and societies. The outcome of these various conferences in Southern African States Universities was the formulation of policies and programs geared toward checking the spread of the disease in the university community and the region at large.

The impact of HIV/AIDS on educational sector

One of the important sources of concern is AIDS devastating impact on educational system. HIV/AIDS is draining the supply of education, eroding its quality, weakening demand and access, drying up countries' pool of skilled workers, and increasing the sector's costs. More than 113 million school-age children are out of school in developing countries, two-thirds of them girls. Of those who enter school, one out of four drops out before attaining literacy. At least 55 of the poorest countries seem unlikely to achieve Education for All (EFA) by 2015, and 31 of these countries are also among the 36 worst-affected by HIV/AIDS (World Bank Report, 2002)

The World Bank reports that Africa in particular appears to be experiencing sharp increases in mortality rates among teachers and administrators at all levels of education. For example, Zambia has estimated the epidemic's financial burden on the supply of teachers to amount to some US\$25 million between 2000 and 2010, and Mozambique's estimate is about twice as much. An estimated 860,000 children in Sub-Saharan Africa lost teachers to AIDS in 1999 (Kelly, 2000). In the Central African Republic 85 percent of teachers who died between 1996 and 1998 were HIV-positive (UNAIDS, 2001). In Zambia 1,300 teachers died in the first 10 months of 1998, compared with 680 teachers in 1996 (Kelly, 1999). In Kenya teacher deaths rose from 450 in 1995 to 1,500 in 1999 (reported by the Teaching Service Commission), while in one of Kenya's eight provinces 20 to 30 teachers die each month from AIDS. HIV-positive teachers are estimated at more than 30 percent in parts of Malawi and Uganda (Coombe, 2000), 20 percent in Zambia (Kelly, 2000), and 12 percent in South Africa (Coombe, 2000). The report also reveals that the impact of HIV on the demand for education is getting enormous. For most countries, increases in the school-age population are expected. While the school-age population will be smaller than in the absence of AIDS, it will nonetheless continue to grow. Estimates by the U.S. Bureau of Census suggest that only 6 of the 26 countries worst affected by AIDS will show an actual reduction in the school-age population by 2015 (USAIDS, 2006).

The World Bank also reports that HIV/AIDS increases education sector costs. On the supply side, budgets have to accommodate higher teacher hiring and training costs to replace teachers who have died of AIDS, as well as the payment of full salaries to sick teachers who are absent and additional salary costs for substitute teachers. Zambia has estimated the epidemic's financial burden on the supply of teachers to amount to some US\$25 million between 2000 and 2010, and Mozambique's estimate is about twice as much.

The hesitation of the education sector's response to the disease is brought out by the fact that, early in 1994, the International Institute for Educational Planning in Paris produced and disseminated a very comprehensive report on how HIV/AIDS was likely to impact

the education sector, but almost six years passed before education ministries began to implement the contents of that seminar work (Schaeffer, 1994). During these lost years, the AIDS situation in general, and in the education system in particular, grew steadily worse. The constrained response of education sectors to HIV/AIDS in the 1980s and 1990s was due, among other things:

1. Inability to provide for the basic learning needs of every child, youth and adult especially in Africa.
2. Lack of appreciation of the scale of the epidemic and its potential to undermine the education system.
3. Absence of strategic planning for HIV/AIDS in the education sector in some African countries.
4. Considerable piloting of HIV/AIDS education programmes, but with little coordination between interventions and few, if any, being expanded.
5. Lack of teacher capacity to deliver relevant HIV/AIDS education.
6. Uncomfortable recognition by educators and system managers that addressing HIV/AIDS raises questions about their personal HIV status and social behaviour.
7. Concern that teaching content and activities conflict with community, cultural or religious practices, norms and values.

The tragedy of the past twenty six years is that education sectors worldwide, especially in the most severely affected countries, did not get moving early enough to respond to the demands of HIV/AIDS. When they did, it was not with a forceful attitude considering the extent of the problem at hand and the political will was not there from the political leaders. This sector have a multitude of projects that address facets of the disease, but few coordinated, strategic programmes that address the challenges on the scale that is required.

In recognizing that the youths are especially vulnerable to HIV infection, the United Nations General Assembly (UNGASS, 2001) did establish a definite time-bound target for the reduction of HIV transmission among young people. These targets set clear

objectives that should direct the plans and activities in the education sector. The targets are that:

- By 2005, HIV prevalence among those aged 15 to 24 will be reduced by 25 percent in the most affected countries
- By 2005, at least 90 percent of young men and women aged 15 to 24 would have access to information, education including peer education and youth-specific HIV education and services necessary to develop the life skills required to reduce their vulnerability to HIV infection, in full partnership with youth, parents, families, educators and health-care providers (UNGASS, 2001). These stated goals are yet to be achieved.

Response of the education sector in Africa to HIV/AIDS

In the context of Education for All and the newly revised United Nations Education, Scientific and Cultural Organisation (UNESCO) strategy on HIV and AIDS, UNESCO aims to support member States to move towards universal access to comprehensive HIV prevention programmes, treatment, care and support in line with the UNAIDS division of labour. The Global Initiative on Education and HIV & AIDS is a means to support comprehensive national education sector responses to HIV and AIDS and to ensure that the education sector is engaged and contributing to national HIV and AIDS responses. For example, schools are expected not only to communicate knowledge, but also to instill values, and transfer skills that promote behaviours that will enable students to protect themselves against HIV infection. Yet, there are more challenges to these responses from the universities, which are themselves not peaceful HIV-free institutions. Kelly (2003) has argued that despite the high prevalence of HIV/AIDS in the environments in which many universities operate, it is apparent that they have not institutionalized a consistent response to the epidemic, as they have not integrated HIV/AIDS prevention activities into their operations. In universities where the HIV epidemic is acknowledged, there is either inertia or inappropriate response.

The UNESCO in collaboration with other international organizations have taken bold steps in some Anglophone, Francophone and Lusophone countries to strengthen the

capacity of its partners to implement the EDUC/AIDS. For example, in 2005, UNESCO commissioned a study on higher education institution's responses to the HIV and AIDS pandemic in Brazil, Burkina Faso, China, Democratic Republic of Congo, Dominican Republic, Haiti, Jamaica, Lebanon, Lesotho, Suriname, Thailand and Vietnam. The goal of the study was to increase understanding of the impact of HIV and AIDS on tertiary institutions, institutional responses in different social and cultural contexts and at varying stages in various regions of the world. The result showed that less information existed on both the vulnerability of the university community, and the impact of the pandemic on those they support. Case studies demonstrated that most universities had not carried out in-depth impact or risk assessments on the effect of HIV and AIDS on various components of the university system. In short, all institutions covered were dealing with a problem whose magnitude and impact is unknown.

Other important findings from the study are that:

- Information on staff and student morbidity and mortality was largely unavailable.
- Institutionalization of an HIV and AIDS response in higher education institutions is relatively new and poorly understood.
- HIV and AIDS initiatives in these institutions are irregular, uncoordinated and reliant on the initiative of a few dedicated staff.
- Focus is placed mainly on prevention at the expense of wider efforts to address stigma and discrimination against people living with HIV.

In recent years, universities in Africa are coming to the realization that HIV/AIDS is real because death has become a common place event among staff, students, and the community. Pioneer efforts by the Association of African Universities (AAU), the Association of Commonwealth Universities (ACU), and the South African Universities of Vice-Chancellors Association (SAUVCA), offered the need for African universities to adopt a holistic response to the epidemic within their institutions and across the higher education sector. The Working Group on Higher Education (WGHE) of the Association for the Development of Education in Africa (AIDEA) decided to undertake case studies on the ways HIV/AIDS affects some universities in Africa, and to document the response

and coping mechanisms that these institutions have developed. Out of these cases emerged a synthesis entitled 'challenging the Challenger: Understanding and Expanding the Response of Universities in Africa to HIV/AIDS'. This report acknowledged that 'a thick cloak of ignorance surrounds the presence of the disease in the universities. This cloak is amply lined with layers of secrecy, silence, denial, and fear of stigmatization and discrimination' (Kelly, 2001).

Other relevant initiatives from African universities are the Training of Trainers Course (TOT) funded by the United Nations Development Programme (UNDP) and the University of Natal attended by three individuals from each of 31 African universities identified on HIV/AIDS and development. The overall aim for the TOT was to empower trainees with knowledge and skills that will enable them implement a comprehensive programme that address prevention, care support and mitigation of HIV/AIDS amongst students and staff. The specific aims include: (a) train academic staff in methodology and methods of curriculum development and teaching HIV/AIDS; (b) empower university teachers to integrate HIV/AIDS into their own teaching and to provide similar training to their university staff; (c) enhance research related to HIV/AIDS within the university and among other related stakeholders.

A few universities in Africa have invested considerable effort in developing and implementing what is widely viewed as a very comprehensive policy response to HIV/AIDS. As a large comprehensive research and teaching institutions, it is fortunate to have a number of leading academics that have made major contributions to national policy development on the health, legal and social aspects of HIV/AIDS. Details about the specific activities carried out by each university are provided below.

University of Botswana

The University of Botswana was one the higher institutions that saw the threat of HIV/AIDS a national threat which the University committee was a part. The University, as an institution of higher learning, recognizes the HIV/AIDS epidemic as a serious threat

to the well-being and continued development of the nation. She did not only fight the spread of this deadly disease within its own community, but must also contribute to the national effort through education, research, awareness-promotion, behaviour change and other innovative initiatives in line with the National Policy on HIV/AIDS in the country. In the University, a number of interventions activities such as curriculum change, an impact assessment, health services, development of toolkit which is a life skills programme and driven by the need to provide students with the knowledge, skills and values that equip them to deal with the threat of HIV/AIDS on a personal level. This approach highlights the need to intervene in the curriculum in ways that are directly relevant to the needs of students and to make them more aware of the larger threat that confronts their communities. It supplements a range of other curriculum reforms, which are geared more towards skills, which graduates need to confront HIV/AIDS in the world of work (Katjavivi and Otaal, 2003).

The University also developed an HIV/AIDS policy with the main goal of promoting activities that will result in an HIV free environment and develop staff and students who are compassionate, just, caring and educated to deal with this and future epidemics (Lipinge S 2007). This policy outlined its objectives to include

- a. To provide education, information and training in HIV/AIDS prevention and to reduce the rate of new infections by promoting behaviour change.
- b. To provide care and support to staff and students affected and infected with HIV so as to alleviate fear, stigma and discrimination surrounding HIV and AIDS.
- c. To safeguard the rights of employees and students who are affected and/or living with HIV and AIDS.
- d. To promote and support research and community outreach on HIV/AIDS prevention, care and support.
- e. To promote the health, social and spiritual welfare of the University community.

This policy applies to all employees and students of the University of Botswana.

University of Namibia

The University of Namibia's (UNAM) HIV and AIDS programme is amongst the most developed in Southern Africa. The first step in this direction was the development of institutional policy early in 2001. The Policy is strongly shaped by normative considerations and the Human Rights provisions embodied in the Constitution of the Republic of Namibia. The policy has four principal constitutive components. These are

- The right and responsibilities of staff and students
- The integration of HIV/AIDS in teaching, research and community service
- Preventive care and support services, and
- Policy implementation, monitoring and review

UNAM has sustained partnerships on HIV and AIDS with African universities and elsewhere. It has collaborated often with Kenyatta University, most recently in the area of curriculum development and with the University of Toronto, Canada, through student exchange programmes. Since 2003 UNAM has been implementing a core course on HIV and AIDS comprising 3 modules on 'Social Contemporary Issues'. These include gender, HIV and AIDS and ethics. Housed in the Faculty of Health Sciences, it has its own coordinator. Whilst this course continues, it is being reviewed and updated to address issues such as treatment literacy and access which have come to fore since 2003.

At the same time, the university has taken major steps towards greater height. In 2006, UNAM and its partner University of Toronto initiated a major consultation on HIV and AIDS in the curriculum involving the University of Dar es Salaam, Kenyatta University, University of Toronto and University of Zambia. Under the title 'Capacity Building and HIV and AIDS Management for the Development of a Health Promoting University', the consultation's most valuable outcome was five new course outlines (subsequently implemented) at certificate and degree level in the following areas:

- Cultural Aspects of HIV and AIDS
- Management of the response Prevention services Care and support programmes
- Condom distribution

- Daily screening
- Contraception
- STI treatment and management
- TB treatment and management
- Counselling (all nurses are trained counsellors)

The UNAM/USAID also launched an innovative, community-driven, radio magazine programme to address lifestyle issues of youth. "The Suzie and Shafa Show" is developed in Namibia for youth, by youth, in partnership with The University of Namibia and Johns Hopkins University Centre for Communication Programs, the Media and Technology Studies (MAIS) of the Ministry of Basic Education, Sports and Culture and supported by USAID. The show is broadcasted in Windhoek over local community station. The program addresses the key factors Namibian youth are confronted with today, such as perceptions of risk toward HIV infection and HIV testing. For example, while two-thirds of the youth surveyed said they wanted to be tested for HIV, only about a quarter had ever actually been tested. The Suzie and Shafa Show addresses practical issues such as where to go for HIV testing as well as lifestyle issues related to alcohol and drug use, relationship problems, and sexual habits. The show is a pioneering effort that has young people in partnership, with support from a wide range of community organizations, creating entertaining, provocative and insightful programs that truly reach youth." (Katjavivi and Otaal, 2003)

University of Nairobi

Three things make the University of Nairobi a leading institution in HIV vaccine research and trials in Africa. Firstly, it shows the responsibility which faculties of medicine/health sciences must be prepared to take on the in fight against HIV/AIDS. This responsibility is typically expressed in the commitment to bio-medical research. Secondly, an off-shoot of the research process is the advocacy role which health sciences professional can play in breaking the barriers to understanding, assisting government in efforts at social and political mobilization and also setting better standards for policy and practice in the provision of health services. Thirdly, this example illustrates the value of sustaining research capacity in African institutions and the ways in which this capacity can be used

to build international partnerships and leverage additional resources in the fight against HIV/AIDS.

Apart from adopting a comprehensive HIV/AIDS policy that protect the right of PLWHA in the institution, provision of care and VCT services, the university students have generated a very creative array of outreach activities in response to the HIV crisis, this includes an AIDS Awareness Campaign, featuring events including a beauty contest to attract interest, and combining this feature with an AIDS talk and dissemination of educational materials. The students coordinate their activities through a variety of student groups that do not necessarily focus exclusively on AIDS, but incorporate an HIV/AIDS focus into their particular group activities, for example by holding a competition among the groups for best AIDS campaign. (Kajjavi and Otaal, 2003)

University of the Copperbelt, Zambia

"In but Free" (HIV/AIDS Prevention in Prisons) is a community based programme of the Copperbelt University and the Zambia Prison Service. It grew out of two base line surveys, conducted in 1994 and 1998/99, of risk behaviour in prisons in Zambia and aims to promote HIV/AIDS prevention in Zambian prisons using inmates and officers as the key players in the intervention. It is a well recognized fact that prisoners world-wide are paid less attention vis-à-vis HIV/AIDS than any other group in society, yet the very circumstances which render them especially vulnerable (men having sex with men (MSM), intravenous drug use, initiation practices such as tattooing, insufficient supplies, and hence sharing, of razors) have led to a prevalence rate among prisoners of 27% (Simopya O, 2007). The "In but Free" project has already trained 450 inmates and 65 prison officers as counselors, has been instrumental in introducing regular health checks, and is pressing for home-based care for the terminally ill. Interestingly, condoms may not be issued to prisoners as MSM is illegal in Zambia and carries a jail sentence of five years.

Using interventions like peer education, VCT and home-based care, it demonstrates the power of reducing risk to inmates themselves and their families. It also brings to life a

basic principle that tertiary institutions must be engaged with the world in which they operate and be responsive to their communities so that they can make meaningful contributions to real, immediate problems. Also, it breaks the silence around a world in which it is well known that HIV infection thrives because of a range of risky social and sexual behaviours (Simooya O. 2007).

University of Zambia

The University of Zambia also has an HIV/AIDS policy formulated in 2005. In his foreword to the policy, vice-chancellor Professor Robert Serpel said HIV and Aids had robbed the institution of number lecturers and students. The policy's objectives are, among other things, to encourage sensitivity towards people infected or affected by the virus, provide information on living positively, and offer education and counselling services. Its components seek to address issues such as the obligations of the university senate, council and central administration, as well as to articulate the rights and responsibilities of students and staff. The policy makes it clear that no member of staff must be forced to go for testing and results for those who are tested must be confidential unless there is a written consent for disclosure. It also seeks to assure people that there is a confidential channel through which to complain if they are subjected to harassment or discrimination due to their status. This policy helps to guide the university's health clinic in service provision to both students and staff on HIV/AIDS related cases.

In 2003, The University of Zambia conducted a KAP study consisting of both students and staff and found that there was high levels of stigma around HIV/AIDS and the prevalence of risky sexual behaviours. The University responded with an IEC programme based on counselling and education with a focus on the needs of students. This case study underlines the importance of the complex interactions that make tertiary institutions both exciting and challenging – as well as being vulnerable. Managing and supporting student life in the age of HIV/AIDS requires that institutional managers actively intervene in what may, previously have been considered 'the private life of individuals' – and having the skill to do so effectively (Chetty, 2003). The outcome of the research shows the university use research evidence to plan an appropriate intervention.

University of Ghana

The University of Ghana established an HIV and AIDS Co-ordinating Body in 2006. At the institutional level most of the co-ordinating body's activities are being channeled through a World Bank funded project entitled TALIF the 'Teaching and Learning Innovation Fund'. The university's first priority is to establish an institutional policy as a way of addressing the lack of co-ordination, the absence of a plan of action and the absence of a monitoring mechanism. Its second objective was to set up a coordinating body to implement the policy.

A draft policy was developed in 2006. Three VCI sites were established. The first of these was fully active by early 2007. Secondly, the University plans to revitalize and formalize the peer education programme. Thirdly, prevention programmes using multi-media was also introduced. Radio talk shows, a series of debates at halls of residence and a billboard campaign are also planned. Working with Engender Health (an international NGO), the Faculty of Nursing set up a Community Based Centre for Partners in Health (COMBACEPH) in October 2004 - primarily as a means of providing sexual and reproductive health services to students and staff at the University. The most effective intervention so far is in reaching students through the training of peer educators. Condom distribution occurs mostly through shops on the campus and through social marketing campaigns.

At institutional level, the university has developed and implements a course aimed at mainstreaming HIV and AIDS into the core curriculum. The course is based on 36 hours of instructional time and focused heavily on the biological and epidemiological aspects of HIV transmission, prevention measures and management of infection. Though the overall response to the integration of HIV and AIDS in the University of Ghana's curriculum is as yet relatively undeveloped and lacking in a clear framework, the Institute of Education has successfully exploited the potential which distance education offers. Unlike face-to-face teaching, the effectiveness of distance education enables universities to reach far larger numbers of students (efficiency), in multiple locations, at lower cost

(sustainability) and with greater flexibility. Access to ART is available through the university teaching hospital and private hospitals. (Anasfi, 2007)

University of Ibadan

The initial attempts at co-ordination of the response at Ibadan were focused on prevention and driven by the University of Ibadan's Committee on HIV and AIDS Prevention (UNICAP) based at the University's College of Medicine. The College of Medicine has anchored the university's response since its inception in 1998, mostly through its research and teaching activities in a range of disciplines in the health sciences. Similar committees were set up in each of the 13 faculties.

A committee was set up based on the report a team from the University of Ibadan who participated in the UNDP's 2003 training programme submitted. This was aimed at mainstreaming HIV and AIDS in the curriculum. Subsequently, with the support of the MacArthur Foundation, the committee took the process two levels further:

- a. Capacity building sessions for academic staff interested in teaching HIV and AIDS related issues which involved 112 people, with one of the sessions funded by AAI.
- b. Development of a general studies core course which is a requirement for all incoming students.

The course involves four hours of contact time focused on HIV and AIDS-related content as part of a larger programme, including: the epidemiology of HIV, the natural history of HIV infection, transmission and predisposing factors to HIV infection, impact of HIV and AIDS on society, management of HIV infection and prevention. Three thousand copies of a resource booklet were published and the implementation of the course started in January 2007. The university is keenly pursuing opportunities to replicate the course elsewhere in higher education.

Also, in recognition of the fact that HIV and other sexually transmitted infections (STIs) pose a major threat to the health and well-being of staff and students of the University of Ibadan, evidence of this threat is in the findings of various research projects which show

that many students have multiple sexual partners, with only few of them using measures which would prevent HIV or STIs, therefore there is a high risk of acquiring HIV, a body was formed to develop a policy on HIV for the university.

The objective of this policy is to provide a set of guidelines for addressing issues related to HIV and AIDS at the University of Ibadan. The guidelines cover the following key areas of action.

- a. Prevention of HIV and AIDS among staff and students
- b. Management and mitigation of its impact on the staff and students
- c. Care and support of staff and students infected and affected by HIV and AIDS
- d. Prevention of stigma and discrimination
- e. Research on HIV and AIDS

There are other significant curriculum-based efforts at making students 'AIDS competent' in terms of personal and professional skills. For example, the Centre for Literacy, Training and Development Programme for Africa (CLTDPA) developed a 'Professional Diploma in HIV and AIDS/STIs Education'. Approved as a formal curriculum offering by Senate in early 2006, the course is a three year part-time programme aimed at community leaders, health workers, religious leaders, community-based organizations and non-government organizations. More generally in the Faculty of Education which caters for 4000 students, students receive some HIV and AIDS related content. Schools themselves have been required to teach family life and HIV and AIDS for the past four years. Another good example is the university's Guidance and Counselling Department which has been training HIV counsellors for at least six years but only at post-graduate level. The inclusion of HIV and AIDS in the General Studies course marks significant progress over four years (2003-2006) during which academics and the institutional as a whole has become more receptive to the idea of an institution-wide response to HIV and AIDS (Owofaje, 2007).

The university primary platform for student involvement is through its peer education project under the umbrella of the Centre for HIV and AIDS Intervention in Nigeria (CEHAIN) programme. Most other projects under CEHAIN were focused on research

and publications. Starting in 2001, the peer education project trained 40 students and continued over a three year period on internal resources. In 2005, using additional support from the MacArthur Foundation, the project expanded and has managed to train a total of 250 peer educators. Interestingly, the project managers note that a small percentage of peer educators are willing to test (30% estimated) and an even smaller number (10%) are likely to have tested in the past. Focus group conducted with peer educators in October 2006 at Ibadan for the purposes of this report delivered a high level of engagement by a very articulate and opinionated group of students. The dynamics within the group illustrated interesting fault lines: male students were more conscious of promoting 'Yoruba culture and tradition' in dealing with sex and sexuality, whereas female students were interested in a more emancipatory concept of female sexuality and gender in the context of HIV and AIDS. Half the group claimed to be abstinent, a practice which provoked vigorous debate about the role of faith-based groups in student life (AAU, 2007).

To summarise, it is clear that some higher education institutions in Africa are still seeking to integrate HIV and AIDS into their programme activities. Unfortunately others have developed appropriate interventions to deal with the problem.

Other responses of the education sector in Nigeria to HIV/AIDS

In Nigeria, the National Universities Commission (NUC) and UNESCO have recommended HIV/AIDS training programme for all staff of educational institutions in sub-Saharan Africa including primary, secondary, universities, polytechnics and colleges of education. The programme specifically targets teachers and teacher trainers who are involved in the delivery of basic and higher education in Africa. Kelly (2002) however has argued that "although there has been considerable tinkering around the edges, universities have not taken the bull by the horn in order to gain control over HIV/AIDS. In some settings, what universities have undergone is equivalent of a tip in the iceberg. In none has it been given the real attention it needed".

The highlights of the Education Sector's Response to HIV/AIDS in Nigeria are summarised in the UNESCO, Abuja (2003) publication *Education in the Context of HIV/AIDS: A Resource Book*:

Development of a National Strategic Action Plan in line with the country's HIV/AIDS Emergency Action Plan (HEAP). These includes the following:

1. Establishment of a critical mass response within the Federal Ministry of Education;
2. Infusion of Family Life Education and HIV/AIDS issues into curricula of schools and teacher training institutions;
3. Use of non-formal strategies (Peer Education, Anti-AIDS Clubs, Drama, Art, Youth Dialogues, Music, Comic Books, Posters, etc.) for prevention activities;
4. Periodic sensitisation, mobilisation and awareness campaigns;
5. Establishment of HIV/AIDS desks at parastatals under the Federal Ministry of Education;
6. Useful collaborations with NGOs, Civil Society Organisations, Donor Agencies;
7. Establishment of HIV/AIDS Preventive Education Unit at National Teachers Institute, Kaduna.

With the firm belief that effective response to the HIV/AIDS epidemic is the responsibility of all, different stakeholders have embarked on numerous actions to combat the problem among the youths. Few of these examples include (Ohin-Aiye and Odukoya, 2004):

1. The creation in the Federal Ministry of Education of a fully-fledged HIV/AIDS Unit which supervises and coordinates all HIV/AIDS activities in all the country's schools;
2. The production by Nigerian Educational Research and Development Council produced in 2002 of the National Sexuality Education Curriculum which has since been introduced in primary and secondary schools in the country.
3. Implementation by State and Local governments of numerous programmes to address HIV/AIDS. For example, in December 1999, the Lagos State Government inaugurated its HIV/AIDS Foundation. Among activities carried out by its work

Groups are: Training-of-Trainers (TOT) workshops in secondary schools to integrate HIV/AIDS into school curriculum, training of counsellors and training of barbers and cosmetologists (Lagos State Government, 2002)

4. The National Youth Service Corps (NYSC), in collaboration with United Nations Children and Education Fund (UNICEF) in 2002 introduced a Peer Education Programme termed "Empowering Youth Through Young People." The objective was to reach new graduates of universities serving the one-year compulsory NYSC Programme with reproductive health and HIV/AIDS messages and also train some of them to be trainers of peer educators in and out of schools (NYSC, 2002).
5. Implementation by many NGOs, such as Society for Women and Aids in Nigeria (SWAAN), and Society for Family Health (SFH) of outreach programmes, peer-education programmes, setting up of youth counselling centres, promoting behavioural change through radio and television programmes, promoting condom use, etc (SFH, 2003).
6. Faith-based organizations (Christian and Muslim) have also embarked upon youth-centred activities aimed at raising awareness among youth and counseling them on HIV/AIDS, drug abuse and reproductive health issues.
7. Finally, various educational institutions (primary, secondary and tertiary) have put in place programmes aimed at combating the HIV/AIDS epidemic (e.g. counseling, peer education, discussions, awareness campaigns, Parents Forum, etc.).

Behaviour change communication (BCC) interventions

Behavior change communication (BCC) is an interactive process with a target group aimed at developing tailored messages and approaches using a variety of communication channels to promote positive behaviors and sustain community and societal behavior change (FHI, 2002). It also fosters positive behaviour, promotes and sustains individuals', community and societal behaviour change as well as maintains appropriate behaviour. This has been the main intervention strategy used to inform, educate and communicate STD/HIV/AIDS messages to the general public as well as special target

groups considered to be at high risk of developing HIV infection. The approaches used include songs, dance and drama. In the context of the AIDS epidemic, BCC is an essential part of a comprehensive program that includes both services (medical, social, psychological and spiritual) and commodities (e.g., condoms, needles and syringes). Effective BCC is vital to setting the tone for compassionate and responsible interventions. It can also produce insight into the broader socioeconomic impacts of the epidemic and mobilize the political, social and economic responses needed to mount an effective programme.

The impact of using the media to pass messages on HIV/AIDS was recorded in Jamaica as reported by The Centre for AIDS Development, Research and Evaluation (CADRE). In 1994 during the early emergence of the disease, a Jamaican woman with AIDS went on national television to tell her story. This had a tremendous impact on the public. Surveys conducted before and after these media campaigns revealed that positive change in knowledge occurred. Knowledge of HIV/AIDS and how to prevent it is high among the general public (over 95%) (CADRE, 2000).

In a survey conducted by Chatterjee (1999) among 350 married women in Bombay in India, the findings showed that a majority had acquired information about AIDS from the mass media, especially television. Although 87% of women who knew of AIDS had been exposed to AIDS-related information in the mass media in the past four weeks, only 57% had discussed it within their social networks. Those with more exposure to AIDS information in the mass media were significantly more likely to discuss AIDS within social networks. The women were most likely to discuss AIDS with their husbands as a general social issue, followed by friends and family members and least likely to talk to husbands about AIDS as a personal issue relating to their sexual relationship. Increased frequency and duration of AIDS messages on television will have a positive influence on AIDS knowledge in this group.

In another related study conducted by Chatterjee (1998) in Bombay, India, it was found that the Television was the single most important source of AIDS-related information for

married women. The author therefore postulate that increasing the frequency of AIDS messages on television will most likely have a positive effect on their AIDS-related discussion with family and friends. His findings show that among women who were aware of AIDS, most had been exposed to media messages, yet only half of them are actually talking about it. According to him, women are most likely to discuss AIDS with their husbands, but for effective behavioural interventions in married couples, it is important to ascertain the content and context of their communication.

Cohen, Guiguet, Wells and Valleron (1990) in a study on 'The impact of interpersonal and mass communication on risk behavior and AIDS knowledge in France' discovered that mass media are reported far more than interpersonal contact and targeted media as sources of information about AIDS. About 90% mentioned television and over half mentioned newspapers, magazines and radio. The report shows that a third of respondents mentioned doctors, friends, and leaflets, brochures and posters as sources of information. The young are more likely than those over 24 years to mention interpersonal sources and more targeted media. Those over 24 years are more likely to mention radio. Homosexual and bisexual respondents are more likely to mention interpersonal sources. While there is no evidence that level of mass media use is related to level of unprotected anal and vaginal sex, there is a positive relationship between these behaviours and knowing someone with AIDS and naming a friend as a source of information. This relationship holds for both the general and at risk populations. There is evidence that changing to less risky activity is related to interpersonal and targeted media use. Reducing multiple partners and starting condom use are positively related to reporting friends, sexual partners, and brochures as a source of AIDS information. Electronic media use is not significantly related to behaviour changes. While most persons name the electronic media as their main source of information, there is evidence that interpersonal communication and targeted print communication such as brochures and pamphlets may have greater impact on behaviour.

Conceptual Framework

Health Belief Model and HIV/AIDS

A theory presents a systematic way of understanding events or situations. It is a set of concepts, definitions, and propositions that explain or predict these events or situations by illustrating the relationships between variables. Theories must be applicable to a broad variety of situations. The usefulness of theory can not be over emphasized. It gives planners tools for moving beyond intuition to design and evaluate health behavior and health promotion interventions based on understanding of behavior. It helps them to step back and consider the larger picture. Like an artist, a program planner who grounds health interventions in theory creates innovative ways to address specific circumstances to succeed than those developed without the benefit of a theoretical perspective. Theory provides a road map for studying problems, developing appropriate interventions, and evaluating their successes. It can inform the planner thinking during all of these stages, offering insights that translate into stronger programmes.

Researchers and practitioners use theory to investigate answers to the questions of why, what, and how health problems should be addressed. By seeking answers to these questions, they clarify the nature of targeted health behaviors. That is, theory guides the search for reasons why people do or do not engage in certain health behaviors, it helps pinpoint what planners need to know before they develop public health programs, and it suggests how to devise program strategies that reach target audiences and have an impact. Theory also helps to identify which indicators should be monitored and measured during program evaluation.

In recognition of the role of theory in social science research, this study was conducted within the health belief framework. This model addresses a person's perceptions of the threat of a health problem and the accompanying appraisal of a recommended behavior for preventing or managing the problem. (Rosenstock, 1974; Vonladinghuan, Suprasert, Grandjean, and Sittitani, 1993; Bunnell, 1996). The model views behavioral change as a process involving changes in health beliefs. According to the original model, (Rosenstock, 1974), there are four components for a behavioral change to occur. First, a

person must have a perception of personal susceptibility or risk to a health problem, in this case HIV/AIDS. Second, the problem must be seen as severe. Third, a person must weigh the benefits of changing a behavior and must perceive that the change option will be effective in protecting against the health threat. Finally, an individual must weigh the benefits against the perceived costs and perceived barriers to change. For a change to occur, the benefits must outweigh the costs. A variety of cues to action were thought to provide the trigger for action to occur (Uwalaka and Matsuo, 2002; Rosenstock, 1974, 1988; Vanladingham *et al.*, 1995; Bunnell, 1996)

In a paper presentation in USA titled 'Using a Health Belief Model In Teaching Preventive Health Care Principles To Israeli RNs', Muckey (2002) reviewed 20 studies and found that attitudes were more powerful than social norms in the use of condoms and self-efficacy judgments were more influential than other perceived control factors. Another study conducted by Bish, Sutton, and Golombok (2000) focused on the use of Becker's Health Belief Model and Ajzen and Fishbein's Theory of Planned Behavior in identifying factors that influenced women to complete routine cervical pap smears. Findings from this study indicated that a positive attitude toward the procedure itself was more important in having it done than the perceived threat of disease or social pressure. McIntosh and Kubena (1996) conducted a study by applying health belief model components to determine if changes in dietary habits could result in a reduction of fat and cholesterol intake. Findings from this study found that the HBM components help people make changes in their dietary habits and that the beliefs were subject to influences by others in particular health care personnel who provided health teaching. An additional finding from McIntosh and Kubena's study was the influence of dietary cost in reducing fat and cholesterol.

Rosenstock *et al.* (1974) have proposed the concept of self-efficacy in the HBM model. Each of the four components represents continuous variables that are used in multiplicative relationship with the behavioral change outcome. If any of the variables is at zero, behavior change will not occur. If any of the variables increases, the outcome behavior is also likely to increase. This model has been used extensively in health

research and has shown a reasonably predictive value for behavioral change. Nevertheless, the model has been criticized. According to VanLandingham *et al.* (1993), some of the specific components of the model are difficult to operationalize. The concept of "perceived barriers" that is those perceived obstacles to behavioral change, is difficult to define and identify. Any variable found to have negative association with health behavior could be a candidate for a perceived barrier. It would have been useful if the model specifies the types of barriers envisaged. Also distinguishing cause and effect in associations between perceived risk and behavior is very difficult especially when using a cross-sectional data. It also neglects the important aspects of the individual's social environment.

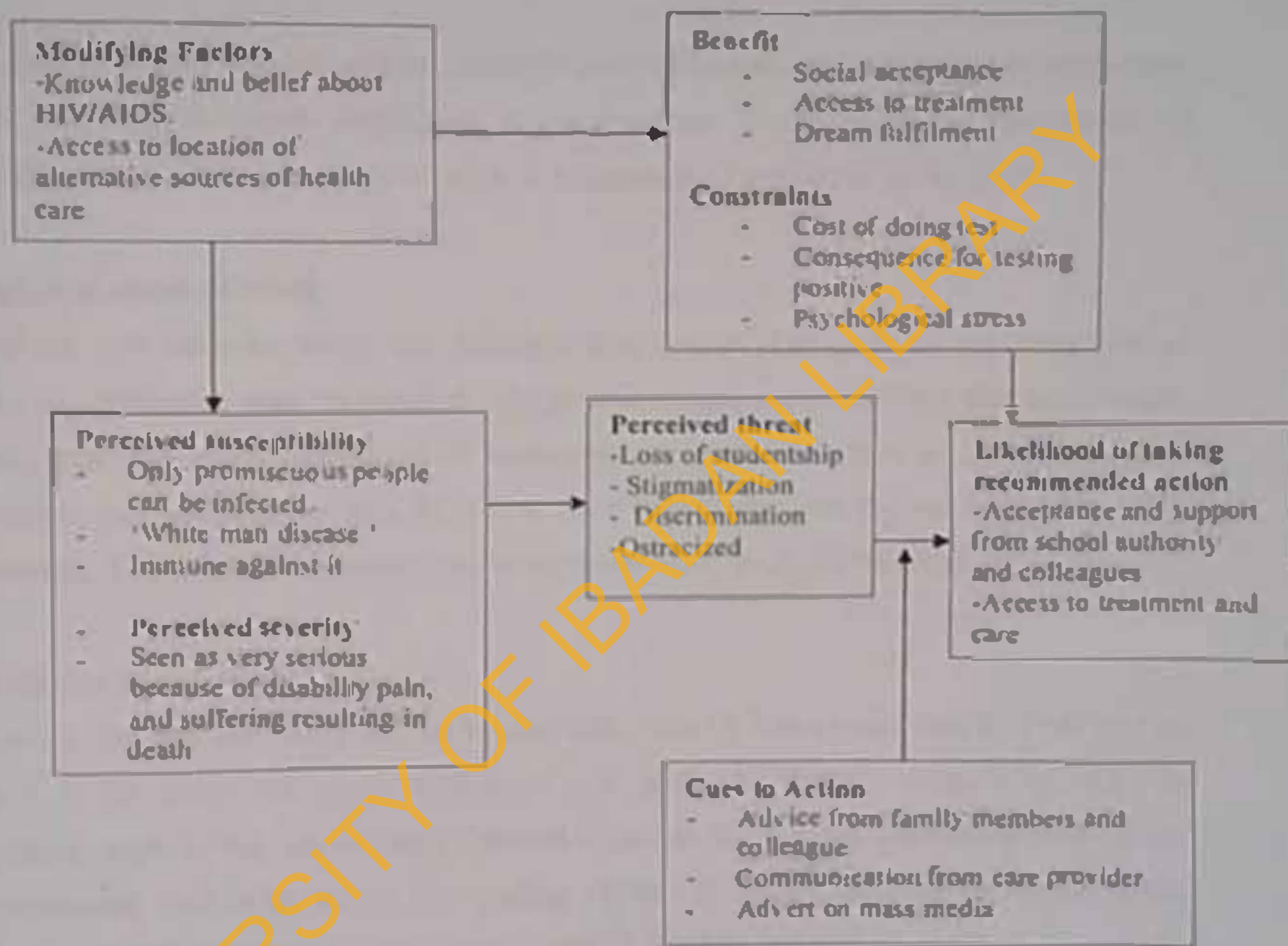
Additionally, Rosenstock *et al.* (1994) have found that no study has tested the model comprehensively. They posited that perceptions of benefits and barriers would be a more powerful predictor of behavioral change than perceived threat among those with high-perceived threat to HIV/AIDS. The ability of the health belief model to predict and explain HIV/AIDS-related behavior has been questioned given the lack of studies subjecting the model to formal tests. The shortcomings of the model are due to its conceptual limitations. It has also been acknowledged that the greater involvement of people living with HIV/AIDS (PLWHAs) in intervention activities will go a long way in reducing negative attitudes to PLWHA and will also convince individuals who have doubts about the disease (UNAIDS, 2002).

Applying this theory to this study, questions were raised to learn about students' opinion of chances of getting infected with the disease and risk level based on behaviour. The questionnaires designed to tease out information about the perceived susceptibility was 'Someone can get HIV by having unprotected sexual intercourse just once?' that of perceived severity was 'HIV is a serious issue, so it is my view that students should be tested periodically' and perceived benefits, 'Can you sleep in the same room with someone who has HIV?' perceived barriers, 'If you test positive for HIV will you let your colleagues/department know?' cues to action and self-efficacy and the evaluation of these behavioural outcome, 'Have any of your behaviours changed as a result of the

educational programmes you received about HIV/AIDS prevention. Attitudinal questions that influence their intention to go for HIV/AIDS test were also asked. Questions were also asked to tease out information about what they perceived as benefit and barriers to going for test will influence their intention to go for a VCT (See figure one for details of application of HBAM to sexual behaviour of young persons).

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Figure 2.3: The Application of the IIBM to knowledge and sexual behaviour of young persons



CHAPTER THREE

METHODOLOGY

This chapter begins with the design, scope of the study, and description of the study area. It also describes the study population, study variables, the methods and instruments of data collection and data analysis. Finally, it explains the limitations of the study.

Design and scope of study

The study was cross-sectional and descriptive in design. The goal of the study was to assess the influence that HIV/AIDS educational programmes had on the knowledge, attitude and the risky behaviour of undergraduate students, how it influenced their perception and relationship to a PLWHA, their knowledge about voluntary counseling and testing. Therefore a cross-sectional descriptive study design was used.

Description of the study area

The study site was the University of Ibadan (UI). The UI was established in 1948 and as such, it is the oldest university institution in Nigeria. At first it occupied the old site previously used by the 5th Military General Hospital about eight kilometres away from the permanent site. It is one of the leading centres of higher learning in Africa. With equipment transferred from Yaba Higher College, the 104 foundation students (including 49 students in teacher training and survey courses) began their courses at Ibadan on 18 January 1948, the formal opening took place on 25 March, 1948. In February 1948 University of London allowed Ibadan its special relationship scheme. Arthur Creech Jones, then Secretary of State for the Colonies, and an influential member of the Elliot Commission, cut the first sod at the permanent site of the University College on 17 November, 1948, which became Foundation Day. It was an affiliated College of the University of London but became an autonomous University in 1962.

At 2007, when the study was conducted, U.I had overall student enrollment of 17,461 students, out of which 6,558 are postgraduate (37.5%). The University is located on the northern edge of the city of Ibadan (7 20'N, 30 50'E) in a campus of about 10.4 square kilometres. There are thirteen Faculties in the University namely: Arts, Science, Basic Medical Sciences, Clinical Sciences, Dentistry, Public Health, Pharmacy, Agriculture & Forestry, the Social Sciences, Education, Veterinary Medicine, Technology and Law. The University has 12 Halls of residence for students namely Mellanby, Kutj, Sultan Bello, Tedder, Independence, Nnamdi Azikiwe, Queen Elizabeth, Queen Idia, Obafemi Awolowo, Tafawa Balewa, Alexandra Brown and the New Postgraduate Halls. Out of these accommodations, two are exclusively for post-graduate students, one is a mixture of both the undergraduate and post-graduate students while others are for the undergraduate students. The University has residential and sports facilities for staff and students on Campus.

The following are parts of the facilities in the campus, there is an Olympic size swimming pool, lawn tennis and squash courts, a 630,000 volume Central Library, a digital library, a bookshop, a Theatre Arts, a Conference Centre, a Zoological garden, a Botanical Garden, a Fast-food complex (U & I Eatery) and a Health Centre. There are also a number of places of worship on campus, a Baptist Church, a Chapel of the Resurrection for Protestants, the Chapel of Our Lady Seat of Wisdom for Catholics and a Central Mosque for Muslims, all these in no small way contribute to the social life of the students in the campus.

Study population

The study population consisted of the undergraduates' students in all the halls of residence. The halls of residence were used as the basis of the research because the Mac Arthur Peer Education Initiative programme organized by CEHAIN was carried out in the halls of residence. These halls of residence for undergraduate students consist of six male and two female halls respectively, with two of these Halls being a mixture of both male and female students.

Sample size

The sample size was calculated using the assumption that the proportion of behavioural change in students in relation to HIV/AIDS educational programmes is 50%. since no prior value was available on study on evaluation of behavioural change. Thus, the sample size was calculated using the following formula

$$n = \frac{z^2 pq}{d^2}$$

Where n = Sample size

d = degree of accuracy, 5%

z = confidence level, 1.96

p = reasonable estimate of key proportion, 50% or 0.50

q = 100-50= 50 or 0.50

$$n = \frac{1.96^2 \times 0.50 \times 0.50}{0.05^2} = 384.96$$

The sample size was rounded up to 700 to increase the level of generalization of its result.

Sampling procedure

The 700 respondents who were required to fill the questionnaires were proportionately selected from the halls since the population of students in the different halls used for the study differs. The stratified sampling technique was employed in selecting the respondents. The block in the halls served as the basis for stratification. One block was randomly selected to represent each Hall making 10 blocks in all. For each selected block a list of all rooms was compiled. All students found in the rooms during the day of the visit were invited to participate in the study. The main criterion for inclusion in the study was that a respondent is an undergraduate student of the University and resident in the hall.

Instrument for data collection

Qualitative and quantitative methods were adopted for data collection.

Qualitative method

Focus Group Discussions (FGDs) was used as a diagnostic tool to explore students' knowledge, attitudes and reported changes in behaviours attributed to educational interventions in the campus and improve quality of data that were collected through the quantitative method. In this method, FGD guide comprising 7 questions focusing on the knowledge and perception of students on HIV/AIDS, students' level of exposure to HIV/AIDS educational programs, reported changes in attitude and behaviour and willingness to use Voluntary Counseling and Test (VCT) service was developed. There were 11 knowledge items altogether; each items attracts a score of 2 points. (Questions 17-27 in Appendix 2). Ten FGDs were conducted, five of these were for female and five for male students. The respondents were randomly selected from the Halls of residence with the help of the hall executives. In selecting FGD participants, the researcher took into consideration the course of study and the academic level of the participants so that participants will spread across courses and academic level. In order to facilitate free flow of discussion (Kruger, 1988), the students were divided into groups based on their current level, i.e. the number of years they had spent in the university. Six to eight persons of the target group were brought together to discuss the issues. Each session took a minimum of an average of 45 minutes. The investigator moderated all the sessions and he was assisted by a Research Assistant who operated the tape used for recording the sessions

Quantitative method

Information gathered from the FGD guided the development of a semi-structured questionnaire. The questionnaire employed both open-ended and closed-ended questions and was designed to be self-administered. The questionnaire was divided into 6 sections. The first section asked for the personal data of the respondents. The second section assessed the level of respondent exposure to HIV/AIDS education programmes in the campus. The third section explained level of students' knowledge of HIV. The fourth section focused on sexual behaviour and attitudes of the respondents. The fifth section determined the level of utilization and voluntary counseling and testing and the sixth section assessed the changes made in response to HIV/AIDS campaigns in the campus (see Appendix 2).

Validity and Reliability

Prior to their use, the FGD guide and questionnaire were pre-tested among University of Ibadan students who lived outside the halls of residence, (i.e. off campus). Students living in two major private hostels outside the University Campus in Agbowo (a nearby settlement) and students staying in staff residential quarters were recruited. Twenty questionnaires were administered and collected from respondents, cutting across social demographic characteristics. The findings of the pretest were used to make necessary changes for the main study. The changes included removing questions that were repeated and those that had no direct bearing on the project. Examples of such questions include: 'Knowing if one is not HIV infected can help in promoting use of condom', 'Knowing if one is not HIV infected can help in promoting being faithful to a partner who is not infected', and 'Have you ever received an injection for treatment'. This was because there were complaints on the length of time in filling the questionnaire from respondents that participated in the pre-test.

Several measures were taken to ensure the validity and reliability of the instrument. The instrument went through two stages of validation and reliability. Firstly, in-house review of the instrument was done among experts in the fields of Reproductive Health and Health Promotion and Education in the College of Medicine, University of Ibadan. Necessary corrections were made following the pretest exercise. The instrument also went through measures of internal consistency with the use of Cronbach's alpha coefficient analysis and the result was 0.6 which confirm its reliability. This is a model of internal consistency, based on the average inter-item correlation. In this study the result was 0.6, thereby confirming its reliability.

Training was conducted for the four hired Research Assistants to ensure that they had adequate understanding of the instrument prior to commencement of data collection. The training focused on the objectives and importance of the study, sampling process, how to secure respondents informed consent, interviewing skills and how to review questionnaires to ensure completeness. The Research Assistants were involved in the pre-testing of the questionnaires in order to create opportunity for them to acquire practical interviewing skills.

Method of data collection

The questionnaires were administered over a period of three weeks. The selected blocks in the undergraduate halls of residence were visited. Residents that were found in the rooms in the selected blocks were approached and their consent was sought before they were given the questionnaire to fill. However, help was given to respondent who needed explanations to questions they did not understand in the course of filling the questionnaire. The questionnaire was then retrieved from respondents after completion. Four Research Assistants were employed for data collection. Most of the participants completed the questionnaire on the spot. The data collection process involved the following steps:

1. Identification / visit to halls of residents and selected blocks in the halls
2. Identification and establishment of rapport with eligible participants in each of the blocks including a disclosure of the nature of the study, its objectives, the inconveniences involved, what society and even students generally stand to gain and assurance of confidentiality of responses.
3. Administration of the questionnaires to the participants.
4. Collection of completed questionnaires.

Data management and analysis

The investigator checked the data collected each day to make sure that questionnaires were properly filled. A coding guide was developed to facilitate data entry. Each questionnaire was coded and entered into a computer facilitated by the developed coding guide. The data collected were subjected to descriptive (i.e. mean, median and mode) and inferential (i.e. Chi-square) statistical analysis. Analysis was done by using SPSS statistical package. Finally, information obtained were summarized and presented in tables and charts.

Ethical considerations

The recruitment of respondents was based on their permission. Informed consent was obtained by explaining to each student that the data collected will be used for research purpose, kept confidential and that participation was voluntary. Participants were given the choice to withdraw their consent freely whenever they feel to get out of the study. To

maintain confidentiality of participants during and after the collection of data, data were kept in a secured place where public access to it was restricted. No name of respondents was written on the questionnaire in order to ensure anonymity.

Limitations of the study

The study focused on sexual behaviour which is personal and sensitive. Some respondents are not willing to give all information required by the researcher because of cultural norms which forbid premarital sexual activity. Efforts were made to reduce this problem by assuring them of confidentiality of all information provided, questionnaire was unanimous and self completed. At the same time this data may be an underestimation of actual levels of sexual activities because there was no baseline study to refer to so respondents have to fall back to recollect what they were doing before that they are no more doing. Ascertaining the authenticity of responses provided by the study participants is a challenge in survey research. This study however is no exception. It would be assumed that since participation was voluntary then all the responses provided which form the basis of the findings of this study would be honestly made.

CHAPTER FOUR

RESULTS

The results of this study both qualitative and quantitative data are presented in this chapter. It consists of seven sections as follows

1. Social- demographical characteristics (age, education, ethnic group, religion and marital status.)
2. Level of respondents' exposure to HIV/AIDS education programs
3. Level of students' knowledge of HIV/AIDS
4. Sexual behaviour and attitudes of the respondents
5. Level of utilization and voluntary counseling and testing
6. The changes made in response to HIV/AIDS campaigns in the campus
7. Test of Hypothesis

Social-demographic characteristics

The ages of the respondents are presented in Table 4.1. Majority of respondents (62.2%) were between 20-24 years age group and (22.6%) between 25-29 years. Virtually all the respondents (98.2%) are single. The gender distributions of the respondents' shows that male were (59.5%) while the female were (40.5%) (see Fig.4.1) Majority of the respondents (70.6%) were from the Yoruba ethnic group and most of them (85.0%) were Christians.

There were more respondents (24.1%) in 100 levels of their course of study than those in other levels. The bulk of the respondents (21.0%) were also recruited from Awolowo hall, (see Fig.4.2) The faculty affiliation of the students showed that more respondents (54.3%) are in science related faculties, 27.5 % are in the humanities and 17.2 % in the Social Sciences (see fig 4.3).

TABLE 4.1: Socio-demographic characteristics of respondents

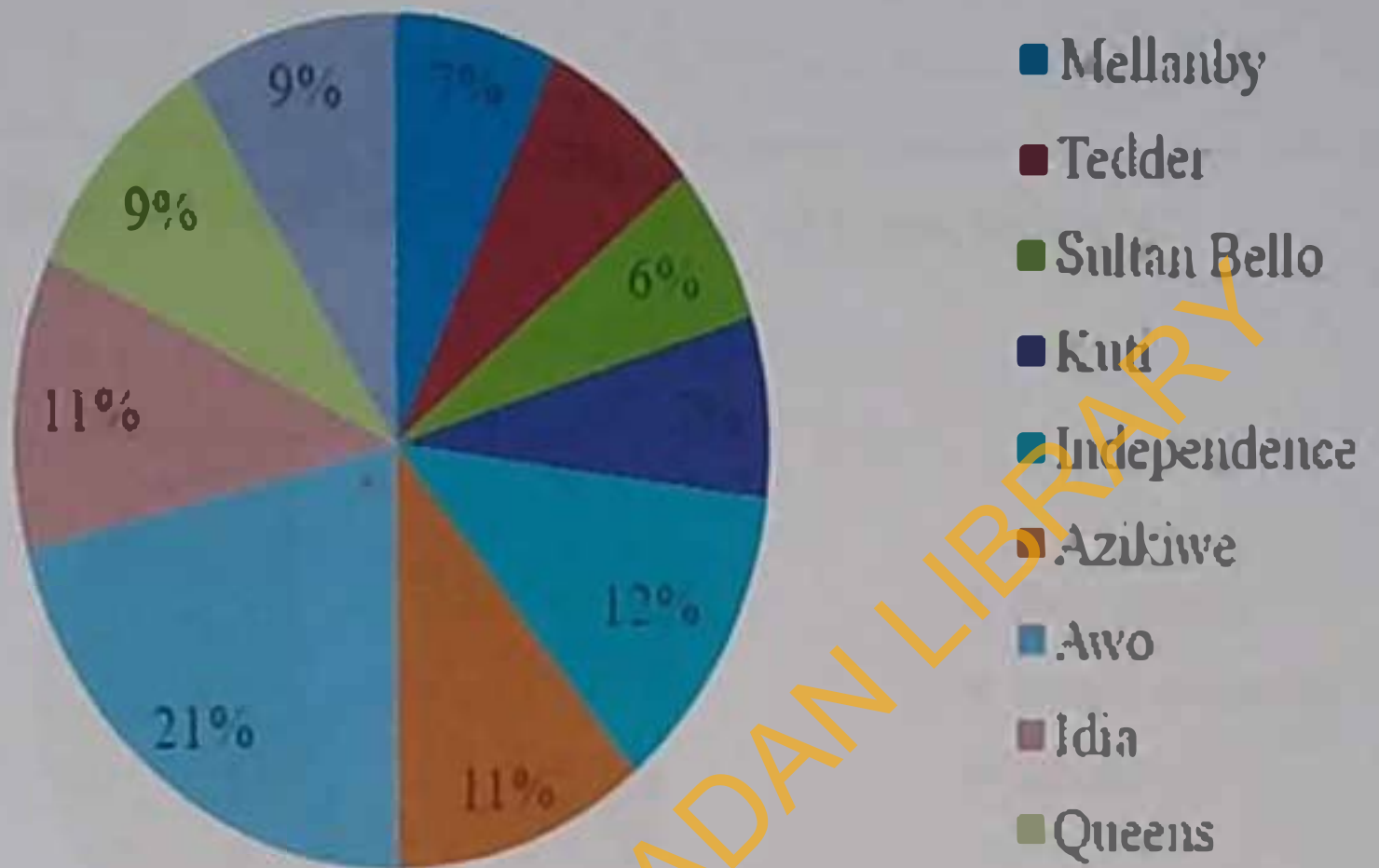
Variables	NO	%
AGE (in years)		
15-19	76	11.2
20-24	420	62.2
25-29	153	22.6
30-34	20	3
35+	7	1
MARITAL STATUS		
Married	12	1.8
Never married	664	98.2
ETHNIC ORIGIN		
Yoruba	522	77.2
Igbo	143	21.2
Hausa	10	1.5
Foreigner	1	1
LEVELS		
600	29	4.3
500	28	4.1
400	163	24.1
300	136	20.1
200	159	23.5
100	161	23.8
FACULTY AFFILIATION		
Humanities	186	27.5
Social Science	116	17.2
Sciences	367	54.3
RELIGION		
Christianity	572	85
Islam	180	27
Other	4	0.6
Total	679	100

Fig. 4.1. Gender Composition of Respondents



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Fig. 4.2. Respondents halls of residence



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Fig. 4.3. Faculty Affiliations of respondents



Table 4.2. Respondents' genders distribution by level

Levels of Study	Gender	
	Male	Female
100	76 (11.2%)	85 (12.6%)
200	105 (15.5%)	54 (8.0%)
300	93 (13.8%)	43 (6.4%)
400	94 (13.9%)	69 (10.2%)
500	16 (2.4%)	12 (1.8%)
600	18 (2.7%)	11 (1.6%)
Total	402 (59.5%)	274 (40.5%)

Knowledge about HIV/AIDS

Findings from the FGDs

Generally, participants (both male and female) were very familiar about the nature of HIV/AIDS and how it is transmitted. For example, majority of them agreed that the *'disease is deadly and it has no cure'*. Three of them (male) said that *'AIDS is a disease that affects human being'*, they all agreed that it is spread through *'unprotected sex'*, they all knew that it can be spread through blood contact. One male discussant however said that *'it is not easily detected if one is infected but it is treatable'*.

Few of the discussants were able to give a correct definition of HIV but majority know what AIDS stands for and equally define the relationship between HIV and AIDS. As one participant said *'HIV is the beginning of the disease and AIDS is the advance stage of the disease'* they all agreed *'that unprotected sex is the major means of its spread'*. Majority of them also said that *'it can be spread through the use of unsterilized sharp objects like needle, blade and clipper'*. One of the female discussant said that *'HIV affects the immune system and depletes it and if not treated, exposes the system to disease which leads to AIDS and can eventually kill'*.

Findings from the survey

Virtually all the students (99.0%) have heard about HIV/AIDS. As shown in Table 4.3, the main sources of information for HIV/AIDS are the television (50.0%), Radios (16.0%) and 40 (6.0%) from friends. Slightly more than half of the respondents (57.2%) have never seen a PLWHA while 42.8% claimed to have done so. Sixty-two percent of respondents claimed to have ever received educational/information on HIV/AIDS from a UI student. Of these, 32% received these educational/information in 2004/2005 session while 23.2% claimed to receive the educational/information in 2005/2006 session. Few of the respondents (28.1%), claimed to have ever participated in HIV/AIDS programme while on campus. Of these, 3.7% claimed that the programme they attended was a rally, 1% it was test programme, 22.0% lecture/symposium, and 0.7% drama presentation. Thirty-three percent of the respondents claimed that they have ever heard of MacArthur Peer education programme in UI while 67.0% had not.

The overall mean score of students' level of knowledge of HIV and AIDS using a 22 point score scale was high (19.44 ± 2.83) as majority of the respondents (92.0%) claimed that HIV and AIDS is real. Virtually all the respondents; (98.0%) claimed that there is a relationship between HIV and AIDS. Different views were expressed with respect to the mode of transmission of HIV. More respondents (87.0%) claimed that HIV can be transmitted through seminal fluid while 91.0% claimed that it can be transmitted through vaginal fluid. Virtually all (99.0%) of the respondents, claimed that HIV can be transmitted through blood and blood products while 75.0% claimed that it can be transmitted through placenta. A good number of the respondents (74.0%) claimed that it can be transmitted through breast milk while 92.0% claimed that an infected person can not be ascertained by merely looking at the person. Also, 79.1% claimed that HIV/AIDS has no cure; 92.0% claimed that anybody can be infected by the disease if he/she is involved in risky practices while 95.0% claimed that someone can contract the virus by having unprotected sexual intercourse just once.

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TABLE 4.3. Students' sources of information about HIV/AIDS

Response	No	%
Primary school	8	1.2
Television	340	50.3
Radio	108	16.0
Friend	45	6.0
Newspaper	34	5.0
Campaign	29	4.3
Secondary school	37	6.0
Church	10	2.0
Parents	13	2.0
NGO	10	1.5
Hospital	3	.4
Lecturer	6	1.0
No response	38	5.6
Total	676	100

HIV sexual risk related behaviour.

Findings from the FGDs

Many of the male FGD participants claimed that participation in AIDS education had positively influenced their behaviours. As one of the male students put it 'we now make sure that the clippers we use in the salon is sterilized and we do not share sharp object with anyone again since we know the risk of being infected through this'. Another indication of influence of education on behaviour came from a point made by a participant who said 'I will never have sex with my partner again without using condom and when asked further what will they do if their partner pressures them not to use condom, majority of the participants said 'I would rather part with one of the precursors me for sex without condom'. Although the majority agreed that sharing of blade and clippers is not good but only few actually have personal clipper while others said 'we would have love to have our own clippers but we cannot afford it'.

The female students had taken a number of steps to reduce risk of infection including going to the salon with a personal kit and doing pedicure at home. As one discussant said 'I do go to salon now with my kits and I will not share sharp object with anyone'. There was unanimous opinion among the female discussants that they would not have sex without condom with their partner because of the interventions they received on HIV/AIDS. Few of them however said 'we still believe that abstinence is the best option since condom is not 100% safe'.

Findings from the survey

Majority of the respondents (65.0%) agreed that they had changed their behaviours as a result of the educational programmes they received about HIV/AIDS prevention. The reported changes were reduction in number of sexual partners (45.0%), use of condoms (42.3%), abstinence from sex (76.5%), avoidance of sharing sharp objects (82.4%), avoidance of blood transfusion (78.0%) and taking HIV test (50.0%).

Changes in attitude and willingness to take HIV test

Findings from the FGDs

All discussants agreed that they had benefited from the AIDS prevention programme they attended. According to one of them *'the programme has helped me to change my attitude towards opposite sex, I no longer have sex since condom is not 100% safe'*. A male discussant said *'I benefited from every section of the peer educator training programme I attended in the campus. Majority of the discussants claimed that they can now care and encourage PLWHA since it could be any one of them, one female discussant said 'I can now eat and live in the same room with a PLWHA'; majority of them also agreed that they can now go for HIV test.*

Findings from the survey

As a result of the HIV/AIDS programme attended in the campus, 33.1% of the respondents reported that they had gone for HIV test. Also, 61.1% agreed that they would disclose their status if there is provision for treatment in the campus, while 35.0% agreed that they would disclose their status to their colleagues/department if they test positive to HIV (See Tables 4.6). However, it was only 30.0% of the respondents that are aware of the VCT centre in Jaja Clinic and 79.0% agreed that they would encourage their colleagues to go for VCT. The difference in change in the use of VCT before and after the intervention is significant ($P < 0.05$) (see Table 4.6).

Attitude towards Persons Living With HIV/AIDS

Findings from the FGDs

The majority of the FGD participants claimed that their attitude towards a PLWHA had changed from being negative to positive due to exposure to prevention programmes. Virtually all the participants said that *'PLWHA should be loved and encouraged but with caution so as not to get infected through having contact with their blood'*. One Female discussant said *'now I see the disease as any other disease, to me the disease is real'*.

Findings from the surveys

Most respondents (88.0%) agreed that persons with the disease should not be discriminated against. Also, (81.0%) of the respondents agreed that if any of their colleagues became ill with HIV/AIDS, they would be willing to work with him or her. More respondents (85.0%) agreed that if it is a Lecturer that became ill with HIV/AIDS, he or she should be allowed to continue in the department; (84.0%) also agreed that if a student has HIV but is not sick, he or she should be allowed to continue in the department; 75.0% also agreed that they can sleep in the same room with someone who has HIV while 62.0% agreed that they would be willing to eat from the same plate with a colleague they know has HIV/AIDS. The difference in change in behaviour and attitude before and after the intervention is significant ($P < 0.05$) (See Tables 4.4 and 4.5).

Use of VCT services

There was an increase in the number of students who took HIV test before the HIV intervention programme from 195 (29.0%) to 224 (33.1%) after exposure to the programme on the campus. An increase 234 (35.0%) was also noticed in the number of respondents who claimed that they would be willing to disclose their status to their colleague/departments if they test positive to HIV/AIDS after exposure to intervention programme on the campus compared to 161 (24.0%) before exposure to the programme. More respondents 413 (61.1%) are willing to disclose their status if there is provision for treatment on the campus after exposure to educational programme compared to 331 (49.0%) before exposure to the program. A slight increase was also noticed among respondents 201 (30.0%) who claimed to be aware that the University has a counseling and testing unit after exposure to intervention programme on the campus compared to 156 (23.1%) before exposure to the programme (see Tables 4.6).

Table 4.4. Reported changes in attitude before and after exposure to intervention (N=658)

Statement	Before (%)	After (%)	df	χ^2	p-value
Anyone can get HIV/AIDS; so persons with the disease should not be discriminated against.	511 (75.9%)	594 (87.9%)	1	37.28	.000*
The U.I. authority should make HIV testing compulsory for all students	343 (50.7%)	416 (61.3%)	1	315.08	.000*
HIV is a serious issue, so it is my view that students should be tested Periodically.	423 (62.6%)	503 (74.4%)	1	251.32	.000*
I do not think any student has HIV/AIDS because they are very healthy and Productive	143 (21.2%)	95 (14.1%)	1	126.43	.000*
Issues about HIV/AIDS should not be discussed openly in the Department.	166 (24.0%)	130 (19.1%)	1	266.81	.000*

* Significant at 0.05, degree of freedom = 1

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Table 4.5. Reported changes in behaviour before and after exposure to intervention (N=658)

Statement	Before (%)	After (%)	df	χ^2	p-value
Do you often go out with friends to night parties and clubs?	128 (18.9%)	129 (19.1%)	1	355.337	.000*
Do you go to hairdressing, harbing saloon or pedicure with your clippers and kits?	236 (34.9%)	280 (41.4%)	1	266.795	.000*
If any of your colleagues became ill with HIV/AIDS, would you be willing to work with him or her?	450 (66.6%)	544 (80.5%)	1	91.175	.000*
If your lecturer has HIV, should he or she be allowed to continue in your department?	500 (74.0%)	572 (84.6%)	1	63.757	.000*
If a student has HIV but is not sick should he or she be allowed to continue in your department	514 (76.0%)	567 (83.8%)	1	96.202	.000*
Am I willing to eat from the same plate with a colleague I know has HIV?	326 (48.2%)	421 (62.3%)	1	164.959	.000*
Can you sleep in the same room with someone who has HIV?	428 (63.3%)	509 (75.3%)	1	148.419	.000*

- Significant at 0.05, degree of freedom = 1.

Table 4.6. Reported changes in the use of VCT services before and after exposure to intervention (N=658)

Statement	Before (%)	After (%)	df	X ²	p-value
If you test positive for HIV will you let your colleagues/department know?	161 (23.8%)	234 (34.6%)	1	228.642	.000*
If there is provision for treatment in the campus, would you disclose your status if possible?	331 (49.0%)	413 (61.1%)	1	236.495	.000*
Do you know of any student who has lost his studentship due to his HIV positive status?	26 (3.8%)	27 (4.0%)	1	185.197	.000*
Have you found out your HIV status?	195 (28.8%)	224 (33.1%)	1	442.183	.000*
Do you know if the university have counseling and testing unit?	156 (23.1%)	203 (30.0%)	1	350.069	.000*
Are you willing to encourage others to have HIV testing?	486 (71.9%)	534 (79.0%)	1	231.610	.000*

* Significant at 0.05, degree of freedom = 1.

The gender of respondents was compared to reported changes in behaviour as shown in Table 4.16. The result showed a higher proportion of males (79.2%) compared to females (79.1%) reported to had changed their behaviour ($p>0.05$). Also, more proportion of females (66.3%) than males (64.1%) claimed that they will be willing to eat with PLWHA ($p>0.05$) (see Table 4.7). Also, when gender of respondents was compared with abstinence, a higher proportion of females (85.7%) than males (72.5 %) claimed to abstain from sex ($p<0.05$) (see Table 4.11). Also, more respondents in 100 levels 122 (82.4%) claimed to abstain from sex than others in other levels ($p<0.05$) and more proportion of respondents in Awolowo Hall 101(80.8%) than other halls claimed to abstain from sex. ($p<0.05$) (See Tables 4.10 and 4.11).

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Table 4.7. Willingness to eat from the same plate with a PLWHA by gender after intervention

Gender	Willingness to eat from the same plate with a PLWHA		Total
	Yes	No	
Male	252 (64.1%)	141 (35.9%)	393 (100%)
Female	169 (66.3%)	86 (33.7%)	255 (100%)
Total	421 (65.0%)	227 (35.0%)	648 (100%)

$\chi^2 = .315$

df= 1

P=0.613

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However, When asked, if respondents would be willing to sleep in the same room with a colleague who is PLWHA after exposure to intervention. Almost same response was reported by both gender with the males 79.2% and females 79.1% respectively ($p>0.05$) (see Table 4.8). Also, more than a quarter of the respondents* (30.4%) who participated in the intervention agreed that they would be willing to eat from the same plate with a PLWHA ($p>0.05$) (see table 9)

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Table 4.8. Willingness to sleep in the same room with a PLWHA by gender after intervention

Gender	Can you sleep in the same room with a PLWHA		Total
	Yes	No	
Male	309 (79.2%)	81 (20.8%)	390 (100%)
Female	200 (79.1%)	53 (20.9%)	253 (100%)
Total	509 (79.2%)	134 (20.8%)	643 (100%)

$\chi^2 = .003$

df= 1

P=1.000

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TABLE 4.9. Willingness to eat from the same plate with a PLWHA by participation in HIV/AIDS Programme.

	Willingness to eat from the same plate with a PLWHA		Total
	Yes	No	
Ever participated in any HIV/AIDS programme on Campus			
Yes	128 (30.4%)	293 (69.6%)	421(100%)
No	62 (27.3 %)	165 (72.7%)	227(100%)
Total	190	458	648 (100%)

$\chi^2 = 0.680$

df= 1

p =0.410

Overall, 70.0% of the students surveyed had participated in an HIV/AIDS prevention programme on campus. However, more male than females had done so ($p>0.05$) (see Table 4.12). Also, more proportion of respondents in Tedder Hall (55.8%) and more in 400 levels 69 (43.7%) claimed to have ever heard of Macarthur Peer Educational Programme in U.I. respectively ($p<0.05$) (see Table 4.14). Majority of the respondents' (72.3%) who had participated in HIV/AIDS programme also reported to have gone for HIV test. ($p>0.05$) (see table 13)

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Table 1.10. Students' hall of residents by reported sexual abstinence

Hall	Abstinence		Total
	Yes	No	
Mellanby	37(80.4%)	9 (19.6%)	46(100%)
Tedder	44(93.6%)	3(6.4%)	47(100%)
Sultan Bello	32(80.0%)	8(20.0%)	40(100%)
Kuti	38(77.6%)	11(22.4%)	49(100%)
Independence	59(78.7%)	16(21.3%)	75(100%)
Azikiwe	60(83.3%)	12(16.7%)	72(100%)
Awolowo	101(80.8%)	21(19.2%)	125(100%)
Idia	63(91.3%)	6(11.1%)	69(100%)
Queens	48(88.9%)	6(11.1)	54(100%)
ABH	35(70.0%)	15(30.0%)	50(100%)
Total	517	110	627 (100%)

$\chi^2 = 16.820$

df= 9

p=0. 052

Table 4.11. Students' gender and level of study by reported sexual abstinence

Statement		Sexual abstinence		Total	N ²	df	p-value
		Yes	No				
Students gender by reported sexual abstinence(N=629)	Male	303 (77.9%)	86 (22.1%)	389 (100%)	12.89	1	0.000
	Female	214 (89.2%)	26 (10.8%)	240 (100%)			
Students level by reported sexual abstinence (N=629)					16.31	5	0.006
	100	128 (85.3%)	22 (14.7%)	150 (100%)			
	200	125 (83.3%)	25 (16.7%)	150 (100%)			
	300	108 (83.7%)	21 (16.3%)	129 (100%)			
	400	123 (80.4%)	30 (19.6%)	153 (100%)			
	500	21 (87.5%)	3 (12.5%)	24 (100%)			
	600	12 (52.2%)	11(47.8%)	23 (100%)			

Table 4.12. Students participation in any HIV/AIDS education programme by gender (N=676)

Gender	Students participation in any HIV/AIDS education programme		Total
	Yes	No	
Male	293 (72.9%)	109 (27.1%)	402 (100%)
Female	180 (65.7%)	94 (34.3%)	274 (100%)
Total	473 (70%)	203(30%)	676 (100%)

$\chi^2 = 4.011$

df= 1

P = 0.45

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TABLE 4.13. Participation in HIV/AIDS programme by going for HIV test

Have you ever participated in HIV/AIDS programme in the campus	Have you found out your HIV/AIDS status		Total
	Yes	No	
Yes	243 (72.3%)	93 (27.7%)	336 (100%)
No	143 (64.7%)	78 (35.3%)	221 (100%)
Total	386 (100%)	171 (100%)	557 (100%)

$$\chi^2 = 3.634$$

$$df = 1$$

$$P = 0.057$$

More proportion of respondents in Idia Hall (82.9%) claimed to have changed behaviour as result of intervention. ($p < 0.05$) (see Table 4.16). More respondents in 100 levels 114 (77.0%) than their counterparts in other levels also claimed to have changed behaviour as a result of the intervention ($p > 0.05$) (see Table 4.15). Likewise, most respondents that are studying science related courses 227 (66.3 %) and Humanities 127 (71.8%) claimed to have changed their behaviour as a result of intervention ($p > 0.05$) (see Table 4.15). Two hundred and sixty-nine respondents (69.5%) who are within the age group of 20-24 years also claimed to have changed their behaviour ($p > 0.05$) (see Table 4.15). More Christian respondents 369 (81.4%) than their Moslem counterparts 66 (15.1%) reported that they had changed their sexual behaviour as a result of intervention ($p > 0.05$) (see Table 4.16). Also, majority of the respondents' (71.4%) who had participated in HIV/AIDS programme also reported to have changed their behaviour. ($p > 0.05$) (see table 17)

Table 4.14: Exposure to Macarthur peer educational program by students halls of residence and level

Statement		Exposure to Macarthur Peer Educational Program		Total	X ²	df	p-value
		Yes	No				
I have you heard of Macarthur Peer Education Program in UI by Halls (N=629)							
	Mellanby	15(32.6%)	31 (67.4%)	46 (100%)	28.628	9	0.001
	Tedder	24(55.8%)	19(44.2%)	43 (100%)			
	Sultan Bello	18(41.9%)	25 (58.1%)	43 (100%)			
	Kuti	21(45.7%)	25 (54.3%)	46 (100%)			
	Ind	23(33.8%)	45 (66.2%)	68 (100%)			
	Zik	30(43.5%)	39 (56.5%)	69 (100%)			
	Awo	30(22.9%)	101(77.1%)	131(100%)			
	Idia	21(29.2%)	51 (70.8%)	72 (100%)			
	Queens	15(27.3%)	40 (72.7%)	55 (100%)			
	ABII	27(48.2%)	29 (51.8%)	56 (100%)			
Students level by exposure to Macarthur Peer Education Program in UI (N=631)							
	100	35(23.2%)	116(76.8%)	151(100%)	28.357	5	0.000
	200	39(26.7%)	107(73.3%)	146(100%)			
	300	59(17.2%)	66 (52.8%)	125(100%)			
	400	69(43.7%)	89 (56.3%)	158(100%)			
	500	12(44.4%)	15 (55.6%)	27 (100%)			
	600	10(41.7%)	14 (58.3%)	24 (100%)			

Table 4.15 Students' faculty affiliation, age, and level by change in behaviour after intervention

Statement	Change in behaviour		Total	χ^2	df	p-value
	Yes	No				
Students course of study by change in behaviour (N=622)						
Humanities	127(71.8%)	50 (28.2%)	177 (100%)	3.459	2	.177
Soc. Sciences	80 (74.8%)	27 (25.2%)	107 (100%)			
Sciences	224(66.3%)	114 (33.7%)	338 (100%)			
Students age by reported change in behaviour (N=628)						
15-19 years	47 (70.1%)	20 (29.9%)	67 (100%)	5.002	5	0.416
20-24 years	267(69.5%)	118 (30.5%)	387 (100%)			
25-29 years	98 (66.7%)	49 (33.3%)	147 (100%)			
30-34 years	18(90.0%)	2 (10.0%)	20 (100%)			
35-39 years	4(66.7%)	2 (33.3%)	6 (100%)			
40-44 years	1(100%)	0	1 (100%)			
Students level by reported change in behaviour (N=628)						
100	114(77.0%)	34 (23.0%)	148 (100%)	7.480	5	0.187
200	114(68.9%)	45 (30.2%)	149 (100%)			
300	87 (68.5%)	40 (31.5%)	127 (100%)			
400	100(66.2%)	51 (33.8%)	151 (100%)			
500	17 (65.4%)	9 (34.6%)	26 (100%)			
600	15 (55.6%)	12 (44.4%)	27 (100%)			

Table 4.16. Students' religion, gender and halls of residence by change in behaviour

Statement		Change in behaviour		Total	X ²	df	p-value
		Yes	No				
Students religion affiliation by reported change in behaviour (N=628)					0.939	2	0.625
	Christianity	369(84.1%)	163(85.3%)	532 (84.7%)			
	Islam	66(15.1%)	26 (13.6%)	92 (14.6%)			
	Traditional	2 (.5%)	2 (1.0%)	4 (.6%)			
	Total	437 (100%)	191 (100%)	628 (100%)			
Students gender by change in behaviour					0.003	1	.956
	Male	309(79.2%)	81 (20.8%)	390(100%)			
	female	200(79.1%)	53 (20.9%)	253(100%)			
Students Halls of residence by change in behaviour (N=626)					24.562	9	0.003
	Mellanby	27 (58.7%)	19(41.3%)	46 (100%)			
	Tedder	35 (76.1%)	11(23.9%)	46 (100%)			
	Sultan Dello	33 (80.5%)	8 (19.5%)	41 (100%)			
	Kuti	28 (59.6%)	19 (40.4%)	47 (100%)			
	Ind	48 (66.7%)	24 (33.3%)	72 (100%)			
	Zik	55 (77.5%)	16(22.5%)	71 (100%)			
	Awo	83 (66.4%)	42 (33.6%)	125(100%)			
	Idia	58 (82.9%)	12 (17.1%)	70 (100%)			
	Queens	39 (73.6%)	14 (26.4%)	53 (100%)			
	ABII	29(52.7%)	26 (47.3%)	55 (100%)			

Table 4.17. Exposure to HIV intervention by reported change in behaviour.

Ever participated in any HIV/AIDS programme on Campus	Reported changes in behaviour		Total
	Yes	No	
Yes	325 (74.4%)	112 (25.6%)	437(100%)
No	121 (63.4%)	70 (36.6%)	191(100%)
Total	446	182	628 (100%)

$\chi^2 = 7.842$

df= 1

p=.005

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Test of hypothesis

Hypothesis One:

There is no significant difference between reported changes in behaviour of students who were exposed and those not exposed to educational intervention.

A significant statistical association was found between respondents who have participated in any HIV/AIDS education program while on Campus and reported changes in behaviour as $p < 0.05$. From Table 4.17, 325 (74.4%) respondents had participated in HIV/AIDS educational programme in the campus and 70 (36.6%) of them have not changed their behaviour.

The alternative hypothesis, which stated that there is a relationship between reported changes in behaviour of students who were exposed and those not exposed to educational intervention, is therefore accepted.

Hypothesis Two:

The second hypothesis stated that there is no significant difference in attitude of students who were exposed and those not exposed to educational intervention to people living with HIV/AIDS (PLWHA).

No statistically significant association was found between attitude of students who were exposed and those not exposed to educational intervention to people living with HIV/AIDS (PLWHA) as $p > 0.05$.

From Table 4.9, 421 agreed to have participated in HIV/AIDS educational programme in the campus and of these, 293 had not changed their behaviour towards a PLWHA.

The null hypothesis, which stated that there is no relationship between attitude of students who were exposed and those not exposed to educational intervention to people living with HIV/AIDS (PLWHA), is therefore accepted as $p > 0.05$.

Hypothesis Three:

There is no significant difference on the use of Voluntary Counseling and Testing Services (VCT) among students who were exposed and those not exposed to educational intervention.

No statistically significant association was found between respondents who have participated in any HIV/AIDS education program while on Campus and going for Voluntary Counseling and Testing (VCT) $p > 0.05$

From Table 4.13, 243 (72.3%) respondents had participated in HIV/AIDS educational programme in the campus and 78 (35.3%) of them have not found out their HIV/AIDS status.

The null hypothesis, which stated that there is no relationship between students who were exposed and those not exposed to educational intervention and there going for VCT is therefore accepted as $p > 0.05$.

Hypothesis four:

There is no significant difference between students' gender and reported sexual abstinence after intervention.

A statistical significant association was found between respondents gender and sexual abstinence after exposure to intervention as $p < 0.05$. From Table 4.11, more males 303 (58.6%) as against 214 (41.4%) females reported to have practiced sexual abstinence after intervention.

The alternative hypothesis, which stated that there is a significant relationship between students' gender and reported sexual abstinence after intervention is therefore accepted.

Hypothesis five:

There is no significant difference between reported changes in sexual behaviour of students and gender.

No statistically significant association was found between respondents behavior and gender after intervention as $p > 0.05$. From Table 4.16, 309 (79.2%) who are male as against 200 (79.1%) who are female reported to have changed their behavior after the intervention.

The null hypothesis, which stated that there is no relationship between reported changes in behaviour of students and their gender after exposure to intervention, is therefore accepted.

Hypothesis six:

There is no significant difference between reported changes in behaviour of students and their hall of residence.

A statistical significant association was found between students sexual behaviour and their hall of residence after exposure to intervention as $p < 0.05$. From Table 4.16, more proportion of students in Idia hall (82.9%) reported to have changed their behaviours than in other halls after exposure to intervention.

The alternative hypothesis, which stated that there is a significant relationship between students' halls of residence and reported change in sexual behaviour after exposure intervention is therefore accepted.

Hypothesis seven:

There is no significant difference between students' attitude to PLWHA and gender.

No statistically significant association was found between students attitude to PLWHA and gender after intervention as $p > 0.05$. From Table 4.8, 309 (79.2%) who are male as against 200 (79.1%) who are female reported that they can sleep in the same room with a PLWHA after the intervention.

The null hypothesis, which stated that there is no relationship between students attitude to PLWHA and gender after exposure to intervention, is therefore accepted.

Hypothesis Eight:

There is no significant difference in students' hall of residence and practice of sexual abstinence after intervention.

No statistically significant association was found between students' hall of residence and practice of sexual abstinence after intervention as $p > 0.05$.

From Table 4.10, 93.6% proportion of students resident in Tedder hall also practice sexual abstinence compared to those in other halls of residence.

The null hypothesis, which stated that there is no relationship between hall of residence and practice of sexual abstinence after intervention is therefore accepted as $p > 0.05$.

Hypothesis Nine:

There is no significant difference in students' level of study and practice of sexual abstinence after intervention.

No statistically significant association was found between students' hall of residence and abstinence as $p > 0.05$.

From Table 4.11, 128 (85.3%) students in 100 level of study than those in others levels of study practice sexual abstinence.

The null hypothesis, which stated that there is no relationship between students' level of study and the practice of sexual abstinence is therefore accepted as $p > 0.05$.

Hypothesis Ten:

There is no significant difference between students' exposure to Macarthur peer educational programme and students halls of residence after intervention.

A significant statistical association was found between students' exposure to Macarthur

peer educational programme and students halls of residence after intervention as $p < 0.05$. From Table 4.14, 55.8% proportion of students in Tedder hall are exposed to Macarthur peer educational programme than others in other halls of residence.

The alternative hypothesis, which stated that there is a relationship between students' exposure to Macarthur peer educational programme and students halls of residence after intervention is therefore accepted as $p < 0.05$.

Hypothesis Eleven:

There is no significant difference between students' exposure to Macarthur peer educational programme and students' level of study after intervention.

A significant statistical association was found between students' exposure to Macarthur peer educational programme and students' level of study after intervention as $p < 0.05$. From Table 4.14, 69 (43.7%) students in 400 levels are exposed to Macarthur peer educational programme than others in other level of study.

The alternative hypothesis, which stated that there is a relationship between students' exposure to Macarthur peer educational programme and students levels of study after intervention is therefore accepted as $p < 0.05$.

Hypothesis Twelve:

There is no significant difference in students' course of study and change in behaviour after intervention.

No statistically significant association was found between students' course of study and change in behaviour after intervention as $p > 0.05$.

From Table 4.15, 224 (66.3%) students in science related course of study than those in non-science course of study reported to have changed their behaviour after intervention.

The null hypothesis, which stated that there is no relationship between students' course of study and change in behaviour after intervention as $p > 0.05$.

Hypothesis Thirteen:

There is no significant difference in students' level of study and change in behaviour after intervention.

No statistically significant association was found between students' level of study and change in behaviour after intervention as $p > 0.05$

From Table 4.15, 114 (77.0%) students in 100 level of study than those in other levels of study reported to have changed their behaviour after intervention.

The null hypothesis, which stated that there is no relationship between students' level of study and change in behaviour after intervention as $p > 0.05$.

Hypothesis Fourteen:

There is no significant difference in students' religion and change in behaviour after intervention.

No statistically significant association was found between students' religion and change in behaviour after intervention as $p > 0.05$

From Table 4.16, 369 (69.4%) students who are Christian reported to have changed their behaviour after intervention than other in other religions.

The null hypothesis, which stated that there is no relationship between students' religion and change in behaviour after intervention as $p > 0.05$.

CHAPTER FIVE

DISCUSSION

The implications of the results are discussed in this chapter under the following headings: Social demographic characteristics of respondents, respondents' exposure to HIV/AIDS education programmes in the campus, assessment of level of respondents' knowledge of HIV/AIDS, behaviour and attitudes of respondents about People Living With HIV/AIDS (PLWHA), respondents' response to Voluntary Counseling and Confidential Testing (VCT) and respondents behavioural change in response to HIV/AIDS educational messages. The chapter ends with recommendations.

Social demographic characteristics

Majority of the respondents (73.45%) were between 15 and 24 years old with a mean age of 22.9 ± 3.27 years and a range of 16 to 40 years old. This age range is crucial in the fight against the epidemic. This is because it is estimated that half of the people who acquire HIV become infected before they turn 25 years and typically die of the life-threatening illnesses called AIDS before their 35th birthday (UNDP, 2007). This also shows that university students in Nigeria rightly constitute an AIDS prevention programme target group, especially when it is realised that the disease affects mostly young people (Batchelor 1984).

Virtually all (98.2%) the respondents had never been married. It is a reflection that they are relatively young and sexually active. The long years of continued education had created a big gap between the age of puberty and age at marriage, thus increasing the likelihood of sexual initiation. In the 2003 National Demographic and Health Survey (NDHS), the result shows that approximately one third of married men and three-fourths of sexually active unmarried men have ever used contraception while (29%) of all women, 31 percent of currently married women, and 65 percent of sexually active unmarried women reported having used a method. The implication is such that you find

people that are sexually active and who engaged in unprotected premarital sexual activity on the campus which exposed them to Sexually Transmitted Diseases (STD) (Olascha and Alao 1993, Oladepo and Brieger 1994, Iwuagwu 2000, NDHS 2003).

There were more male respondents (59.5%) which represent more than half of the respondents than the female respondents (40.5%). This was because the halls of residence were used as the basis for data collection. The university had 7 halls of residence exclusively for male students and 2 exclusively for the females. However, two halls of residence were a mixture of both sexes.

The high number of respondents of Yoruba origin is not surprising since the University is situated in Ibadan in the south-west part of the country, inhabited by the Yorubas, a major ethnic group in the country. The high number of those in 400 and 100 levels of the respondents was because the university policy stipulates that students in both levels are given priority in accommodation allocation.

Exposure to HIV/AIDS education programmes in the campus

Virtually, all the respondents (99.0%) have heard about HIV/AIDS. This perhaps is because HIV/AIDS has remained top in the agenda in public discussions in the media. Seven of the respondents indicated that they have not heard of HIV/AIDS before. This is worrisome since the pandemic has been discovered in the country for more than two decades and the respondents are university students who are supposed to be very informed. However, this finding agrees with previous studies on higher knowledge about HIV/AIDS among university students in Nigeria. For example, Anugwom (1995) reported 100%, Oladepo and Brieger (1994) 90.6%, Ogbuji (2005) 93.1%, Iwuagwu (2000) 70%, Omoleso (2004) 81%, Adeyole and Olowoyin (2004) 70%, and Wodi (2005) 93%.

Respondents claimed that Television (50.3%) and Radio (16.0%) were the major means through which they first heard of HIV/AIDS. This also agrees with the findings of Oyaziwo et al (2005), Oladepo and Brieger (1994), Ogbuji (2005) on students sources of

information on HIV/AIDS. It is important for policy makers and service providers to note the potentials of these mediums in reaching youths in the campus if future preventive programmes and messages would be implemented them.

Despite high levels of awareness, certain misconceptions persist. When respondents were asked if HIV/AIDS has a cure, 18.2% of the respondents believed that HIV/AIDS can be cured. This definitely might negatively affect the way they will take the various messages they have being exposed to about the epidemic. The implication is that students who believe AIDS is curable may not take adequate precaution to prevent infection with HIV. The level of awareness of the disease and its means of transmission was very high among UJ undergraduate students. This might be due to the fact that the university campus has been seen by non-governmental organization (NGO) and service providers as a convenient place to hold programmes, since it is much easier to reach students. Though respondents first heard of HIV/AIDS through different avenue like friends, newspaper, television etc. It is important to note that employing multi-purpose approach in disseminating information among youth in tackling the scourge will yield more result than expected. The increase in knowledge which is expected to lead to decrease in risky behaviour was found to be true in this study. The FGDs session both among the male and the female students shows that the students have come to accept the fact that HIV/AIDS is real and that it is present in the campus. Majority of respondents were ready to avoid any behaviour that will expose them to infection. Concerted efforts are still needed to clear some gray areas on the mode of transmission and what discrimination is all about. Peer Educators should be equipped and armed with newsletters that would spell out and simplify all about HIV and AIDS and the means of transmission. This will help to clarify issues and confusions on it and it will in turn affect positively the way they will relate with a PLWHA.

The study also reveals that more males than females claimed to have ever participated in HIV/AIDS programme in the campus. This may be as a result of the structure of accommodation provided by the school authority for the students, there are more residential halls for male than for the females. The social taboo the society places on

universities in South-Eastern Nigeria, which found none of the respondents had ever seen a PLWHA.

Different stakeholders including Non Governmental Organisations (NGO), Faculties/ Department and the university administration had previously organized AIDS prevention programmes. This is encouraging and it is an indication of their concern to protect young persons. The finding in this study shows that programmes attract more attendance if concerned authorities and stake holders are carried along in its planning and implementation. It is also important to note that most respondents could not remember the organisers of the programme they attended; this will make follow-up and continuation of the exercise difficult which is an important aspect of behavioural change.

Reported change in attitude after intervention

The majority of the students (75.3%) held positive attitude towards PLWHA after exposure to intervention as indicated by the fact that many would be willing to sleep in the same room and eat from the same plate with a PLWHA. This positive change may be a recent development as previous studies shows that the attitudes of students towards SLWHA is that of discrimination, rejection and stigmatization (Oladepo and Brieger 1994, Anugwoin 1995, Omotoso 2004, Oladapki et al 2004). This needs to be reinforced and promoted as this will further give self confidence and encourage SLWHA to make known their status without fear of being rejected and stigmatised which have been the experience in the past from those infected with HIV.

The study also showed that more male respondents claimed to use condom with partners than their female counterparts. It is possible that the males were more truthful than the female in reporting their sexual behaviour. Another factor that might be responsible for this is the social taboo the society places on discussing sexual issues as it relates to female. This finding corroborate with the findings of Iwuagwu (2000), Ajuwon and Shokunbi (1997), Dada, Olaseha and Ajuwon, (1996), Olayinka and Osho (1997) and Chantad PJ (2002) that stated that consistent use of condom remain low among young females. This is encouraging and it needs to be reinforced among the male students. More efforts are needed to be channeled towards encouraging the use of condom among

students of both sexes since condom is still one of the safest means of preventing infection.

The difference in attitude found among students living in the halls of residence may be related to number of PE operating in the halls. Students in Mellanby hall who reported higher levels of reported changes may have had higher number of PE. Efforts should be intensified in halls with low number of trained Peer Educators if positive and justifiable results would be recorded.

The low response recorded 224 (33.1%) in the halls regarding knowledge about MacArthur Peer Educational Programme might be due to the fact that some of the students who indicated that they had received or attended intervention programme in the campus could not recollect the individual/organization that organized such programmes. The difference between halls of residence and knowledge about MacArthur Peer Educational Programme might be due to the fact that some PE are more actively involved in some halls than others. The FGD data shows that in some smaller male hostel like Mellanby hall more discussant recalled their contact with a PE while halls like Awolowo halls with larger number of students could not. It is important for Project Managers to take note of this lapse in the project execution. Trained PE should be given a means of identification and also tell their target audience who they are and where they come from. This will help PE to make contact or follow-up where necessary. Also, adequate means of evaluating and monitoring the activities of trained PE should be put in place so that encouragement and needed support will be given where necessary.

The findings also revealed that higher proportion of students 269 (69.5%) within the age group of 20-24 years claimed to have changed their behaviour as a result of the educational programmes they received. This is due to the fact that majority of respondents are within this age group and the FGD data revealed that they are afraid of contracting the HIV; this also explained the reason most of them said they would rather part with a partner than having sex without a condom. This finding is in line with those of Ogbuji (2005) and Oyazowo et al (2005) who reported that younger students when compared with their older colleagues look more precautions and steps to reduce their risk.

of HIV/AIDS. This suggests that if this age group is recruited as peer educators it would be much easier to reach to larger portion of the students with preventive messages.

The difference among respondents who have participated in HIV/AIDS education programmes while on Campus and those who do not is encouraging. This shows that efforts in reducing the number of youths living with the disease are yielding positive result. However, concerned stakeholders should be encouraged and given needed support to further boost the fight against the disease and lower its prevalence among the youth.

Reported changes in behaviour due to AIDS intervention

The majority of the students (65.0%) reported changes in behaviour directly attributed to the HIV/AIDS education they had received on campus. This is contrary to Deshmukhi et al (1998), Harding et al (1999), Iwuagwu (2000), Anugwom (1995) and Ogbuji (2005) findings, which revealed that respondents were knowledgeable about transmission and symptomology yet; this did not prevent them from engaging in unprotected coitus and other risky behaviour. This finding is encouraging and it will further serve as a boost effort to reach out more aggressively to adolescents who have been tagged as the AIDS generation. Preventive messages should be intensified among university students using every available medium such as peers in order to achieve the desired objective of lowering the prevalence rate of HIV/AIDS among youth. The possible reasons for the change in behaviour might be because of persistence of messages on the media in campus emphasising the fact that AIDS is real, that it has no cure and that young persons are vulnerable, the fact that a substantial proportion now know someone living with HIV and at the same time, the figure may be an over estimation of the real proportion of those who had changed their sexual behaviour. The students may be reporting information that they believe is socially desirable.

Use of VCT

There were considerable changes noticed in the number of respondents who claimed to go for HIV test after exposure to intervention programmes. This is due to the fact that there is consistency in the promotion of VCT services through the media and peer education and these services are free at the university health center (Jaja Clinic). Also,

VCT services are now more readily available than in the past. An increase in the number of those who claimed that they would be willing to disclose their status to their colleagues and department if they tested positive to the virus was also noticed. There was an increase in the number of those who were aware of the HIV testing center of the university at the clinic center in the campus, and more of the respondents claimed that they would be willing to declare their status if there is provision for treatment on the campus. These findings are encouraging. It corroborates the previous study of Ikechebelu, Udigwe; Ikechebelu and Imoh (2006) and Adevale and Olawoyin (2004), which asserted that youths when given the opportunity are likely to take advantage of the voluntary, confidential counseling and testing programmes especially if results are released at the same visit and services are free. The positive response to HIV test and the expressed willingness to declare their status shows that the goal of reducing the spread of the disease among youths can be achieved. It is imperative that more efforts and support should be given to VCT among the students with adequate provision of support to those that will test positive. Assurance also must be given for confidentiality of result of test.

Implications of the finding for health promotion and education

The findings of this study have several implications for planning, developments and implementation of HIV and AIDS prevention programmes in UI and other higher institutions education in Nigeria at large. The responsibility of Health Education focuses on the modification of people's behaviour and behavioural antecedents (WHO, 1998, Green and Kreuter, 1991). Health education is concerned with helping people develop practices that ensure their best possible well-being (WHO, 1988). It is concerned with reinforcing and changing knowledge, attitudes and behaviour of people through effective communication of factual information, with the aim of helping them to ensure an optimum well-being. Health education can therefore be used to bridge the gap between health information and health practices within the context of HIV and AIDS. Health education principles and strategies can be used to address the challenges identified in this study.

The findings in this survey provide a justification for intensifying peer-oriented programmes for youths in the fight against HIV/AIDS. More Peer Educators should be recruited, trained and spread across departments and halls of residence. Their training should include skills required for assertiveness and negotiation of condom use. They can also be charged with retailing the female condoms in female halls at a subsidized price in order to encourage female students to use it in large scale. Also more educational materials like posters and bill board messages should be pasted at strategic places in each halls of residence to serve as a reminder each time they read it in the halls.

It was noted that as much as most respondents and discussants wanted to protect themselves against contracting the disease, the possibility of sharing blades in barbing salons is low. Most of the male discussants know that sharing blades can expose them to the disease but there is little they can do since they do not have the money to get their personal clippers. It is needful then for service providers, trained peer educators and concerned authorities in the halls to make it part of their strategy to involve barbers in the Halls in the fight against the disease by teaching them on how to sterilize their blade by using the appropriate bleach solution. Practical training workshop and proper screening of Barbers is therefore proposed before they are allowed to operate in the halls of residence and peers should be equipped with educational materials to remind students of the risk involve in barbing with unsterilized clippers.

The study showed that youths are beginning to appreciate the fact that HIV/AIDS is not punishment for sins on PLWHA. They have come to realise that it could be anyone. Most of the discussants during the FGD sessions agreed that PLWHA should be encourage rather than rejected. They claimed they can eat, sleep and work with them in the campus. The study also shows that having a right knowledge can affect perception and behaviour. Efforts should be put in to dispel fear in the heart of those who are of the view that a PLWHA is doomed to die. It is therefore proposed that PLWHA should be engaged in future health talk programmes in the campus in other to dispel and correct some misconceptions some students still have about them. This also will reinforce confidence in those that are positive among the students. The result also shows that if provision and

assurance for confidentiality is given to students free or at low cost, there will be more students who will go for VCT. It is therefore important to integrate VCT services in future intervention programmes in the campus since VCT according to Keenan and Keenan (2001) is crucial in the fight against the disease.

Conclusion

In conclusion, the findings of this study shows that the use of peer educators can be an effective tool in promoting positive sexual behaviour among youth, reduce the incidence of discrimination against PLWHA and make VCT services clients friendly in the campus as long as confidentiality is guaranteed. Although, not every student agreed to have met with a peer educator before but if the present trend is maintained and further encouraged more can still be achieved in the quest to tame the scourge among the youth in the nearest future.

Recommendations

Many students are familiar with the nature of HIV and how to avoid it, with a high level of awareness and knowledge of mode of transmission of the disease, improvement can still be made on preventive programmes in the campus. In view of these, the following strategies are been recommended for improvement in intervention programmes among youth in universities.

1. During the orientation week, health talks should be organized and a PLWHA could be engaged to do it, considerable time should be given for questions and answers. This is help to clear the mind of the fresh students on the issues concerning HIV in the campus.
2. Periodic health talks on HIV/AIDS should be put in place in the Halls of residence in collaboration with the Hall executives, operators of salons and other significant others in each Halls should be involved in the planning and presentation of such talk.

3. The various Departments/faculties or main Kenneth Dike library of the University should make available sections where books, bulletins, research reports or AIDS brochures are stocked and are accessible to students.
4. AIDS Hotline section can be made available in students' recreation centres where students can obtain more information or sought clarifications on HIV and AIDS.
5. Awareness about the VCT service in the campus should be scaled up. It should be included in the on-going and future preventive programmes in the campus.
6. HIV/AIDS test should be subsidized if not free to make it more affordable to students. The result of the test should also be made confidential, this will further reassure the students of need to go for the test to ascertain their status and seek for help where necessary.
7. The ongoing MacArthur Peer Education Programme should be given a review to make it permanent since students are not expected to stay permanently in the campus. The Trained Educators are expected to leave the campus after completion of their studies and since HIV/AIDS has no cure and new students are yearly admitted, there is need for continuous training of new Peer Educators.
8. There is need for having HIV/AIDS bill board messages at the entrance of each Hall of residence to increase the awareness and also serve as a reminder for both students and their visitors.
9. Religious organization in the campus that also has an extension of their fellowship centres in the Halls should be included in the various efforts to combat the spread of the disease since most of the respondents in the study claimed to be affiliated to a religious body. It will make effort to reach and train more PE easier if these bodies are consider in planning and execution of the project.

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APPENDIX I
FOCUS GROUP DISCUSSION GUIDE DRAFT

FOCUS GROUP DISCUSSION GUIDE FOR UNDERGRADUATE STUDENTS
OF THE UNIVERSITY OF IBADAN

TOPIC: REPORTED CHANGES IN ATTITUDES AND RISKY SEXUAL BEHAVIOURS RESULTING FROM EXPOSURE TO EDUCATIONAL PROGRAMS AMONG UNIVERSITY OF IBADAN UNDER-GRADUATE STUDENTS.

INTRODUCTION

I thank you all for agreeing to participate in this discussion. My name is Imaledo, John and I will be moderating our discussion today. This discussion is a research work that intends to find out some vital information on changes in attitudes and risky sexual behaviours resulting from exposure to educational programs among University of Ibadan under-graduate students. During this discussion, no views expressed by any participant will be judged right or wrong and everybody is free to express their views on any issue pertinent to the discussion.

This discussion will remain completely confidential and will only be used for the purpose of the research project to affect policy only.

Thanks for your anticipated co-operation.

INTERVIEW

1. What have you heard about HIV/AIDS?
2. In which educational program on HIV/AIDS conducted on U.I campus have participated in?
3. Can you describe other programs on HIV/AIDS conducted outside of U.I campus in which you participated?
4. What changes has any of the programs had on your attitude towards People Living with HIV/AIDS (PLWHA)?
5. What effect has any of the program had on your willingness to take HIV/AIDS test?
6. What changes have you made in your behaviour as a result of your exposure to any of these programs?
7. Which aspect of the program made you to make changes in your
 - A) Behaviour
 - B) Attitude
 - C) Willingness to take HIV/AIDS test

Thank you for taking time to participate in this discussion.

APPENDIX 2 QUESTIONNAIRE

Dear Respondent,

This section is to assess your opinion on the appropriateness of working with the people living with HIV/AIDS in the Halls of residence. Your kind and sincere response would be appreciated. Your identity, response and opinion will be kept confidential and no name is required in filling the questionnaire.

Thanks for your cooperation

Survey Identification #

Date

Name of Dept.....

Hall of residence

Name of interviewer.....

Section A. – Demographic information

I am going to ask you some questions about yourself.

1) Department.....

2) Level : 1. 100 2. 200 3. 300 4. 400 5. 500 6. 600

3. Sex: 1. Male... 2. Female...

4) What is your ethnic group?

5) What is your religion? 1. Christianity 2. Muslim 3. Traditional 4. Others (specify)...

6) Age at last birthday.....

7) What is your current marital status? 1. Single 2. Married 3. Cohabit

4. Divorce/ Separated/ Widowed

Section B (Exposure to HIV/AIDS Education Programs in the Campus)

8. Have you heard about HIV/AIDS? 1. Yes 2. No

9. How do you first heard about HIV/AIDS?
.....
.....

10. Have you seen a person living with HIV/AIDS patient before? 1. Yes 2. No

11. Have you ever received any information on HIV/AIDS/STI from a fellow student of U.I?
.....

1. Yes 2. No

12. When was the last time you received any educational information on HIV/AIDS from a U.I student?
.....

13. Have you ever participated in any HIV/AIDS education program while on campus? 1. Yes
2. NO

(If no go to question 16)

14. What was the nature of the educational program you received? List the activities of the program

.....

15. Which organization conducted the program?

.....

16. Have you heard of MacArthur Peer Education program? Yes 1 No 2

Section C (Assessment of level of Students knowledge of HIV)

Please tell me if these statements are true or false		TRUE	FALSE
17	HIV/AIDS is real and it is present in the Campus		
18	There is a relationship between HIV and AIDS		
19	HIV can be transmitted through seminal fluid		
20	HIV can be transmitted through vaginal fluid		
21	HIV can be transmitted through blood and blood products		
22	HIV can be transmitted through placenta		
23	HIV can be transmitted through breast milk		
24	An HIV infected person can be known by mere looking at the person		
25	HIV/AIDS has no cure		
26	Anybody can be infected by HIV if he/she is involved in risky Practices		
27	Someone can get HIV by having unprotected sexual intercourse just once?		

Section C (Behaviour and Attitudes)

Instruction: The table below contains some information about HIV/AIDS. Please tick where appropriate as it relates to you in view of the educational programs you have heard while on the campus. The 'before' section is your view about the statement before your exposure to the program you attended and the 'after' is your view after the program

Questions on behaviour and attitudes		Before		After	
		Yes	No	Yes	No
28	Anyone can get HIV/AIDS; so persons with the disease should not be discriminated against.				

13. Have you ever participated in any HIV/AIDS education program while on campus? 1. Yes
2. NO

(If no go to question 16)

14. What was the nature of the educational program you received? List the activities of the program

.....

15. Which organization conducted the program?

.....

16. Have you heard of MacArthur Peer Education program? Yes 2. No

Section C (Assessment of level of Students knowledge of HIV)

Please tell me if these statements are true or false		TRUE	FALSE
17	HIV/AIDS is real and it is present in the Campus		
18	There is a relationship between HIV and AIDS		
19	HIV can be transmitted through seminal fluid		
20	HIV can be transmitted through Vaginal fluid		
21	HIV can be transmitted through blood and blood products		
22	HIV can be transmitted through placenta		
23	HIV can be transmitted through breast milk		
24	An HIV infected person can be known by mere looking of the person		
25	HIV/AIDS has no cure		
26	Anybody can be infected by HIV if he/she is involved in risky Practices		
27	Someone can get HIV by having unprotected sexual intercourse just once?		

Section C (Behaviour and Attitudes)

The table below contains some information about HIV/AIDS. Please tick where appropriate as it relates to you in view of the educational programs you have heard while on the campus. The 'before' section is your view about the statement before your exposure to the program you attended and the 'after' is your view after the program

Questions on behaviour and attitudes		Before		After	
		Yes	No	Yes	No
28	Anyone can get HIV/AIDS; so persons with the disease should not be discriminated against.				

29	The UJ authority should make HIV testing compulsory for all students			
30	HIV is a serious issue, so it is my view that students should be tested periodically.			
31	Issues about HIV/AIDS should not be discussed openly in the Department			
32	I do not think any student has HIV/AIDS because they are very healthy and productive.			
33	Do you often go out with friends to night parties and clubs?			
34	Do you go to hairdressing, barbing saloon or pedicure with your clippers and kits?			
35	I am willing to eat from the same plate with a colleague I know Has HIV			
36	If any of your colleagues became ill with HIV/AIDS, would you be willing to work with him or her?			
37	If your lecturer has HIV, should he or she be allowed to continue in your department?			
38	If a student has HIV but is not sick should he or she be allowed to continue in your department?			
39	Can you sleep in the same room with someone who has HIV?			

40. Do you drink alcohol often, occasionally, or not at all? 1. Often 2. Occasionally 3. Not at all

41. Have any of your behaviours changed as a result of the educational programs you received about HIV/AIDS prevention 1. Yes 2. No

42. List these behaviours

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SECTION II (Questions on Role of Voluntary Counselling and Confidential Testing)

43. Have you ever been counselled to abstain from sex? 1. Yes 2. No

44. Have you ever been counselled not to have many sexual partners? 1. Yes 2. No

45. Have you ever been advised to use condoms if sexually active? 1. Yes, 2. No

	Questions on Role of Voluntary Counselling and Confidential Testing (This is to know the steps you have taken to do HIV test as a result of exposure to HIV/AIDS programs in the Campus)	Before		After	
		Yes	No	Yes	No
46	If you test positive for HIV will you let your colleagues/department know?				
47	If there is provision for treatment in the campus, would you disclose your status if possible?				
48	Do you know of any student who has lost his studentship due to his HIV positive status				
49	Have you found out your HIV status				
50	Do you know if the university have counselling and testing unit				
51	Are you willing to encourage others to have HIV testing				

SECTION E. (Behavioural Change Response to Educational Messages)

What changes have you made in your sexual life in response to the Campaigns on HIV/AIDS in the Campus?

No	Changes in sexual life	Yes	NO
52	Having fewer sexual partners		
53	Using condoms with partners		
54	Abstinence		
55	Not having sex		
56	Avoiding sharing sharp instruments(needles, blades)		
57	Avoiding transfusion of blood		
58	Testing for HIV		
59	Others specify		

60. What would you consider the most important change you have made in response to the information/education you received on HIV/AIDS in the campus?

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