I, Adaeze Ozor Egole-Oziri, hereby submit this original work as part of the requirements for the degree of Doctor of Philosophy in Educational Studies.

It is entitled:
Effect of HIV/AIDS Awareness Training Program among College Students in Owerri, Imo State of Nigeria

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This work and its defense approved by:

Committee chair: Vanessa Allen-brown, PhD
The Effect of HIV/AIDS Awareness Training Program among College Students in
Owerri, Imo State of Nigeria

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by

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Effect of HIV/AIDS Awareness Training Program among College Students in Owerri, Imo State of Nigeria

ABSTRACT

DISSERTATION COMMITTEE:

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                   James Koschoreck
                   Roger Collins
                   Albert Watson

The Sub-Saharan Africa region has been more severely affected by AIDS than any other part of the world. The United Nations reported that 26.6 million adults and children are infected with the HIV virus in this region, which has about 10% of the world’s population but two thirds of the worldwide total of infected people. The overall rate of infection among adults in Sub-Saharan Africa is 7.5%-8.5%, compared with 1.1% worldwide.

AIDS has surpassed malaria as the leading cause of death in Africa and it kills many times more Africans than war. Experts relate the severity of the African AIDS epidemic to the region’s poverty.

The annual domestic and international expenditure on HIV/AIDS program in Nigeria has been estimated at over $US 400 million, most of which are donated by international and local bilateral government and non-governmental organizations. For most of these expenditures, the evaluation criteria for measuring effectiveness are enshrined in annual percentage changes among adults and children with advanced HIV infection receiving antiretroviral therapy; among women and men who returned for their test results after receiving HIV test; among adults aged 15-49 who reported the use of condom during their last intercourse, or among men reporting the use of condom the last time they had anal sex with a male partner.

There are, however, very minimal evaluation reports of the hundreds of education, information, and services developed and implemented by various entities within the social societies in the
country to change attitude, behavior or enhance knowledge of Nigerian communities about the disease.

This study, therefore, developed a primary purpose to demonstrate that properly planned and carefully executed awareness training programs could, possibly, provide positive effects on the knowledge, attitude, and behavior of young college students regarding HIV/AIDS. A secondary purpose assembled, through literature research, a body of evidence-based knowledge and expenditures on HIV/AIDS that will foster greater awareness among health care providers and other authorities in Nigeria about the importance of evaluation in the arsenals of tools to combat the spread of the disease.

Although the three null hypotheses of the study that participation in a HIV/AIDS awareness training program will not improve the attitude, knowledge and behavior of participants after participation in the program were statistically vindicated, the study provided enough evidence-based information to alert government and non-governmental stake holders that the international flow of funds for HIV/AIDS will not continue indefinitely.

The three null hypotheses of the study that participation in HIV/AIDS awareness training program will not improve the attitude, knowledge and behavior of participants after participation in the program were statistically accepted. There were, however, percentage changes in participants’ pre- and post- intervention knowledge, attitude and behavior data demonstrating that the training did have some positive effects on participants.

Recommendations were made about the importance of program evaluations to assess effectiveness, and avoid replicating ineffective programs. Pitfalls to avoid when conducting this type of evaluation especially as an external evaluator were also highlighted.
DEDICTION

To start with, I would like to thank our Lord Jesus Christ who is the author and finisher of my faith for being faithful in piloting my life from childhood to the present. This work is dedicated to my entire family who have put up with my constant pursuit of education. My husband Dr. Nnamdi J. Oziri whom God has used to make me what I am today in the Lord, and to make the completion of this work possible by assisting to run the family business to allow me time to pursue further studies.

To all my children who blessed me at one point of my educational life or the other. Nnenna who is my Associate degree in nursing daughter, Uzoamaka who is my Midwifery certificate daughter, Ndubuisi and Ikenna my BS degree sons, Uloma my Public health Nurse certificate daughter, Nnamdi (JR) my MS degree son, Chiaka who came at the start of the family business - International Quality HealthCare Corporation. My last bundles of blessing Uchechukwu and Udochukwu who came with this final Degree, last but never the least my two grandchildren, granddaughter Hailey London Chinonye, and grandson Nathan Joseph, as well as my two sons in law Sayed Darwichzada and Bryant Godfrey who joined the family during this last phase of my educational pursuit. I could not have done it without their prayers, encouragement and support as well as transfer of responsibilities.

I also dedicate this to my mother Ego Maria Egole (Queen mother) who has always found time to come to my aid with the kids whenever I felt like pursuing additional schooling, starting from Nnenna, to even Nathan the last child of the family at this time. Mother I appreciated your sacrifices, but may have been too busy to let you know it. You helped me to get where I am today. All my siblings are also included in this for their prayers and believing in me. I thank all the staff of International Quality HealthCare Corp. for all their supports. Also remembered in this are my departed family members, my late father Eze C.C. Egole who has gone home to be with the Lord, and who molded me from infancy, and my friend and mother in law Christine Oziri who has also gone to be with the Lord, for all her encouraging words. I thank everybody for everything they did to make my dream of becoming Dr. Mrs. Adaeze Ozor Egole-Oziri a reality; it could not have been possible without every one of you.
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Thanks to Dr. Shirelyn Beauman Iyoha who continued to edit the work from proposal to finish. I very much appreciate your timely feedback and words of encouragement. Thanks to my friend and sister Cecelia E. Aikhiobare who recommended Dr. Beauman Iyoha for editing my work. Also I wish to thank Dr. Matriano Estella who believed in me and advised me to get a doctorate degree after seeing my accomplishment with the family business, and thanks to my mentor Dr. Patricia O’Reily whose unspeakable kindness, directive and unflinching support has kept me going till finish. Thanks to all my workers at International Quality HealthCare Corporation for their loyalty and dedication as well as filling the gap during this long race, and to Dr. Justin who painstakingly read the dissertation and offered invaluable advise for its improvement.
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CHAPTER I

INTRODUCTION

In the African continent, over 70 million people have been infected with the Human Immune Deficiency virus (HIV) since it was identified in 1983 (Wainberg, Forstein, Berkman, & Cournos, 2000) and approximately 15,000 new infections occur every day (Van Den Boom & Sherr, 2006). This rate of infection is disproportionately distributed across the globe. Although sub-Saharan Africa contains only 10% of the world population, two-thirds of people living with HIV/AIDS reside there (Van Den Boom, Catalan, Hedge, Fishbein, & Sherr, 2006). African governments have been slow to recognize the existence and threat of HIV/AIDS and this has delayed efforts to prevent and medically treat the disease (Parkhurst & Lush, 2004).

South Africa in particular has one of the highest rates of HIV infection in the world. As was the case in many other African countries not long ago, former President of South Africa Thabo Mbeke, and his health minister, Manto Tshabalala-Msimange refused to acknowledge the connection between HIV and AIDS, claiming that AIDS-related mortality in Africa are caused by malnutrition and poverty (Sheckels, 2004). It was, also, not until 1991 that the Federal Ministry of Health in Nigeria made the first attempt to assess Nigeria’s HIV/AIDS situation. At the inception of the HIV/AIDS program in Nigeria, about 1.8 percent of the Nigerian population had been infected with HIV. Subsequent surveillance revealed in 1998 that incidence of HIV rose in 1993 from 3.8% to 4.5% in the country (Yu, Souteyrand, Banda, Kaufman, & Perriens, 2008).

The Significance of the Study

In addition to the many HIV/AIDS testing, sentinel surveillance serology, and antiretroviral therapy programs in the country, media campaigns and face to face education are two main methods utilized
in Nigeria to raise awareness of HIV/AIDS in many regions across the country. Among the prominent campaigns in the country is “Future Dreams”, a radio campaign serial broadcasting HIV/AIDS preventive education programs in nine of the multi tribal languages on 42 radio channels in the country (Nwagwu, 2008) (Gostin, 2008). The Lagos State organized multimedia messages on HIV/AIDS using radio, newspapers, television at youth rallies and in secondary schools in 20 local government precepts. Another campaign took advantage of the recent increase in ownership of mobile phones in the country and sent text messages with information about HIV/AIDS to over 9 million people across the country (The Global Fund, 2009).

More recently, a new high profile media campaign was fronted by Femi Kuti, the son of Fela Ransom Kuti, the famous Afro beat musician who died of AIDS in 1997. The billboards strategically displayed alongside roads throughout Nigeria featured picture of the musician with the slogan “AIDS: No dey show for face” which, literally means ‘no one can identify people living with AIDS simply by looking at them’ (Adejimola, Ayenigbara, & Tunde, 2010). While international donors provide expertise for their demand of rigorous evaluation about the effectiveness of the programs funded, there appears to be a dearth of documentation about the effectiveness of locally initiated and locally funded HIV/AIDS programs.

**Statement of the Problem**

When Olusegun Obasanjo became the president of Nigeria in 1999, HIV prevention, treatment and care became one of the government’s primary concerns. The President’s Committee on AIDS and the National Action Committee on AIDS (NACA) were created, and in 2001, the government set up a three-year HIV/AIDS Emergency Action Plan (HEAP). In that same year, Obasanjo hosted the Organization of African Unity’s (now referred to as African Union) first African Summit on HIV/AIDS, tuberculosis and Other Related infectious Diseases. Emphases at that meeting was directed at the challenges and opportunities afforded by regional
and international collaborations in establishing up-to-date, accurate, and regular epidemiological surveillance in the design and implementation of rational HIV prevention programs (Ahmed, Ibrahim, & Ekemu, 2004).

Despite these positive intentions for tackling and controlling the HIV/AIDS epidemic in the continent, Stover et al. (2006) estimated that in Nigeria only 10% of HIV-infected women and men receiving antiretroviral therapy and only 7 percent of pregnant women in the country received treatment to reduce the risk of mother-to-child transmission of HIV in the years preceding 2006. These statistics suggested that Nigeria has an inadequate healthcare program replicability infrastructure, which consequently, is resulting in the proliferation of new and untested programs.

International and domestic funding for global HIV/AIDS programs has grown from 'millions' to 'billions' in the last decade. By the end of 2007, HIV/AIDS funding was estimated to stand at just under $10 billion - an almost forty fold increase since 1996, when just $260 million was available.

The increase has been largely due to a series of new international funding initiatives and mechanisms, notably the Global Fund for AIDS, tuberculosis and malaria, the World Bank's Global AIDS Program and the US President's Emergency Plan for AIDS Relief (PEPFAR), most of which have benefited the Nigeria HIV/AIDS programs.

As investment grows, many developing countries, including Nigeria are experiencing serious difficulties as they rapidly expand their delivery of AIDS treatment and HIV prevention services to communities.

Summation of total HIV/AIDS expenditure in Nigeria differ from agency to agency, but according to data obtained from the National AIDS Spending Assessment of Nigeria, domestic
and international funds committed to HIV/AIDS programs in the during the 2009 financial year was estimated at over US $400 million as compared with US $42 million in 2007 (NACA, 2009). Major contributors to the HIV/AIDS Nigeria program included the President’s Emergency Plan for AIDS Relief (PERFAR), the Global Fund (GF) to fight AIDS, Tuberculosis and Malaria, and the World Bank (WB), and most of the funds are directed towards antiretroviral treatment programs.

In spite of the massive expenditure of funds, technology, collaboration and manpower invested in measures to curb the spread of HIV/AIDS in the country, a high percentage of Nigerians are still ignorant about the disease (Blattner, Dakum, Osotimehin, & Nasidi, 2008). Moreover, there was ample evidence that international enthusiasm and funds for HIV/AIDS programs in developing countries are weaning.

Equinetafrica (2010) reported a drop of over a billion-dollar in international aid for developing countries’ HIV/AIDS programs over the past two years, and for locally funded and locally implemented programs, there appear to be a paucity of evaluation activities and reports on the effectiveness of programs that attempt, to change behavior and create awareness through education about HIV/AIDS-related practices in the country. It also appears that a majority of Nigerian elites in and out of Government circles still need basic education to understand that HIV/AIDS has become one of the most formidable challenges to human life and dignity, and that international funds for the programs will not continue to flow into the country ad infinitum.

**Purpose of the study**

The primary purpose of this study was to demonstrate that properly planned and carefully executed awareness training programs could, possibly, provide positive effects on the knowledge, attitude, and behavior of young college students regarding HIV/AIDS.
A second major purpose was to assemble, through literature research, a body of evidence-based knowledge and expenditures on HIV/AIDS that will foster greater awareness among health care providers and other authorities in Nigeria about the scourge and threats of this disease in the country, especially among the youth population.

**Study Location**

The selected location for this study is Owerri town, the capital city of Imo state in the federal republic of Nigeria. The city lifestyles and the establishment of four universities have made Owerri town not only the capital of Imo State but also a university town. The study location is popularly known for its social and liberal lifestyle with a concern that the spread of HIV/AIDS among the university students that live there could be very detrimental. In addition to the growing student population in Owerri, the influx of expatriates and commercial sex workers from the unstable neighboring oil cities in Nigeria have caused an unpopular explosion in the population of Owerri. The study location remains one of the fastest growing cities in Imo State. Additionally, the initiative of some local NGOs in Imo State to partner with state and federal governments to coordinate HIV/AIDS awareness programs make Owerri an ideal site for this study.

**Questions to be studied**

Taking into consideration the decline in funds earmarked for HIV/AIDS prevention programs by federal and state governments in Nigeria, and the dearth of scientific and reliable evaluation activities in behavioral health programs in Nigeria, the research question for this study is as follows: Will participation in a HIV/AIDS Awareness Training Program have any effect on the knowledge, attitude, and behavior regarding HIV/AIDS-related subjects among university students in an urban city of Nigeria?


**Procedure of the Study**

The procedures for this study were conducted in three phases, namely, planning, implementation, and data analysis.

In the planning stage, a review of the Internet indicated that the AIDS Awareness Program (AAWPA) in Abuja, Nigeria is collaborating with various universities in Nigeria to conduct awareness training programs for university students in the country. Contacts were established with the Imo State Health Department who confirmed that both the Imo State University and the Federal University of Technology in Imo state will be participating in a HIV/AIDS Awareness Program. Three visits to Owerri by the Principal Investigator and telephone intervention by members of this dissertation committee resulted in permission from Imo State University, the Federal University of Technology and both the AIDS Awareness Program in Abuja and the Imo State Health Department to collect pre- and post-program evaluation data from student participants to measure the effectiveness of the program.

Consequential upon gaining this permission, further researches were conducted to gain more insight into the Awareness Training Program, where, and when the training will be conducted, and the demands of the major stakeholders of the program. Upon satisfaction that the Awareness Training Program will meet the rigors of scientific evaluation without any conflict of interests, the methodology, instruments, and informed consent formats of the study were developed. The study was reviewed and approved by the University of Cincinnati West Campus Committee on Human Research – IRB (see Appendix D), and by the researcher’s dissertation committee.

The implementation phase of the Awareness Training Program at the University was strategically set to coincide with the HIV/AIDS Day celebration, and pre-intervention data for
this study was collected before the beginning of the Awareness Training Program, while post-
intervention data was collected at the end of the program. The curriculum for the Awareness
Training Program was based on an ecological model and social cognitive theory. It consisted of
three modules addressing knowledge, attitude, and behavior on HIV/AIDS (Appendix B).
Information about the voluntary nature of participation in the evaluation exercise was read to
participants and consent to participate was obtained from each participant by signing the form
designed for such purpose (Appendix C).

Data were analyzed using the SPSS\PC+ statistical analysis program for frequencies and
Chic Square with a .05 alpha level to determine significance.

**Study Sample**

The non-probability sample that formed the purposeful group of students for this study was
drawn from: (a) Federal University of Technology (N=20), and (b) Imo State University
(N=23). All participants produced university documents to meet the inclusion criteria of the
study.

**Data collection instrument**

Pre- and post-intervention data were collected by means of a 28-item questionnaire
containing four segments, namely, attitude, knowledge, behavior, and demographics. The
Domain Reference Testing (DRT) method as described by Scriven (1991) and elaborated under
Theoretical Framework section of this study was incorporated into the Attitude and Behavior
sections of the data collection instrument.

Participants were asked to rate their agreements or disagreements to five attitude
statements using the Likert scale.

Eight statements were designed to measure the changes in participants’ knowledge of
HIV/AIDS, four of which were set using the Likert format, three were open-ended, and one was dichotomous by design.

Three of the ten behavioral statements employed the Likert scale, two utilized dichotomous form of enquiry, while the remaining five provided opportunities for the participants to express themselves in an open-ended format.

Five basic questions of demographic nature solicited information about gender, age, level of education and financial support from respondents.

This questionnaire (Appendix A) was a modified version of an original instrument developed, evaluated for reliability and validity, and used by other institutions. The original version was modified for cultural sensitivities, and retested for reliability and validity before being used for this study.

**Limitations of the Study**

The findings of this study are subject to the following limitations:

1. Reliability of portions of the data collection was dependent upon accurate self-reporting of demographics by the participants. Those items included statements on educational level, economic status, gender and age. Any inaccuracy in those self-reports may have impacted the study results.

2. The responses provided in the Pre- and Post-instruments may lack validity and reliability.

3. The respondents may not answer the questions with sincerity, honesty and seriousness.

4. The respondents may not fully understand the questions, and thus provide socially desirable responses.

5. The non-probability sample utilized in this study may render the findings non-generalizable.
Delimitations

Delimitations for this study included the origin of the awareness training program being evaluated, and the geographical separation between the investigator and the students.

This study evaluated the effect of an awareness training program which was funded, developed and implemented by different organizations. The terms, conditions, and mode of operation between and within the different organizations may have some impact on the external validity of the findings of this study.

The pre- and post-intervention study was conducted by an investigator who was introduced to the students as a “visiting scholar from the United State”. The participants may have provided different responses to the pre- and post-tests if there was no geographical separation between the investigator and the participants, and thus protect the internal validity of the findings.

Assumptions of the Study

For the purposes of this study, the following assumptions were made:

1. That the program evaluated for this study was, indeed, created to generate awareness of HIV/AIDS among the study participants.
2. That the responses of the participants are valid and reliable
3. That all respondents provided sincere and honest responses.
4. That the celebration of HIV/AIDS Day has no effect on the activity and the answers provided by the participants of the study
5. That respondents understood the questions
6. That the sample group is representative of university students in the eastern region of Nigeria
7. That the study’s findings are conclusive evidence of the effectiveness of HIV/AIDS awareness training program among the sample studied.

**Definition of Terms**

For the purposes of this study the following operational definitions were used:

**AIDS:** Acquired Immune Deficiency Syndrome in this study assumes the Definition accorded by the US Centers for Disease Control.

**ATTITUDE:** is defined as the feelings of respondents toward HIV/AIDS disease As measured by, and in response to the questionnaire

**BEHAVIOR:** is defined, for this study, as the behavior of study participants before The intervention and their perceptions of how they will behave after the Intervention

**HIV:** Human immunodeficiency virus, the disease that causes AIDS

**IMO STATE:** is defined as one of the 36 states of the Nigeria located in the southeast Region of the federation.

**KNOWLEDGE:** is defined as the total sum of what respondents believe about HIV/AIDS infection and disease as measured by the questionnaire.

**OWERRI:** the capital city of Imo State of Nigeria

**WHO:** World Health Organization

**Treatment of Data**

Participants’ perceived attitude toward, knowledge about and behavior towards HIV/AIDS are tabulated in terms of differences within the pre- and post-intervention, and the overall percentage responses to individual question and statement. Cross tabulations will be employed to present data in terms of responses to each statement and to each category of general
questions. Analysis of the data will include reporting any significant preponderance of acceptance or rejection of the statements listed in the pre- and post instrument. The Chi square will be used to determine the statistical significance of the changes from pre- and post-intervention to establish the acceptance or rejection of the study hypotheses at the .05 level of confidence.

Summary

In summary, this chapter described the purpose and significance of this study, and provides a synopsis of questions to be studied, procedure of the study, population and sample, study instrument, limitations, assumptions of the study, definition of terms used and treatment of the raw data generated by the study.

The impact of HIV/AIDS on Nigeria’s social fabric and on its economic development and well being continues to be pervasive and, unless controlled, will continue to undermine Nigerian citizens’ quality of life (Nigerian Federal Ministry of Health 2005). It is the assumption of the author of this study that such control can be accelerated through innovative, evidence-based popular awareness and preventive programs.
CHAPTER II

REVIEW OF THE LITERATURE

Introduction

In Chapter 1, the purpose and need for this study were established. The Chapter provided a synopsis of questions to be studied, procedure of the study, study sample, instrument, limitations, assumptions definition of terms used in the study, and the treatment of the raw data generated by the study.

Purpose of the study

The primary purpose of this study was to demonstrate that properly planned and carefully executed awareness training programs could, possibly, provide positive effects on the knowledge, attitude, and behavior of young college students regarding HIV/AIDS.

A second major purpose was to assemble, through literature research, a body of evidence-based knowledge and expenditures on HIV/AIDS that will foster greater awareness among health care providers and other authorities in Nigeria about the scourge and threats of this disease in the country, especially among the youth population.

In this chapter the literature was reviewed. Societal concepts of the HIV/AIDS globally, nationally, and in Nigeria, including the Imo state and the city of Owerri were examined. In this chapter, too, national and international efforts to combat the spread of HIV/AIDS through various expenditures, documented problems associated with replicability of awareness programs were researched. The chapter concluded with a review of the major theoretical forces and concerns that could influence the direction and consequent findings of this study, and presents some concepts of awareness program planning and evaluation.
Historical Perspectives

In reviewing the literature which contributed to societal understanding of the HIV/AIDS epidemic, in 1981 the Centers for Disease Control and Prevention (CDC) originally provided a brief report in its weekly newsletter (1981) about the unexpected occurrence of an unusual and possibly lethal type of infection of the lungs (Pneumocystis Carinii Pneumonia), in six young Los Angeles and 26 New York City homosexual men.

The CDC suggested that because the disease developed in previously immunologically healthy and disease free people, it should be called “Acquired Immunodeficiency Syndrome” (hence the acronym “AIDS), and that since evidence indicated that the disease was not only fatal but also contagious in special ways, all new cases be reported to local health authorities, CDC Task Force Report (1982), and Morbidity and Mortality Weekly Report (1982).

Within the first five years of AIDS the disease had been linked to blood transfusions, Ehrenkranz (1982), to intravenous drug use; Update on Acquired Immune Deficiency Syndrome (1982); and to congenital infection; Oleske, et al (1983). Other studies confirmed that heterosexuals can contract AIDS, Redfield (1985), Van de Perre, et Al (1985), that the disease affects both brain cells and cerebrospinal fluid, Ho, et al (1985), Levy, et al (1985) and that virus infection with human immune deficiency (HIV) which ranges from a complete absence of symptoms to debilitating neurological disorders, fatal disease and AIDS as its end stage, had been isolated from homosexuals and recipients of blood transfusion who were diagnosed to have AIDS. Those findings shed the first light on the present knowledge that the disease is transmittable through blood products and bodily fluids.

In 1986, the World Health Organization estimated that for every AIDS case there were three to five cases of the less severe AIDS-related complex and anything between 50 and 100
silent carriers, giving a cumulative total figure of between 5 to 10 million infected persons who are capable of transmitting the AIDS virus, Mahler (1986). During that decade, too, the John Hopkins University (1986) reported that several governments, worldwide, have started national communication programs about AIDS.

**Global Perspectives**

HIV/AIDS is a global crisis, a challenge to human life and dignity with ability to erode social and economic development. According to Buve et al. (2002), HIV/AIDS is a major public health problem with great influence on stability, life expectancy and economic development globally. The United Nations ‘Global Crisis – Global Action’ (2001) asserted that HIV has the potential of hindering the realization of national development goals, promoting poverty, and unleashing immense suffering on different countries and communities worldwide.

Across the world, nearly 35 million people are living with HIV. The disease is the primary cause of death in Africa and the fourth highest cause of death worldwide. A high percentage of people with HIV/AIDS live in the developing world, and the virus is most prevalent in communities that have already been weakened by severe poverty, widespread of illiteracy and the presence of many other diseases (Sagala, 2008).

The epidemic continues to spread throughout the developing countries of the world despite recent advances in treatment and care available in most developed countries. Social and economic inequalities continue to fuel the epidemic, and HIV infection has increasingly been concentrated in the poorest, most marginalized sectors of the society in both developed and undeveloped countries (Christiaensen, Tollens, & Ezedinma, 1995).
The HIV/AIDS epidemic has had a major impact on the countries of sub-Saharan Africa. According to the 2000 World Health Organization report, in 1999, about 68% of the 5.6 million people throughout the world that were infected with HIV/AIDS come from sub-Saharan Africa.

**Regional Perspectives**

Sub-Saharan Africa is still viewed as the epicenter of global HIV/AIDS pandemic (Wood et al., 2000). A study by Olley, Seedat, Nei and Stein (2004) assessed patients recently diagnosed with HIV in Africa and found that 34.9% of their sample met diagnostic criteria for major depressive disorder.

Regionally, Nigeria is sandwiched between South Africa and Lesotho among the countries ranked as having the largest number of people living with HIV/AIDS in the world.

According to a report submitted to the United Nations General Assembly Sessions on HIV/AIDS by South Africa’s Minister of Health, Motsoaledi, (2009), South Africa remains one of the countries most severely affected by the AIDS epidemic, and has the largest number of HIV infections in the world. According to the report, new HIV infections in the country showed steep rise from 1991, peaked at slightly over 600,000 of the population in 1999, declined slowly from then onwards to rest at just under 500,000 persons in 2009. AIDS deaths in 1999 was around 100,000 persons levelling out in 2009 at nearly 400,000 people, and that the numbers of projected AIDS deaths in the country may surpass projected non-AIDS deaths from all other causes.

With adult HIV prevalence rate of more than 15%, Lesotho, like South Africa, has also been classified into the hyper-endemic status. In 2007, the total number of children orphaned due to AIDS was estimated at 108,700, and the total number of people who have ever received an HIV test in was reported at 229,092 or 12% of the population, which is about 1.8 million. In
the year under review, there were an estimated 62 new HIV infections and about 50 deaths due to AIDS each day in the country. About 270,273 people were living with HIV in the country (UNGASS Report, 2008).

Despite being the largest oil producer in Africa and the 12th largest producer in the world (UNAIDS, Udoh, Stammen, & Mantell, 2008), Nigeria has the second highest number of people living with HIV in the world after South Africa. In 2008, an estimated 2.98 million people (9%) among the 33.4 million living with HIV in the world reside in Nigeria (UNAIDS, 2009). According to Adeyi, et al. (2006), heterosexual sex remains the primary mode of transmission for HIV in the country and accounts for 80-95% of HIV infections with an estimated 3.1 percent of Nigerian adults between ages 15-49 living with HIV/AIDS in 2005.

**Local Perspectives**

The first two cases of HIV and AIDS in Nigeria were identified in 1985 and were reported at an international AIDS conference in 1986 and 1987. The Nigerian health sector established the National AIDS Advisory Committee, which was shortly followed by the establishment of the National Expert Advisory Committee on AIDS (NEACA).

As shown in Table 1, annual AIDS death in 2007 for male was 86,178, and for female, 105,822. While total AIDS orphans were recorded at 2,175,760, new HIV infection during the year under review was 149,095 for males and 187,284 for females. In that year, an estimated 2.98 million were living with HIV/AIDS in the country and the annual HIV positive birth was recorded at 56,681.
Table 1: NIGERIA HIV/AIDS STATUS AT A GLANCE (2007)

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Median HIV Prevalence</td>
<td>4.6%</td>
</tr>
<tr>
<td>Estimated Number of people living with HIV/AIDS</td>
<td>2.98 million</td>
</tr>
<tr>
<td>Annual HIV positive birth</td>
<td>56,681</td>
</tr>
<tr>
<td>Cumulative AIDS death</td>
<td></td>
</tr>
<tr>
<td>Male:</td>
<td>1.38 million</td>
</tr>
<tr>
<td>Female:</td>
<td>1.61 million</td>
</tr>
<tr>
<td>Total:</td>
<td>2.99 million</td>
</tr>
<tr>
<td>Annual AIDS Death</td>
<td></td>
</tr>
<tr>
<td>Male:</td>
<td>86,178</td>
</tr>
<tr>
<td>Female:</td>
<td>105,822</td>
</tr>
<tr>
<td>Number requiring Antiretroviral Therapy</td>
<td></td>
</tr>
<tr>
<td>Adults:</td>
<td>754,375</td>
</tr>
<tr>
<td>Children:</td>
<td>103,080</td>
</tr>
<tr>
<td>New HIV infection</td>
<td></td>
</tr>
<tr>
<td>Males:</td>
<td>149,095</td>
</tr>
<tr>
<td>Females:</td>
<td>187,284</td>
</tr>
<tr>
<td>Total AIDS orphans</td>
<td>2,175,760</td>
</tr>
</tbody>
</table>


The outlook for HIV/AIDS prevalence rate in Nigeria is likely to increase in the coming years as more people are put on HIV treatment and therefore live longer. It is also anticipated that the number of children orphaned due to AIDS in the region will decrease slightly in the coming years as improved treatment access leads to increased survival among parents.

**Cultural factors contributing to the spread of HIV/AIDS in Nigeria**

Nigeria’s lack of sexual health information and education programs is one of the major factors contributing to the spread of the disease. According to a study by Owolabi, Onayade,
Ogunlola, Ogunniyi, & Kuti, (2005), the Nigerian youth often receive inaccurate information about sexuality from their friends. As a result of which the children form incorrect ideas long before a parent addresses the topic with them. The study recommended that government agencies in many countries should have more open talks with children and adolescents about sexuality.

The polarization regarding sex education in Nigeria is between those who argued that sex education should be taught in schools (i.e. school-based), and those who adhere to the principle that sex education is the responsibility of the parents, and therefore, it should be home-based since sexuality connotes personal responsibility and guidance, the type that only parents can provide. In between this polarization are those who believe that sex education of any type and from any source causes young people to talk, dream, and do sex. OSHI, NAKALEMA, & OSHI, (2004) concluded that sex in traditional Nigeria is regarded as a very private subject and the discussion of sex with teenagers is often seen as inappropriate.

**Inadequacy of HIV testing Facilities**

Another contributing factor to the spread of HIV in Nigeria is the distinct lack of voluntary and routine HIV testing facilities in the country. In 2007 just 3 percent of health facilities had HIV testing and counseling services and only 8.6 % of women and men aged 15-49 had received an HIV test and found out the results (Ali-Akpajiak & Pyke, 2003).

Culture also plays an important role in the perceptions of Nigerians toward HIV/AIDS. Any disease affecting a Nigerian be it chronic or acute is considered a problem not only for the family members of the afflicted but also for his/her entire community. Within the African culture, the individual is defined within the greater whole of his or her nuclear or extended family, and within his or her ethnic origin. For this type of orientation, Baylies & Bujra, (2000),
cautioned that the concerns and stressors of the whole people be considered when conceptualizing the problems confronting a Nigerian infected with the disease.

For instance, in considering the means available for problem resolution, for instance, Airhihenbuwa & DeWitt Webster (2004) suggested the following questions pertinent to finding a solution: Firstly, are the processes or method of problem resolution culturally appropriate? What resources and services are available to aid in problem resolution? Do participants have income or funds available to aid in problem resolution? The authors concluded that answers to such questions could vary greatly between participants based on their ethnicity, their extended family support, and their community, and their social economic status.

**Sexual Violence**

A sexual violence phenomenon which is rampant in rural Nigeria has also been found to be associated with increased risk of HIV infection among African women. Van Den Boom et al. (2006) found that intimate partner violence is associated with HIV infection. In another study by Dunkle et al. (2004), of the 1366 women who participated in an antenatal clinic, 458 were found to be HIV–positive. A history of physical or sexual assault from a male partner was reported by 55% of the HIV-positive sample. More women who experienced physical violence with or without sexual violence were also found to have contracted HIV than those without violence experience. Result also indicated that the greater the frequency of physical or sexual assault or both, the greater the likelihood of HIV infection.

**Inadequate healthcare delivery system**

Urban explosion in Nigeria has led to inadequacy of healthcare delivery system in the country. Large parts of the country lack basic healthcare provision, making it difficult to establish HIV testing and prevention services such as those for the prevention of mother-to-child
transmission. In arrears where community clinics exists, the lack of man-power make it almost impossible to establish family planning units that will provide contraceptives, testing or treatment for other STDs (Gordon & National Intelligence Council, Washington D.C., 2002).

**Education**

Uwakwe (2000) stressed that educating people about HIV and AIDS both in schools and in the community must become the chief approach to preventing infection, especially since the majority of new HIV infections occur in young people between the ages of 15 and 25.

**Financial Investments in HIV/AIDS Program**


The initiative under the title ‘Aids Prevention Initiative in Nigeria’ (APIN) created various committees, organized trainings and workshops, and set, as one of its immediate goals, the establishment of accurate and thorough surveillance of HIV infection rates in the country (Nigeria AIDS Outlook, 2001).

In 2006, the government authorized the formation of a National AIDS Commission (NAC) and adopted the "National HIV & AIDS Strategic Plan 2006-2011", which was the foundation of the national response to the HIV/AIDS epidemic.

Beside the Bill and Melinda Gates Foundation contribution of $25,000 US dollars, Nigeria HIV/AIDS program has also benefited from other international governmental and non-governmental donors and partners. Prominent donors and partners in the HIV/AIDS Nigeria
program include the President's Emergency Plan for AIDS Relief (PEPFAR), the UNAIDS, Millennium Challenge Corporation (MCC), the USAID, the DFID, the UNAIDS, the WHO, the World Bank, the Global Fund to Fight AIDS, TB, and Malaria, CSOs, the Harvard School of Public Health and the Kennedy School of Government.

In April 2001, the federal government of Nigeria committed to the investment of about US$3.7 million annually for procuring antiretroviral drugs. In 2002, the World Bank loaned US$ 90.3 million to Nigeria to support a 5-year plan (Tan, Upshur, & Ford, 2003) and in 2005, the total federal government contribution to the national response to HIV/AIDS had escalated to around US$ 10.7 million.

In 2008 PEPFAR provided approximately US$448 million to Nigeria for HIV/AIDS prevention, treatment and care, which accounts for 39% or the third highest amount donated to PEPFAR’s 15 focus countries (Federal Ministry of Health, 2005). By the end of 2008, the Global Fund had disbursed US$95 million in funds to the country for expansion of prevention, treatment, and care of mother-to-child transmission program. Other major expenditure, transfer of, and requests for funds for HIV/AIDS activities by the country included:

- The submission, by Nigeria of another successful proposal to Round 5 of the Global Fund for a total of US$ 180.6 million to support scale-up of comprehensive HIV/AIDS treatment, care and support.
- Nigeria is also part of the World Bank Multi-Country HIV/AIDS Program for Africa regional project which was approved for US$ 16.6 million in 2003 (Zolfo, Lynen, Dierckx, & Colebunders, 2006).
• Nigeria is a beneficiary of the United States President’s Emergency Plan for AIDS Relief. Under the Emergency Plan, Nigeria received more than US$ 70.9 million in 2004 to support a comprehensive HIV/AIDS prevention, treatment and care program.

• The submission by Nigeria, of a successful Round 1 proposal to the Global Fund, with total funding of US$ 70.7 million. Global Fund financing will allow expansion of access to antiretroviral therapy and will reduce some of the financial barriers to accessing treatment. The expansion covered laboratory testing for HIV/AIDS free of charge (Morrison, Kates, & Nieburg, 2005).

• The commitment by the United States in 2005, to an additional US$ 113.4 million to support Nigeria’s fight against HIV/AIDS. Nigeria is a beneficiary of the World Bank Multi-Country WV/AIDS Program for Africa, with approved funding of US$ 90.3 million for 2002—2007.

Despite the fact that most of these funds will be utilized in the development of new HIV/AIDS awareness training programs, other supporters of Nigeria’s HIV/AIDS efforts included the Canadian International Development Agency and the United Kingdom Department for International Development, (Piot & Coll Seck, 2001). With the influx of all these funds, Equinetafrica (2010) reported a drop of over a billion-dollar in international aid for developing countries’ HIV/AIDS programs over the past two years.

**Theoretical Framework of the Study**

In order to delineate the boundaries of this study it was necessary to examine, through the literature, the major concerns and forces that could influence the direction and consequent findings of this study, namely (a) acquisition of knowledge, (b) behavioral changes, and (c) Domain-Reference Test.
Acquisition of Knowledge

The social learning theory provides the appropriate premise for this study. This theory attempts to achieve a balanced synthesis between cognitive psychology and the principle of behavior modification (Bower and Hilgard, 1981). Basically, this unified theoretical framework propounds the explanation of human behavior in terms of continuous reciprocal interaction between cognitive behavioral and environmental determinants (Bandura, 1978a). In addition to the fact that social learning theory accepts application of reinforcement such as shaping principles, it tends to see the role of rewards as both conveying information about the optimal response and providing incentive motivation for a given act because of the anticipated reward. In addition, the learning principle of this theory places special emphasis on the important role played by vicarious, symbolic and self regulating processes (Bandura, 1978a). Social learning theory not only deals with learning but seeks to describe how a group of social and personal competencies could evolve out of social conditions within which the learning occurs, and that is similar to what occurred in this study, where the subjects are exposed to some knowledge in a group environment such as sexual awareness workshop. It also addresses techniques of personality assessment (Mischel, 2007), and behavior modification in clinical and educational settings (Bower, 1981). Further, the principles of social learning theory have been applied to a wide range of social behavior and pathological behavior (Bandura, 1978b).

A study by Taoosi, Zaferani, Enzevaei, Tajik, & Ahmadinezhad (2004) to assess the knowledge and attitude of high school students regarding HIV/AIDS-related issues among Iranian high school students found a moderately high level of knowledge among participants and a higher level of misconceptions about the routes of transmission of the disease. The authors
recommended that strategies for AIDS risk reduction in adolescents be developed in Iranian high schools.

In another study evaluating the effectiveness of a social cognitive theory school-based education program to prevent HIV infection among adolescents, Main, Iverson, McGloin, Banspach, et al. (1994) found that students who participated in the intervention reported fewer sex partners and greater frequency of condom use than students in the comparison schools.

(b) Behavioral Change

The locus of control is generalized expectancy that motivates an individual to engage in better behavior as a result of the perceived consequence of such behavior. The awareness training program that was conducted to create awareness will fit the psychological situation which furnishes various beliefs capable of invoking positive behaviors. In addition, the interaction of interpersonal trust as formulated within the locus of control relates to the expectancy of attaining rewards through a perceived behavioral change (Rotheram-Borus, Murphy, Fernandez, & Srinivasan, 1998).

St Lawrence, Brasfield, Jefferson, Alleyne, et al. utilized the social learning theory to identity participants’ informational needs, motivational influences, and behavior (IBM). The social learning theory-based intervention was conducted in a comprehensive health center that serves predominantly low-income minority clients in a Mississippi city of 400,000 residents. The intervention consisted of 8 weekly educational and behavior skills sessions of 90 to 120 minutes each, covering such diverse subjects as AIDS education, sexual decisions and values, technical competency skills, social competency skills, cognitive competency skills, and social support and empowerment. Behavioral findings of this study suggested that youths who participated in the intervention reported significantly greater condom use and significantly lower
frequency of unprotected intercourse than youths in the comparison condition, and that abstinent youth who participated in the intervention significantly delayed sexual onset to a greater extent than abstinent youth in the comparison condition.

(c) Domain-Reference Test

The American Institutes for Research listed the Domain-Referenced Test (DRT) in the ERIC Clearinghouse on Tests Measurement and Evaluation (1989) as a test in which performance is measured against a well-defined set of tasks or body of knowledge (domain). The DRT method of data collection allows the researcher to extrapolate responses of participants, especially in a carefully designed instrument that is administered to a given population, with results that are of value individually, in combination with others, and in its own totality. Soo-im, Kadooka, Shimabayashi, & Yoshirawa (2005) utilized the DRT method of data collection in a questionnaire to measure the judgment of the relative difficulty of the three sections of the Test of English for International Community (TOEIC), and to scrutinize the word level, grammar complexity, and question types that will lead the test-takers to “not answer questions”.

Concept of awareness program planning and evaluation

Program evaluation has been defined as systematic investigation of the merit, worth, or significance of an activity, project or object (Worthen, Sanders, and Fitzpatrick, 1996). McDermott and Sarvela (1999) asserted that evaluation is not a new or innovative idea, and that evaluation has been an evolving process covering many thousands of years.

Concerned about the inadequacies in the utilization and embracement of this process of investigation, the Center for Disease Control and Prevention set up a Working Group (1999) to develop a framework for program evaluation.
The aim of the framework was to ensure that amidst the complex transition in public health, public health program managers will remain accountable and committed to achieving measurable health outcomes in the implementation of their programs.

The framework acknowledged effective program evaluation as a systematic way to improve and account for public health actions by involving procedures that are useful, feasible, ethical, and accurate. The framework provided what is described as ‘non prescriptive’ guidelines to public health professionals that could be used to summarize and organize essential elements of program evaluation.

The framework comprises six steps and four standards for effective program evaluation. Among the six steps are: (a) engagement of stakeholders, (b) description of the program to be evaluated, (c) designing an evaluation focus, (d) gathering credible evidence about the program, (e) development of justifiable conclusions, and (f) willingness to share the lessons learned from the implementation of the program and from the results of the evaluation with other professionals in the field.

Adhering to these six steps, according to the Workgroup, will facilitate an understanding of a program's context (e.g., the program's history, setting, and organization) and will improve how most evaluations are conceived and conducted.

The four standards approved by the Working Group were adopted from the Joint Committee on Standards for Educational Evaluation to answer such questions as to whether the evaluation be will be an effective judgment of the quality of the program being evaluated, and whether or not the evaluation efforts contained criteria for assessing the worth of the evaluated program. The fours standards included (a) utility of the findings of the evaluation, (b) feasibility
of the action plan for the evaluation; (c) propriety of the program to the evaluation, and (d) validity of the accuracy of the findings of the evaluation. Despite the fact that during the past three decades, the practice of evaluation has evolved in the western hemisphere as a discipline with new definitions, methods, approaches, and applications to diverse subjects and settings, the practice of the discipline has not penetrated many developing countries.

In summary, the literature indicated conclusively that the high burden of the disease, associated mortality and morbidity despite the concerted efforts of the Federal Government of Nigeria, International and local partners to combat the disease continue to be a major public health concern for the country. The epidemic has impacted many segments of the society. It has markedly reduced gains in life expectancy which Nigeria has achieved over the past four decades since her independence and further weakened and threatens to overwhelm the already weak Nigerian health care system. It has increased the number of orphans, and continues hindering the achievement of national development goals by decreasing the size of the workforce.

The literature also suggested that funds being expended on HIV/AIDS prevention programs has not demonstrated much reduction in the incidence of the disease, especially in less developed countries, that grant donors are beginning to shrink their contributions, and that the practice of evaluation as a basic organizational tool for program evaluation in public health practice had not fully developed in Nigeria.
CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

Introduction

In Chapter 1, the purpose and need for this study were established. In this chapter the literature was reviewed. Societal concepts of the HIV/AIDS globally, nationally, and in Nigeria, including the Imo state and the city of Owerri were examined.

In Chapter II, national and international efforts to combat the spread of HIV/AIDS through various expenditures, documented problems associated with reliability of awareness programs were researched. The chapter concluded with a review of the major forces and concerns that could influence the direction and consequent findings of this study. These included the adoption of a theoretical framework for the study, and concepts of awareness program planning and evaluation.

Purpose of the study

The primary purpose of this study was to demonstrate that properly planned and carefully executed awareness training programs could, possibly, provide positive effects on the knowledge, attitude, and behavior of young college students regarding HIV/AIDS.

A second major purpose was to assemble, through literature research, a body of evidence-based knowledge and expenditures on HIV/AIDS that will foster greater awareness among health care providers and other authorities in Nigeria about the scourge and threats of this disease in the country, especially among the youth population.

In this chapter, the research design, methodology adopted for the study, the research question to be answered, and the hypotheses to be tested by the study are presented. The roles of the researcher during the procedure of the study are also highlighted.
Research design

A pre- and post-intervention research was designed for this study, incorporating the Domain-Reference Testing (DRT) methodology. Knowledge, attitude, and perceived behavior of participants were measured before the intervention, and the same variables were measured after the completion of the training intervention.

Research Method

The study adopted a self-administered pre- and post-intervention paper and pencil research method in which respondents were allowed to control both the pace of their responses and the sequence in which they provided responses. This procedure provided study participants with flexibility and anonymity. The incorporation of the DRT method (described under Theoretical Framework of this study) into the attitude and behavior sections of the data instrument also provide a basis for conclusions about the students’ attitude and behavior regarding a much wider domain on the issues of HIV/AIDS spanning a spectrum of period beyond the immediate past of the training program.

Research Question and Hypotheses

The question that this study answered was: Will participation in a HIV/AIDS Awareness Training Program have any effect on the knowledge, attitude, and behavior regarding HIV/AIDS-related issues among university students in an urban city of Nigeria?

To answer the research question, the following three null hypotheses were developed:

(1) **Attitudes: Ho1**: There will be no change in the attitude of study participants towards HIV/AIDS-related issues as a result of their participation in an HIV/AIDS awareness training program.
(2) **Knowledge: Ho2:** There will be no change in the knowledge of participants about HIV/AIDS-related issues as a result of their participation in an HIV/AIDS awareness training program.

(3) **Behavior Ho3:** There will be no change in perceived sexual behavior of study participants as a result of their participation in an HIV/AIDS Awareness training program.

**Rational for Selection of Data Collection Site**

Owerri town was selected for data collection because of the city’s lifestyles and the presence of four universities in the city. Owerri town is popularly known for its social and liberal lifestyle and a concern that the spread of HIV/AIDS among the university students that live there could be very detrimental. Owerri also have an influx of expatriates and commercial sex workers from the unstable Nigerian oil cities all of who intermingle with the university community. Owerri remains one of the fastest growing cities in Imo State and the city has many enterprising non-governmental organizations partnering with state and federal governments to coordinate HIV/AIDS awareness programs in the state. For a map of Nigeria showing the location of the data collection site, see Appendix I.

**Study Subjects**

The non-probability sample that formed the purposeful group of students for this study was drawn from: (a) Federal University of Technology (N=20), and (b) Imo State University (N=23).

**Data collection instrument**

Pre- and post-intervention data were collected by means of a 28-item questionnaire...
containing four segments, namely, attitude, knowledge, behavior, and demographics see Appendix A.

Participants were asked to rate their agreements or disagreements to five attitude statements using the Likert scale.

Eight statements were designed to measure the changes in participants’ knowledge of AIDS, four of which were set using the Likert format, three were open-ended, and one was dichotomous by design.

Three of the ten behavioral statements employed the Likert scale, two utilized dichotomous form of enquiry, while the remaining five provided opportunities for the participants to express themselves in an open-ended format.

Five basic questions of demographic nature solicited information about gender, age, level of education and financial support from respondents.

This questionnaire was a modified version of an original instrument developed, evaluated for reliability and validity, and used by other institutions. The original version was modified for cultural sensitivities, and retested for reliability and validity before being used for this study.

The questionnaires were coded A and B (A for after intervention and B for before) to ensure that participants’ responses could be matched before and after intervention, and participants were informed that Qb had to be completed before Qa.

**Issues of Reliability and Validity**

The instrument utilized for this study was originally developed by Durham (Wu, Hays, Kelly, Malitz & Bozzette, 1997), and consisted of open and close ended questions that focus on social-demographic knowledge of AIDS; risk perception; and sexual behavior, and another instrument by William Brown and Mihai Bocarner. The original questionnaire was pretested among 20
students from various tertiary institutions in Lagos which is the commercial capital of Nigeria to confirm clarity and comprehension. The second version of the instrument was used to collect data among school children.

Various components of the instrument yielded reliability coefficient ranging from .65 to .84, and content validity of the instrument was established using three scales of a previously published research instrument that measured concerns about AIDS and AIDS disease knowledge and behavior. The third version used in this study was further amended to incorporate the Domain Reference Testing method and to reflect cultural sensitivities.

**Method of Data Collection**

Before proceeding with the study, the adult informed consent was read and explained to the participants. They were also provided with instructions and all their questions about the purpose, nature and duration of the study answered by the principal investigator (PI). Once the consents were signed, and the selection process was over, participants were given Questionnaire coded B to complete before the intervention. Upon completion of the intervention each participant was given Questionnaire coded A for completion. The instruments were numbered to ensure that participant’s Qb matches his/her QA.

**The Role of the Researcher**

The events of the world AIDS day in the country coincided with the day when this study was done. A study team was formed that included members of the World Health Organization (WHO) and the PI. Flyers and booklets were prepared for the meeting with students. The students were informed by their lecturers who then introduced the PI as a visiting research fellow from the USA and asked for their cooperation in the study, and the students were very cooperative from the beginning to the end.
The PI introduced the research by providing a briefing on the purpose and voluntary nature of the study, and that since the study was designed for students who participated in the awareness program, each participant must have participated in the training and has a college identity card to prove eligibility. The duration of the test and the pre/post nature of the data collection process were announced, and participants were offered the opportunity to withdraw from participation if they so inclined, at which stage three of the initial 46 (6.5%) of the students opted not to participate and were allowed to leave the data collection hall. The remaining 43 students, each of who validated their eligibility by providing their university-issued identity cards and class schedule participated in the data collection exercise.

**Data Analysis**

The SPSS analytical program version 15 was used for the data analysis to calculate frequency distribution and to run Chi square statistical analysis.

**Summary**

In summary, the research design and methodology developed and utilized for this study ensured confidentiality and anonymity of participants. The paper and pencil method of data collection provided flexibility of data gathering and created an environment that allowed participants to reflect on their attitude, knowledge and behavior before and after the intervention.
CHAPTER IV

PRESENTATION OF DATA AND FINDINGS

Introduction

In Chapter I, the purpose and need for this study were established. In this chapter the literature was reviewed. Societal concepts of the HIV/AIDS globally, nationally, and in Nigeria, including the Imo state and the city of Owerri were examined.

In Chapter II, national and international efforts to combat the spread of HIV/AIDS through various expenditures, documented problems associated with replicability of awareness programs were researched. The chapter concluded with a review of the major forces and concerns that could influence the direction and consequent findings of this study. These included the adoption of a theoretical framework for the study, and concepts of awareness program planning and evaluation.

Chapter III presented the research design, methodology adopted for the study, the research questions to be answered, and the hypotheses to be tested by the study.

Purpose of the study

The primary purpose of this study was to demonstrate that properly planned and carefully executed awareness training programs could, possibly, provide positive effects on the knowledge, attitude, and behavior of young college students regarding HIV/AIDS.

A second major purpose was to assemble, through literature research, a body of evidence-based knowledge and expenditures on HIV/AIDS that will foster greater awareness among health care providers and other authorities in Nigeria about the scourge and threats of this disease in the country, especially among the youth population.
In this chapter, characteristics of the study participants were analyzed, the findings are presented, hypotheses of the study were tested, and evidence as observed in the literature research was summarized.

**Analysis of Data and Findings**

The survey was conducted with 43 non-randomized participants (N= 43) from two of the four institutes of higher learning in the city of Owerri.

**Characteristics of Students who participated in the Study**

As illustrated in Table 2, a larger percent of the participants were female (74.4%), while over 76% (33) belonged to the 22 to 25 age cohort. Despite these disparities in age distribution, more than 80% (37) of the students claimed never married at the time of data collection, but over 60% (28) of the students already have their Bachelor’s degree.

Gender distribution of participants indicated that 25.6% (11) were male while 74.4% (32) were female, but later on in this report, we will look at the relationship of gender and the attitude, knowledge and behavior of the participants.

Age cohort of the participants, were 11.6% (5) in the 18-21 years age cohort, 76.7% (33) were in 22-25 years bracket.

Of the income of the participants, majority over 74% (32) reported incomes below N20,000 (200 US dollars) per month. This was followed by 23.3% (10) who reported income of between N20,000 to N30,000 (between 200 and 300 US dollars) per month, while one participant (2.3%) reported an income within the N30,000-N40,000 (300-400 US dollar) ranges.
Table 2: CHARACTERISTICS OF STUDENTS WHO PARTICIPATED IN THE STUDY (N=43)

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>11</td>
<td>25.6</td>
</tr>
<tr>
<td>Female</td>
<td>32</td>
<td>74.4</td>
</tr>
<tr>
<td>AGE:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-21</td>
<td>5</td>
<td>16.6</td>
</tr>
<tr>
<td>22-25</td>
<td>33</td>
<td>76.7</td>
</tr>
<tr>
<td>26-30</td>
<td>4</td>
<td>9.3</td>
</tr>
<tr>
<td>31-36</td>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td>MARITAL STATUS:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never Married</td>
<td>37</td>
<td>86.0</td>
</tr>
<tr>
<td>Ever Married</td>
<td>6</td>
<td>14.0</td>
</tr>
<tr>
<td>LEVEL OF EDUCATION:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School</td>
<td>15</td>
<td>34.0</td>
</tr>
<tr>
<td>Bachelor Degree</td>
<td>28</td>
<td>65.1</td>
</tr>
<tr>
<td>LEVEL OF INCOME:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under N20, 000</td>
<td>32</td>
<td>74.4</td>
</tr>
<tr>
<td>N20, 000-N30, 000</td>
<td>10</td>
<td>23.3</td>
</tr>
<tr>
<td>N30, 100-N40, 000</td>
<td>1</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Because of rounding, percentages may not equal 100, and whole numbers may not equal N in the equation.
How the intervention affected the attitude, knowledge, and behavior of the students, post-intervention, is presented in the following three sections. Except for the sections on knowledge, majority of the statements on Attitude and Behavior utilized the Domain-Reference Testing (DRT) methodology, as described in Chapter II of this report under Methodology. The DRT provided a basis to assess domains, much wider within participants’ attitude and beliefs about the subject under study as a result of their participation in the training program. To test the reconditioned reasoning of participants, after participation in the awareness training, the pre- and post-intervention data collection instruments asked such question as: “If you are sexually active, what precautions do you take to protect yourself from AIDS? The DRT method is cognizant of the fact that there will be no time for participants to have sex within the confines of the pre- and post-intervention periods.

A. Attitude

Participants Seeking Out Information about AIDS

Table 3 represents the frequency scores of participants’ pre- and post-intervention responses on attitude. The Table indicated that 58.1% of the participants contemplated to seek information about HIV/AIDS as a result of their participation in the intervention against only 16.3% at the pre-intervention stage. The same 37.2% before and after indicated that they sometime seek out information, and as indicated in the table, 46.5% did not seek the information at all before intervention, whereas only 4.7% planned not to seek information after exposure to the intervention.
TABLE 3. Participants’ Pre- and Post-Intervention Responses to Statement about Seeking Out AIDS Information

<table>
<thead>
<tr>
<th>Responses</th>
<th>Before Intervention (N=43)</th>
<th>After Intervention (N=43)</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
</tr>
<tr>
<td>Not at all</td>
<td>20</td>
<td>46.5</td>
<td>2</td>
</tr>
<tr>
<td>Some Times</td>
<td>16</td>
<td>37.2</td>
<td>16</td>
</tr>
<tr>
<td>Always</td>
<td>7</td>
<td>16.3</td>
<td>25</td>
</tr>
</tbody>
</table>

How Much Open Talk about AIDS with Sexual Partners

Similar to the report on seeking out disease information, Table 4 suggested that 65.1% of respondents would have a lot of open talks about the disease after the intervention compared to 39.5% who will do the same before the training. Only 14.0% stated that they would talk a little about the disease before, versus 30.2% after. The percentage of respondents (46.5%) which stated that they did not have open talks about AIDS before the awareness training program dropped down to 4.7% after participation in the training program.

TABLE 4. Participants’ Pre- and Post-Intervention Responses to Statement on Open Talk about AIDS with Sexual Partners

<table>
<thead>
<tr>
<th>Responses</th>
<th>Before Intervention (N=43)</th>
<th>After Intervention (N=43)</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
</tr>
<tr>
<td>Not at all</td>
<td>20</td>
<td>46.5</td>
<td>2</td>
</tr>
<tr>
<td>A Little</td>
<td>6</td>
<td>14.0</td>
<td>13</td>
</tr>
<tr>
<td>A Lot</td>
<td>17</td>
<td>39.5</td>
<td>28</td>
</tr>
</tbody>
</table>

How much Discussion on AIDS Issues with Others (within the last month)

The question that solicited this information relied on the DRT brand of recall system to assess the level of integration of current and past attitude of participants. As shown in Table 5,
over two quarters (67.4%) said they would not discuss AIDS issues before the awareness training program. After participation in the program, the percentage dropped to 34.9%. Percentage distribution of the students willing to discuss AIDS issues with others also jumped from 7.0% (before) to 23.2% (after).

TABLE 5. Participants’ Pre- and Post-Intervention Responses to Statement about Discussion on AIDS Issues

<table>
<thead>
<tr>
<th>Responses</th>
<th>Before Intervention (N=43)</th>
<th>After Intervention (N=43)</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
</tr>
<tr>
<td>Not at all</td>
<td>29</td>
<td>67.4</td>
<td>15</td>
</tr>
<tr>
<td>A Little</td>
<td>11</td>
<td>25.6</td>
<td>18</td>
</tr>
<tr>
<td>A Lot</td>
<td>3</td>
<td>7.0</td>
<td>10</td>
</tr>
</tbody>
</table>

How Much Participants Talk about AIDS with Opposite Sex

Table 6 reports scores of respondents’ discussions on the disease with opposite sex. Well over half of the participants (60.5%) would not discuss AIDS issues with opposite sex before the awareness training, but only 16.3% said they would refrain from such discussion after their exposure to the training program. As for level of discussions, 20.9% and 51.2% would discuss a little before and after the intervention, respectively. Again, 18.6% and 32.6% will discuss on the issue a lot before and after respectively. There appear to be universal change of attitude on this issue among participants after their participation in the awareness training program.
TABLE 6. Participants’ Pre- and Post-Intervention Responses to Statement on Discussion about AIDS with Opposite Sex

Before Intervention
(N=43)                                             After Intervention
(N=43)

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percent</th>
<th>Frequency</th>
<th>Percent</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>26</td>
<td>60.5</td>
<td>7</td>
<td>16.3</td>
<td>-44.2</td>
</tr>
<tr>
<td>A Little</td>
<td>9</td>
<td>20.9</td>
<td>22</td>
<td>51.2</td>
<td>30.3</td>
</tr>
<tr>
<td>A Lot</td>
<td>8</td>
<td>18.6</td>
<td>14</td>
<td>32.6</td>
<td>14.0</td>
</tr>
</tbody>
</table>

How Much Participants Talk about AIDS with Opposite Sex

Table 6 reports scores of respondents’ discussions on the disease with opposite sex. Well over half of the participants (60.5%) would not discuss AIDS issues with opposite sex before the awareness training, but only 16.3% said they would refrain from such discussion after their exposure to the training program. As for level of discussions, 20.9% and 51.2% would discuss a little before and after the intervention, respectively. Again, 18.6% and 32.6% will discuss on the issue a lot before and after respectively. There appear to be universal change of attitude on this issue among participants after their participation in the awareness training program.

TABLE 6. Participants’ Pre- and Post-Intervention Responses to Statement on Discussion about AIDS with Same Sex

Before Intervention
(N=43)                                             After Intervention
(N=43)

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percent</th>
<th>Frequency</th>
<th>Percent</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>26</td>
<td>60.5</td>
<td>7</td>
<td>16.3</td>
<td>-44.2</td>
</tr>
<tr>
<td>A Little</td>
<td>9</td>
<td>20.9</td>
<td>22</td>
<td>51.2</td>
<td>30.3</td>
</tr>
<tr>
<td>A Lot</td>
<td>8</td>
<td>18.6</td>
<td>14</td>
<td>32.6</td>
<td>14.0</td>
</tr>
</tbody>
</table>

How much Participants Talk about AIDS with Same Sex
Table 7 reports scores of respondents discussions on the disease issues with people of the same sex. 53.5% would not discuss AIDS issues with people of the same sex before the awareness training, but only 14.0% after, 23.3% and 53.5% would discuss with same sex a little before and after respectively. Again, 23.3% and 32.6% will discuss on the issue a lot before and after respectively, once again showing increases after the awareness training.

**TABLE 7. Participants’ Pre- and Post-Intervention Responses to Statement on Discussion about AIDS with Same Sex**

<table>
<thead>
<tr>
<th>Before Intervention (N=43)</th>
<th>After Intervention (N=43)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responses</td>
<td>Frequency</td>
</tr>
<tr>
<td>Not at all</td>
<td>23</td>
</tr>
<tr>
<td>A Little</td>
<td>10</td>
</tr>
<tr>
<td>A Lot</td>
<td>10</td>
</tr>
</tbody>
</table>

**Importance of AIDS Issues to Participants**

Table 8 reports scores of respondents on the importance of the disease issues. 51.2% did not think that AIDS issues is important at all before the awareness training, but only 4.7% after, 2.3% and 9.3% indicated that the disease issues is somewhat important before and after respectively. Again, 46.5% and 86.0% stated that the disease issue is very important before and after respectively, showing increases after the awareness training.
TABLE 8. Participants’ Pre- and Post-Intervention Responses to Statement on the Importance of AIDS Issues

<table>
<thead>
<tr>
<th>Responses</th>
<th>Before Intervention (N=43)</th>
<th>After Intervention (N=43)</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
</tr>
<tr>
<td>Not Important</td>
<td>22</td>
<td>51.2</td>
<td>2</td>
</tr>
<tr>
<td>Somewhat Important</td>
<td>1</td>
<td>2.3</td>
<td>4</td>
</tr>
<tr>
<td>Very Important</td>
<td>20</td>
<td>46.5</td>
<td>37</td>
</tr>
</tbody>
</table>

B. Knowledge

Participants’ Knowledge about HIV/AIDS- related Issues

The table represents the scores of participants’ responses to the question regarding how much they feel they know about AIDS. Apparently, there seem to be no change in the percentage of participants who claimed to know a lot about the disease before and after the intervention.

TABLE 9. Participants’ Pre- and Post-Intervention Levels of HIV/AIDS Knowledge

<table>
<thead>
<tr>
<th>Responses</th>
<th>Before Intervention (N=43)</th>
<th>After Intervention (N=43)</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
</tr>
<tr>
<td>Not at all</td>
<td>2</td>
<td>4.7</td>
<td>1</td>
</tr>
<tr>
<td>A Little</td>
<td>23</td>
<td>53.5</td>
<td>24</td>
</tr>
<tr>
<td>A Lot</td>
<td>18</td>
<td>41.9</td>
<td>18</td>
</tr>
</tbody>
</table>

Participants’ Knowledge about People Living with AIDS (PLWA)
Table 10 reports scores of respondents on their knowledge of people living with AIDS. The highest record of percentage change was among the participants who registered that they know very little about people living with AIDS (48.8%) before the training, compared to 79.1% after the training. Of particular interest is the percentage of participants who reported that they know quite a lot about people living with AIDS. The percentage changed from 46.5% before the training to 14.0% after the training.

TABLE 10. Participants’ Pre- and Post-Intervention Responses to Knowledge Question about People Living with AIDS (PLWA)

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percent</th>
<th>Frequency</th>
<th>Percent</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>2</td>
<td>4.7</td>
<td>3</td>
<td>7.0</td>
<td>-2.3</td>
</tr>
<tr>
<td>A Little</td>
<td>21</td>
<td>48.8</td>
<td>34</td>
<td>79.1</td>
<td>30.3</td>
</tr>
<tr>
<td>A Lot</td>
<td>20</td>
<td>46.5</td>
<td>6</td>
<td>14.0</td>
<td>-32.5</td>
</tr>
</tbody>
</table>

Knowledge about Mode of AIDS Transmission

To the statement whether a person can contract the HIV virus from having oral sex, (mouth on vagina) with a woman, slightly over a quarter (25.6%) of the participants, according to Table 11 responded positively. The percentage, however, jumped to 41.9% after their participation in the training program.

TABLE 11. Participants’ Pre- and Post-Intervention Responses to Knowledge Question about Modes of AIDS Transmission

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percent</th>
<th>Frequency</th>
<th>Percent</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Response</td>
<td>3</td>
<td>7.0</td>
<td>10</td>
<td>23.3</td>
<td>16.26</td>
</tr>
<tr>
<td>No</td>
<td>29</td>
<td>67.4</td>
<td>15</td>
<td>34.9</td>
<td>-32.5</td>
</tr>
</tbody>
</table>
Participants’ Perceptions about the Effectiveness of HIV/AIDS Treatment

Table 12 illustrated minimal changes on participants’ perceptions about the effectiveness of treatments for HIV/AIDS, before and after their participation in the awareness program.

Table 12: Participants’ Pre- and Post-Intervention Perceptions of Effectiveness Of Treatment for HIV/AIDS

<table>
<thead>
<tr>
<th>Responses</th>
<th>Before Intervention (N=43)</th>
<th>Frequency</th>
<th>Percent</th>
<th>After Intervention (N=43)</th>
<th>Frequency</th>
<th>Percent</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Effective</td>
<td></td>
<td>6</td>
<td>14.0</td>
<td></td>
<td>8</td>
<td>18.6</td>
<td>4.6</td>
</tr>
<tr>
<td>Somewhat Effective</td>
<td></td>
<td>21</td>
<td>48.8</td>
<td></td>
<td>21</td>
<td>48.8</td>
<td>0.0</td>
</tr>
<tr>
<td>Not Effective</td>
<td></td>
<td>12</td>
<td>27.9</td>
<td></td>
<td>12</td>
<td>27.9</td>
<td>0.0</td>
</tr>
<tr>
<td>Don’t know</td>
<td></td>
<td>4</td>
<td>9.3</td>
<td></td>
<td>2</td>
<td>4.7</td>
<td>4.6</td>
</tr>
</tbody>
</table>

Responses to Open Ended Questions

Of the three opened ended questions on knowledge about HIV/AIDS, majority of the respondents maintained their pre-intervention stand that the category of people most infected by the HIV/AIDS virus in their state are not students, commercial sex workers, but “other people”. Reasons cited for practicing safe sex, pre- and post-intervention was health, and most respondents considered test as the surest way somebody can find our if he or she is HIV-positive.
C. Behavior

Following the same pattern as utilized for attitudinal enquiries, majority of the behavioral statements also utilized the DRT method in formulating questions in this section. Examples of the statements under the DRT regiment were asking respondents about the frequency of their use of condoms, or the number of sexual partners they have ever had. The same questions were asked before the intervention and immediately after the intervention.

Frequency of Condom Use by Participants

Table 13 suggested very little percentage changes in the use of condom as a result of participation in the training program. There was, however, a small post-intervention increase (9.3%) among those who said they use the condom sometimes.

Table 13: Participants’ Pre- and Post-Intervention Responses to Frequencies of Condom Use

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency Before</th>
<th>Percent Before</th>
<th>Frequency After</th>
<th>Percent After</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>15</td>
<td>34.9</td>
<td>14</td>
<td>32.6</td>
<td>2.3</td>
</tr>
<tr>
<td>Sometimes</td>
<td>9</td>
<td>20.9</td>
<td>13</td>
<td>30.2</td>
<td>9.3</td>
</tr>
<tr>
<td>Most times</td>
<td>8</td>
<td>18.6</td>
<td>5</td>
<td>11.6</td>
<td>-7.0</td>
</tr>
<tr>
<td>Always</td>
<td>11</td>
<td>25.6</td>
<td>11</td>
<td>25.6</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Number of Sex Partners

Table 14: represents the scores of participants’ responses on their sexual behavior. Before participating in the training program, over sixty percent (60.5%) of participants claimed they have only one sexual partner. After participation in the training, however, there was a drop of 14% in the number of participants claiming to have only one sex partners. The same pattern was
Effect of HIV/AIDS Awareness Training Program among College Students in Owerri, Imo State of Nigeria

recorded for participants who claimed that they have two sex partners, 23.3% before the intervention compared to 32.6% after the training.

Table 14: Participants’ Pre- and Post-Intervention Responses to Question Regarding Number of Sex Partners

<table>
<thead>
<tr>
<th>Responses</th>
<th>Before Intervention (N=43)</th>
<th>After Intervention (N=43)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>1</td>
<td>26</td>
<td>60.5</td>
</tr>
<tr>
<td>2-4</td>
<td>10</td>
<td>23.3</td>
</tr>
<tr>
<td>5-9</td>
<td>5</td>
<td>11.6</td>
</tr>
<tr>
<td>10 or More</td>
<td>2</td>
<td>4.7</td>
</tr>
</tbody>
</table>

Protection Used by Participants for Protection during Sexual Intercourse

Table 15 reveals that 23.3% of respondents indicated, before the training, that they do not use any protection against the disease during intercourse. After the training, however, only 14.0% of the participants claimed they used nothing for protection during intercourse. The percentage distribution appeared to be the same for the number of students who claimed they use little or a lot of protection during intercourse.

TABLE 15. Participants’ Pre- and Post-Intervention Responses to Behavioral Question on Protection from Disease

<table>
<thead>
<tr>
<th>Responses</th>
<th>Before Intervention (N=43)</th>
<th>After Intervention (N=43)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>Not at all</td>
<td>10</td>
<td>23.3</td>
</tr>
<tr>
<td>A Little</td>
<td>6</td>
<td>14.0</td>
</tr>
<tr>
<td>A Lot</td>
<td>27</td>
<td>62.8</td>
</tr>
</tbody>
</table>
Effects of AIDS Infection on Participants’ Dating Practices

Table 16 suggested that the disease has no influence on the dating practices of the students before and even after the intervention.

**TABLE 16. Pre- and Post-Intervention Responses to Question on The Effects of AIDS on Participants’ Dating Practices**

<table>
<thead>
<tr>
<th>Responses</th>
<th>Before Intervention (N=43)</th>
<th>After Intervention (N=43)</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
</tr>
<tr>
<td>No Response</td>
<td>4</td>
<td>9.3</td>
<td>3</td>
</tr>
<tr>
<td>No</td>
<td>30</td>
<td>69.8</td>
<td>31</td>
</tr>
<tr>
<td>Yes</td>
<td>9</td>
<td>20.9</td>
<td>9</td>
</tr>
</tbody>
</table>

Participants’ Involvement with Commercial Sex Workers

As shown in the table, beside the percentage of students who did not respond to this statement, the awareness training program appeared to have no influence on the number of students who have had sex with commercial sex workers. The same high percentage (over 80%) was recorded before the intervention as well as after the intervention.

**TABLE 17: Participants’ Pre- and Post-Intervention Responses to Statement on Sex with Commercial Sex Workers**

<table>
<thead>
<tr>
<th>Responses</th>
<th>Before Intervention (N=43)</th>
<th>After Intervention (N=43)</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
</tr>
<tr>
<td>No Response</td>
<td>3</td>
<td>7.0</td>
<td>4</td>
</tr>
<tr>
<td>No</td>
<td>3</td>
<td>7.0</td>
<td>4</td>
</tr>
<tr>
<td>Yes</td>
<td>37</td>
<td>86.0</td>
<td>35</td>
</tr>
</tbody>
</table>

Analysis of Open-Ended Behavioral Enquiries
Among the participants who provided meaningful comparative pre- and post responses, majority pledged to decrease their frequencies of casual sex, to use the condom and other sex protective mechanisms more frequently when having sex with their casual or/and regular sexual partners.

**Test of Hypotheses**

Using the cumulative means distribution of the attitude, knowledge and behavior scores, and a test statistics was developed using the chi-square goodness of fit formula to test the three hypotheses of this study. The formula utilizes the squares of both positive and negative expected and observed frequencies, thereby turning negative means frequencies into positive numbers. The following three null hypotheses constructed to be tested by this study are as follows:

1. **Attitude**
   
   **H₀₁:** There will be no change in the attitude of study participants towards HIV/AIDS-related issues as a result of their participation in an HIV/AIDS Awareness Training Program.

   The computerized value of chi-square, as reported in Table 18, produced a composite score of 3.08. At the selected probability level of 0.05, participation in the Awareness Training program did not change the attitude of the participants, and the null hypothesis that there will be no change in the attitude of study participants towards HIV/AIDS-related issues as a result of their participation in an HIV/AIDS awareness training program is retained.
TABLE 18: Participants’ Pre- and Post-Intervention Means Scores of Ratings for Statements on Attitude towards HIV/AIDS

<table>
<thead>
<tr>
<th>STATEMENTS</th>
<th>Means Scores</th>
<th></th>
<th></th>
<th>Probability P=&lt;0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before (N=43)</td>
<td>After (N=43)</td>
<td>Change</td>
<td></td>
</tr>
<tr>
<td>1. Seek Information</td>
<td>16.3</td>
<td>58.1</td>
<td>41.8</td>
<td>0.7161</td>
</tr>
<tr>
<td>2. Open talk about HIV/AIDS</td>
<td>39.5</td>
<td>65.1</td>
<td>25.6</td>
<td>0.6777</td>
</tr>
<tr>
<td>3. Discussed AIDS Issue</td>
<td>7.0</td>
<td>23.2</td>
<td>16.2</td>
<td>0.4672</td>
</tr>
<tr>
<td>4. Talk to those of opposite sex About AIDS</td>
<td>18.6</td>
<td>32.6</td>
<td>14.0</td>
<td>0.1893</td>
</tr>
<tr>
<td>5. Talk to those of same sex About AIDS</td>
<td>23.3</td>
<td>32.6</td>
<td>9.3</td>
<td>0.1243</td>
</tr>
<tr>
<td>6. Importance of AIDS</td>
<td>46.5</td>
<td>86.0</td>
<td>39.5</td>
<td>0.4329</td>
</tr>
</tbody>
</table>

\[ X^2 = 3.08 \quad d/f = 5 \quad p = 11.070 \]

(2) Knowledge

Null Hypothesis 2 (Ho 2): There will be no change in the knowledge of Participants about HIV/AIDS-related issues as a result of their Participation in an HIV/AIDS awareness training program.
The chi-square value on the knowledge score, as reported in Table 19, produced a composite score of 4.01. At the selected probability level of 0.05, only a subset, modes of HIV transmission, produce a statistical significant change in the knowledge of the students after participation in the Awareness Training program. With a composite score of 4.01, the null hypothesis that there will be no change in the knowledge of study participants towards HIV/AIDS-related issues as a result of their participation in an HIV/AIDS awareness training program is retained.

### TABLE 19: Participants’ Pre- and Post-Intervention Means Scores of Ratings for Statements on Knowledge about HIV/AIDS

<table>
<thead>
<tr>
<th>STATMENTS</th>
<th>Means Scores</th>
<th></th>
<th>Percentage</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before (N=43)</td>
<td>After (N=43)</td>
<td>Change</td>
<td>P=&lt;0.05</td>
</tr>
<tr>
<td>1. Knowledge about HIV/AIDS</td>
<td>41.9</td>
<td>41.9</td>
<td>0.0</td>
<td>0.6691</td>
</tr>
<tr>
<td>2. Knowledge about those who Suffer from AIDS</td>
<td>46.5</td>
<td>14.0</td>
<td>-32.5</td>
<td>0.9116</td>
</tr>
<tr>
<td>3. Knowledge about Modes of AIDS transmission</td>
<td>25.6</td>
<td>41.9</td>
<td>16.3</td>
<td>0.0207</td>
</tr>
<tr>
<td>4. Believe about effectiveness of HIV/AIDS treatments</td>
<td>48.8</td>
<td>48.8</td>
<td>0.0</td>
<td>0.6691</td>
</tr>
</tbody>
</table>

\[ X^2 = 4.01 \]
\[ d/f = 3 \]
\[ p = 7.815 \]

(3) **Behavior**
Null Hypothesis 3 (Ho 3): There will be no change in the perceived sexual behavior of study participants as a result of their participation in a HIV/AIDS awareness training program.

Despite the utilization of the Domain Reference Testing method in soliciting behavioral responses from the participants, the chi-square value on the behavioral score, as reported in Table 20, produced a composite score of 2.44. At the selected probability level of 0.05, there seems to be no statistical significant change in the proposed sex practices of the students as a result of their participation in the Awareness Training program. With a composite score of 2.44, the null hypothesis that there will be no change in the behavior of study participants towards HIV/AIDS-related issues as a result of their participation in an HIV/AIDS awareness training program is retained.

TABLE 20: Participants’ Pre- and Post-Intervention Means Scores for Ratings of Statements on Behavior about HIV/AIDS

<table>
<thead>
<tr>
<th>STATEMENTS</th>
<th>Means Scores</th>
<th></th>
<th></th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before (N=43)</td>
<td>After (N=43)</td>
<td>Percentage Change</td>
<td>P=&lt;0.05</td>
</tr>
<tr>
<td>1. Condom use</td>
<td>25.6</td>
<td>25.6</td>
<td>0.0</td>
<td>0.2478</td>
</tr>
<tr>
<td>2. Number of sexual partners</td>
<td>60.5</td>
<td>46.5</td>
<td>14.0</td>
<td>0.1389</td>
</tr>
<tr>
<td>3. Protective Precautions</td>
<td>62.8</td>
<td>67.4</td>
<td>-4.6</td>
<td>0.4589</td>
</tr>
<tr>
<td>4. Effects of AIDS on dating Practices</td>
<td>20.9</td>
<td>20.9</td>
<td>0.0</td>
<td>0.2478</td>
</tr>
<tr>
<td>5. Sex with commercial sex Workers</td>
<td>86.0</td>
<td>81.4</td>
<td>4.6</td>
<td>0.6753</td>
</tr>
</tbody>
</table>
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\[ X^2 = 2.448 \quad d/f = 4 \quad p = 9.488 \]

Summary

Social scientists often caution about the dangers of making assumptions based on statistically significant findings, because program development or implementation, data collection or data analysis, and study methodologies may not have completely satisfied real social research to limit findings strictly to statistical combinations. With such warning as a guiding principle for the interpretation of raw data from this study, it could be summarized that the clusters of positive changes from the pre- to post-intervention scores of the participants, created a considerable amount of changes in the attitude, knowledge, and perceived behavior among the students, and will, therefore, be further examined in the next chapter.
CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Introduction

In Chapter 1, the purpose and need for this study were established. The Chapter provided a synopsis of questions to be studied, procedure of the study, study sample, instrument, limitations, assumptions definition of terms used in the study, and the treatment of the raw data generated by the study.

In Chapter II, national and international efforts to combat the spread of HIV/AIDS through various expenditures, documented problems associated with replicability of awareness programs were researched. The chapter concluded with a review of the major forces and concerns that could influence the direction and consequent findings of this study. These included the adoption of a theoretical framework for the study, and concepts of awareness program planning and evaluation.

Chapter III presented the research design, methodology adopted for the study, research questions and study hypotheses.
In chapter IV, analysis and the findings of the study data were presented together with the characteristics of the study participants. Hypotheses of the study were tested, and evidence as observed in the literature research is summarized.

**Purpose of the study**

The primary purpose of this study was to demonstrate that properly planned and carefully executed awareness training programs could, possibly, provide positive effects on the knowledge, attitude, and behavior of young college students regarding HIV/AIDS.

A second major purpose was to assemble, through literature research, a body of evidence-based knowledge and expenditures on HIV/AIDS that will foster greater awareness among health care providers and other authorities in Nigeria about the scourge and threats of this disease in the country, especially among the youth population.

This Chapter presents a summary of the principal findings of the study, discusses the conclusions and implications of the findings, and offers recommendations.

**Summary of principal findings**

Among the principal findings of this study is the fact that the data generated from the study did not indicate a strong statistical significant evidence to disprove the three null hypothesis of the study, There were evidence, however, from the various percentage changes in the attitude, knowledge and perceived behaviors of the participants from pre-intervention to post-intervention, that the training program effected changes among the participants.

Changes recorded in the attitude of the students included:

(a) Participants contemplating to continue seeking information about HIV/AIDS as a result of their participation in the intervention (Table 3) which increased from 16.3% (pre-intervention) to 58.1% (post-intervention). In Table 4, there were also major shifts among participants’ attitude
towards open communications with their sexual partners regarding HIV/AIDS. Whereas almost half (46.5%) of the participants said they do not communicate at all with their sexual partners about HIV/AIDS, this percentage was reduced to 4.7% after their participation in the training program. Communication about the disease with non-sexual partners also showed some significant changes in that 67.4% (pre-intervention) said they do not discuss AIDS issue at all. After participation in the training, this percentage reduced to 34.9, showing a major shift of over 30% (Table 5). The non-communicators regarding HIV/AIDS with the opposite sex appear to have reduced within the pre- and post-intervention activities from 60.5% to 16.3%, and there was a shift from 18.6% (pre) to 32.6% (post) among those who intend to communicate with the opposite sex a lot (Table 6). As a result of the training, it also appears that communications about AIDS-related issues will be enhanced among participants and others of the same sex. Table 7 indicated a shift of almost 40% among participants who attested to no communication at all before the intervention, and from Table 8, AIDS-related issues assumed ‘very important’ status among almost 40% of participants who did not consider the disease as very important pre-intervention.

(b) Data emanating from responses also demonstrate major clusters in the knowledge base of the participants as a result of their participation in the training program. Before participation in the training over 45% of participants thought they know a lot about people living with AIDS (PLWA). After the training, however, only 14% could correlate their original knowledge with their newly acquired knowledge.

(c) Behavioral changes also recorded some changes as a result of the training. A small percent among the participants will adopt the use of condoms sometimes (20.9% pre and 30.2% post), and for number of sexual partners, while 23.3% thought 2 to 4 partners are adequate (pre) the
post percentage was 32.6%. It should be mentioned that the range of sexually partners from participants’ responses was 1 to 10 or more sexual partners.

The principal findings of this study correlates with the findings of a study on knowledge of and attitude to HIV/AIDS of senior secondary school pupils and trainee teachers by Agrawal, Rao, Chandrashekar (1999) who reported changes in attitudes after intervention, and with the findings recorded by Morton (1986) who observed no correlation between attitudes and knowledge about HIV/AIDS.

Equally important are the findings of the literature research. The literature implicitly demonstrated that evaluation of the effectiveness of HIV/AIDS efforts in Nigeria relies on management of the disease, expensive laboratory assays, condom usage counts, and access to antiretroviral therapies.

Another important revelation which became crystal clear from the usage of the Domain Reference Testing method in the data collection instrument was the perceived eagerness of the students wanting to learn more, and despite the fact that they were offered no incentives, the students voluntarily provide their consents to participate in the study, and even provided answers to questions that defied instant pre- and post-intervention concepts.

**Study Conclusions**

The data presented in this study, and the results of the tested hypotheses are not to be construed as a conclusive or definitive evidence of the knowledge, attitude, and behavior of some or all students, nor should they be taken as a static demonstration of effectiveness or otherwise of the Awareness Training Program.

The study evaluated the effect of an Awareness Training Program on the knowledge, attitude, and behavior of HIV/AIDS-related issues on college students. The literature provided a
wealth of information demonstrating that effectiveness of HIV/AIDS initiatives in a country should not be limited to the number of condom usage or the number of infected adults having access to antiretroviral therapies, but must include programs designed to influence behavior and attitudes toward the disease (Arthur, Nduba, Forsythe, Mutemi, et al. (2007); Lyles, Kay, Crepaz, Herbst, et al. (2004); Koo, Begier, Henn, Sepkowitz, et al. (2006);

The statistical analysis of the data failed to reject the three null hypotheses formulated to be tested under this study, but the data demonstrated many clusters of positive changes in the attitude, knowledge and behavior of the participants as a result of their participation in the Awareness Training Program.

Implications of the Study

Of paramount importance to this study are the implications emerging from the implementation of the investigation which, the author which to share in the belief that they might be of benefit to other beginning researchers. Upon reflection, the researcher developed five fundamental concepts, which could have improved the quality of this enquiry, and could be of benefit to new researchers who intend to collect data as an external evaluator in distant countries. The five concepts could be classified as follows: (a) strategic planning, (b) sanctioning; (b) trust building; (c) mutuality; and (d) introspection. The relevance of the concepts to this study is presented in the following observations.

(a) Strategic Planning

It is crucially important to pilot test both the program and the data collection instrument for sensitivities before project implementation. Dummy tables should also be prepared and tested concurrently at the program planning stage.

(b) Sanctioning
Effect of HIV/AIDS Awareness Training Program among College Students in Owerri, Imo State of Nigeria

Developing relationships with formal and informal leaders who are most likely to participate in the development of the program to be evaluated will be useful. Becoming familiar with the socioeconomic and political context of the potential participants of the program must precede the development of an evaluation instrument and the implementation of the research study. Understanding the community and developing alliances will foster a cooperative and collaborative environment. Program developers and implementation staff should be included in the evaluation effort and their roles should be meaningful, otherwise, their involvement might be interpreted as patronizing the ‘outsider’.

(c) Trust-Building

In order to avoid conflicts of culture between the developers and implementing staff of a program and the outside evaluation research team, it may be necessary for the external evaluator to continually up-date the program managers with the various components of the program which might impact the evaluation process or/and results. The willingness to address these early and openly builds trust.

(d) Mutuality

The concepts of trust-building and mutuality might be hierarchical and interwoven. Without trust, mutuality is unlikely to occur. Evaluating an intervention should therefore form the foundation of a mutually beneficial relationship between the program developers, the program implementing staff, and the evaluation team. Dennis and Neese (2000) warned against the “helicopter” approach in which the researcher “land” only to
collect data and leave immediately afterwards without any interaction with the participating community.

(e) Researcher Self-Reflection and Introspection

University students within the Africa region are not a homogeneous group. In Nigeria, for example, lifestyle, values, social class, economic status, culture, dialects, and generation differ significantly among students attending university in the country. Because such subtleness cannot always be seen or known by an external evaluator, the researcher must continue to examine his/her assumptions about the intervention, the evaluation instrument, the staff and the students who are going to be the subject of the study.

Recommendations

The recommendations emerging from this study are provided in two parts, namely: (a) those addressing the primary purposes of the study, and (b) recommendations for the second purpose of the study.

(a) The primary purpose of this study was to demonstrate that properly planned and carefully executed awareness training programs could, possibly, provide positive effects on the knowledge, attitude, and behavior of young college students regarding HIV/AIDS.

According to McDermott and Sarvela (1999) there has been major changes in methodology, philosophy, and politics of evaluation within the past many centuries when evaluations were related to sanction. According to the authors, around 3000B.C. in Egypt, if a patient lost his or her eye unnecessarily, the physician could lose a hand.

Within the past twenty years or so, evaluation has moved higher in the context of being more responsive to program stakeholders. Evaluation has changed from qualitative and mixed
qualitative-quantitative approaches, and skilled program managers recognize that many tools are available to them for evaluating their programs.

Universities should organize training programs to develop the capacity of program managers in conducting evaluation programs, especially on awareness and behavioral health programs.

Those who already have the skill to evaluate their programs should ensure that they have answers to such questions as: What resources and services are available to aid in the development of an instrument to measure program effectiveness? Are participants versed enough to participate in a paper and pencil feedback? Does the program have funds budgeted for evaluation? Does the program have the personnel to conduct an effective evaluation? The answers to these questions may vary between programs, but they will demystify the concepts of evaluation, and provide a base by which program organizers could decide whether or not the program is worth implementation.

It is equally important that evaluation plans for an intervention study should begin at the project planning stage with the first draft of the evaluation instrument pilot tested within the recruitment phase, and the willingness of project staff to attend to the small details of the evaluation process.

(b) A second major purpose was to assemble, through literature research, a Body of evidence-based knowledge and expenditures on HIV/AIDS that will foster greater awareness among health care providers and other authorities in Nigeria about the scourge and threats of this disease in the country, especially among the youth population.

The cliché that ‘African problems can only be solved by Africans’ had taken a new meaning with the challenges posed by the HIV/AIDS epidemic. Africans are much of a
collective society and for any preventive or curative measure against such a challenging and phenomenal disease as HIV/AIDS to be put in check, the collectivity of the society must be merged with the goodwill and generosity of the continent’s well wishers.

Collective and coordinated actions are needed in the country to combat all aspects of HIV/AIDS with the aim of preventing millions of needless deaths and to utilize national resources in more productive ways. It is hoped that program managers in Nigeria will develop and support an initiative on HIV/AIDS that will raise the profile of evaluation, especially for behavioral, awareness, and education training efforts.

As evaluation efforts increase and improve in the country, Nigeria will have a pool of best practices and replicable programs to implement as international funds continue to dwindle. Evaluation will also provide much needed tools that will further encourage, mobilize and coordinate local low-budget organizations which are committed to curbing the spread of HIV/AIDS, especially among the young generation in the country.
References


comparison of Uganda and South Africa. *Social Science & Medicine*, 59(9), 1913-1924.


APPENDICES
Appendix A: Survey Instrument
SURVEY INSTRUMENT

Survey Instrument that measures AIDS related perceptions, attitudes, knowledge and communication behavior adapted from William Brown and Mihal Bocarner USA and Christopher O. Durojaiye United Kingdom and modified by PI.

Before completing this questionnaire, be sure you have signed the consent to participate.

Instructions: The following five questions are intended to gain an understanding of (1) the degree to which you are concerned about AIDS, (2) what you believe about AIDS, and (3) how much you discuss AIDS with others. Several questions use a 1 to 7 scale, with 1 indicating the lowest level of concern and communication about AIDS and 7 indicating the highest level of concern about AIDS. Record your answers on the blank line to the left of each question. Your answers are anonymous; therefore please answer each question as honestly as you can, you may choose not to answer any question you feel uncomfortable about.

Attitude Questions Instruction: On the scale of 1- 7 rate your answers to the questions below where, 1 is the lowest and 7 is the highest level of concern

1. How much do you seek out more information about AIDS?
   1 ______ 2 _______ 3 _______ 4 _______ 5 _______ 6 _______ 7 _______
   Not at all                              Some Times                        Always

2. If you are sexually active, how much do you openly talk to your sexual partners about AIDS? Or if you are not sexually active, how much would you openly talk to a future sexual partner about AIDS?
   1 ______ 2 _______ 3 _______ 4 _______ 5 _______ 6 _______ 7 _______
   Not at all                              A Little                           a Lot

3. How much have you discussed the AIDS issue with others during the last month?
   1 ______ 2 _______ 3 _______ 4 _______ 5 _______ 6 _______ 7 _______
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Not at all          A Little          a Lot

4. How much do you talk to those of the opposite sex about AIDS?
1 ______ 2 ______ 3 _______ 4 _______ 5 _______ 6 _______ 7 _______
Not at all          A Little          a Lot

5. How much do you talk to those of the same sex about AIDS?
1 ______ 2 ______ 3 _______ 4 _______ 5 _______ 6 _______ 7 _______
Not at all          A Little          a Lot

Knowledge Questions Instructions: On the scale of 1-7 rate your answers to the questions below where

6. How important is the AIDS issue to you?
1 ______ 2 ______ 3 _______ 4 _______ 5 _______ 6 _______ 7 _______
Not important      somewhat important  Very important

7. How much do you feel you know about AIDS?
1 ______ 2 ______ 3 _______ 4 _______ 5 _______ 6 _______ 7 _______
Not at all          A Little          a Lot

8. How much do you know about those who suffered from AIDS?
1 ______ 2 ______ 3 _______ 4 _______ 5 _______ 6 _______ 7 _______
Not at all          A Little          a Lot

9. Yes __ No a person can get HIV from having oral sex, mouth on vagina, with a woman.

Knowledge Questions Instructions: These sets of questions are open-ended and can be answered freely, use more sheets if needed.
10. As far as you know, are there any specific group in Imo State population that have been most affected by HIV/AIDS?

11. To the best of your knowledge, why would someone practice safe sex?

12. As far as you know, what ways, if any, can someone find out for certain if they have HIV/AIDS?

13. How effective do you believe that HIV/AIDS treatments are in helping people with the disease lead normal lives? Would you say they are?

1 2 3 4
Very effective somewhat effective, Not very effective do not know

Behavioral questions Instructions: for the next sets of questions, select your best response:

14. How often do you use condoms?

1 2 3 4
Never Sometimes Most of the time Always
15. How many sexual partners have you ever had, where 1 is few and 4 are more?

1 __________ 2 __________ 3 __________ 4 __________
One Two to Four Five to Nine Ten and more

16. If you are sexually active, what precautions do you take to protect yourself from AIDS? Or if you are not sexually active, what precautions will you take to protect you from AIDS, again here 1 is lowest and 7 are the highest?

1 _______ 2 ________ 3 _________ 4 _________5 _________6_________7 _________
Non A Little A Lot

17. ___Yes ___No Have you changed your dating behavior as a result of concerns about HIV/AIDS?

18. ___Yes ___No Have you ever had sex with Commercial Sex Worker (CSW) or unknown person?

Behavioral questions Instructions: These sets of question are open ended and can be answered freely, use more sheets if needed.

20. Would you insist on condom use when having sex with your regular partner? Why and Why not?

21. If there are no condoms and your partner who you are aware is unfaithful is pressed for sex what would you do.

22. What mode of sex do you engage in most times, oral, anal and or sexual and why?

23. Do you use protections?

Instructions: these last set of question concern your demography, put a check mark accordingly.

24. Check one ( ) Male ( ) Female

25. What is your age range ( ) 18-21, ( ) 22-25, ( ) 26-29, ( ) 30-34, ( ) 35-40

26. Please check one ( ) Single ( ) Married ( ) Divorced ( ) Widowed
27. Educational level: Please check one ( ) WASC ( ) Bachelors ( ) Masters ( ) PHD

28. Monthly income Level ( ) below #20,000 ($200) ( ) #20,001-#30,000 ($200-$300) ( ) #30,001-#40,000 ($300-$400) ( ) #40,001-#50,000 ($401-$500) ( ) #50,001- #60,000 ($501-$600) ( ) over #60,000 (over $500).

# is the sign for Nigerian currency, the Naira, and against each income bracket is the American dollar equivalent.
Appendix B: Presentation and Discussion Guide
Presentation and Discussion Guide.

Module I: Knowledge

What is HIV? What is AIDS?
What people should and need to know about HIV/AIDS
Why do people need to know about HIV/AIDS
How HIV/AIDS spread, and not spread
How HIV affects the human body
Signs and Symptoms of AIDS

Module II: Attitude

The global AIDS epidemic, the disease epidemiology and transmission mechanisms.
Consequences of contracting the disease for individual, the family and the society in general
Where and how to get help if we suspect that we have AIDS?
How do we help people living with AIDS (PLWA)?
Mo Where and how to get help if we suspect that we have AIDS?
How do we help people living with AIDS (PLWA)?

Module III: Behavior

How to prevent HIV/AIDS
Casual sex and multiple sexual partners and the effect on people
Appendix C: Consent Form
Title of Study: The Effect of HIV/AIDS Awareness Training among College Students in Owerri, Imo State Nigeria.

Introduction: You are being asked to take part in this research study. Please read this paper carefully and ask questions about anything that you do not understand.

Who is doing this research study?
The person in charge of this research study – Principal Investigator or PI - is Adaeze O. Egole-Oziri who is born and raised in this state and comes from the University of Cincinnati (UC) Department of Educational Foundation, in the College of Education U.S.A. The PI is being supervised in this study by her Faculty Adviser Dr. Vanessa Allen-Brown of UC.

What is the purpose of this research study?
The purpose of this research study is to verify the impact HIV/AIDS awareness training to college students in Owerri would have on the knowledge, attitude and sexual behaviors of those college students. The study will attempt to demonstrate that awareness training will influence participants’ perception of HIV/AIDS and sexually transmitted disease spread.

Who will be in this research study?
About 35 – 50 people will take part in this study. You may be in this study if you are within the ages of 18 to 40 years, and a registered student of Federal University of Technology or FUTO and or Imo State University or IMSU.

What will you be asked to do in this research study, and how long will it take?
You will be asked to complete a questionnaire that require some personal information like your sexual behavior/communications, age, marital and economic status and your knowledge of HIV/AIDS. You will be asked to complete two questionnaires, one before sitting in a panel presentation and group discussion and presentation, and the other after these activities. It will take about a total of 3 hours to complete your part of the study, one hour for panel presentation, half hour for group discussion 15-20 minutes for group presentation and discussions, after which the second set of questionnaire is completed.

Are there any risks to being in this research study?
There is no anticipated risk in this activity, and participants may not answer any question they do not feel comfortable to answer.

Are there any benefits from being in this research study?
There will be no direct benefit to participants, but participants would be helping to determine if this could be a way to reduce this disease spread among students, but participants will also learn more about this disease epidemiology and transmission.
Will you have to pay anything to be in this research study?
There will be no cost to participants in this study except their time, which will not be paid for.

What will you get because of being in this research study?
It is anticipated that participants will gain increased knowledge in the study topic, and other than the snack and food served, participants will only get a thank you for your participation.

Do you have choices about taking part in this research study?
You do not have to participate in this research study if do not want, in fact you can choose not to continue any time in the study and you will be excluded there and then.

How will your research information be kept confidential?
Your information will be kept by the PI for as long as the University of Cincinnati policy allows which is 3 years. It will be secured in a fire proof file cabinet in the PI’s office. Also, there is nothing in the survey that ties participants to the study except this informed consent form, which will be kept by the PI according to UC policy. Agents of the University of Cincinnati may inspect study records for audit or quality assurance purposes. At the end of the specified time allowed by the University of Cincinnati (UC) for a study of this nature, again which is usually 3 years, the papers will be destroyed by the PI.

What are your legal rights in this research study?
Nothing in this consent form waives any legal rights you may have. This consent form also does not release the Principal Investigator, the institution, or its agents from liability for negligence.

What if you have questions about this research study?
If you have any questions or concerns about this research study, you should contact the Adaeze O. Egole-Oziri (PI) at 07069122585 in Nigeria or 0901- 513-731-3338 in the USA. You can also contact Dr. Vanessa Allen-Brown who is PI’s Faculty Adviser - at 0901-513-556-3625. The UC Institutional Review Board – Social and Behavioral Sciences (IRB-S) reviews all non-medical research projects that involve human participants to be sure the rights and welfares of the participants are protected. If you have questions about your rights as a participant or complaints about the study or the PI, you may contact the Chairperson of the UC IRB-S at 0901-513- 558-5784. Or, you may call the UC Research Compliance Hotline at 0901-800- 889-1547, or write to the IRB-S, 300 University Hall, ML 0567, 51 Goodman Drive, Cincinnati, OH 45221-0567, or email the IRB office at irb@ucmail.uc.edu.

Do you HAVE to take part in this research study?
No one has to be in this research study. Refusing to take part will NOT cause any penalty or loss of benefits that you would otherwise have. You may start and then change your mind and stop at any time. To stop being in the study, you should simply inform the PI.

Agreement:
I have read this information and have received answers to all the questions I asked. I give my consent to participate in this research study. I will receive a copy of this signed and dated
consent form to keep.

Participant Name (please print) ____________________________________________

Participant Signature ___________________________ Date __________

Signature of Person Obtaining Consent ________________________ Date __________
Appendix D: IRB Approval Letter/Form
Effect of HIV/AIDS Awareness Training Program among College Students in Owerri, Imo State of Nigeria

February 18, 2010
Adaeze Ogole-Ozur, BS, MS
Dept. of Education
ML 001

RE: IRB # 00-12-10-01E "The Effect of HIV/AIDS Awareness Training among College Students in Owerri, Imo State of Nigeria"

The University of Cincinnati Institutional Review Board – Social and Behavioral Sciences (UC IRB-S) has reviewed your research project and has granted approval under Expedited category 45 CFR 46.110.

| APPROVAL DATE: | February 15, 2010 |
| EXPIRATION DATE: | February 15, 2011 |

The following document versions are included in this approval.

- Protocol v. 2-15-10
- Consent v. 2-15-10
- Recruitment v. 2-15-10

The research MUST be conducted EXACTLY as approved. You must report to the Chair of the UC IRB-S any changes affecting the approval upon which this certification is based. No changes may be made without prior approval by the Board except those necessary to eliminate immediate hazards.

Attached you will find some or all of the following:

1. APPROVED consent(s): document is locked and shows the IRB approved/expires date stamp. You MUST use this version (with IRB approved/expires date stamp) with your participants.
2. Investigator Responsibilities: these apply to all UC research team members involved with human subject research.

Should your project extend beyond the expiration date, you must submit a Progress Report form A MONTH BEFORE THE EXPIRATION DATE indicating that the project is continuing. You will need to attach to the Progress Report a copy of the first signed consent (with IRB approved/expires date stamp) to document use of the approved versions.

IT IS YOUR RESPONSIBILITY to keep track of your project's expiration date and to submit a Progress Report either to continue or to close your study. If the IRB-S does not reapprove your research by the specified expiration date, ALL research activities MUST STOP, including recruitment and enrollment of participants, interventions and interactions with current participants, collection of data, and data analysis.

Julie Walsch-Bach, BSN, MPH, CIP
Chair, UC IRB-S

Statement regarding International Conference on Harmonization and Good Clinical Practices
The University of Cincinnati institutional review board is in compliance with FDA requirements for data analysis, has written procedures for initial and continuing review of clinical trials; prepares written minutes of convened meetings; and retains records pertaining to the review and approval process; all in compliance with requirements defined in 21 CFR parts 50, 56 and 312 Code of Federal Regulations. This institution is in compliance with the ICH GCP as they correspond to FDAR1118 regulations.

An affirmative action/equal opportunity institution
Appendix E:

UNIVERSITY OF CINCINNATI
INSTITUTIONAL REVIEW BOARD – SOCIAL AND BEHAVIORAL SCIENCES
INVESTIGATOR’S RESPONSIBILITIES
UNIVERSITY OF CINCINNATI
INSTITUTIONAL REVIEW BOARD – SOCIAL AND BEHAVIORAL SCIENCES
INVESTIGATOR’S RESPONSIBILITIES

The ethical obligations of all investigators continue as long as research data are being collected, analyzed, reported and maintained.

ALL RESEARCHERS are responsible for:
1. RESEARCH ETHICS
   A. Knowing and practicing ethical research practices
   B. Maintaining confidentiality of all research participation
   C. Meeting the University’s Demonstrating Knowledge of Human Research Protections requirement

2. RESEARCH PROCEDURES
   A. Knowing and practicing procedures related to their own responsibilities in the research study
   B. Understanding the research procedures that may and may not be used in the research study
   C. Maintaining complete documentation of all aspects of the research study.

PRINCIPAL INVESTIGATORS are responsible for:
1. RESEARCH ETHICS
   A. Setting the example of ethical research practices

   B. Training research team members in research ethics, if needed

   C. Documenting that research team members have been trained in research ethics and have met the University’s Demonstrating Knowledge of Human Research Protections requirement

2. RESEARCH PROCEDURES
   A. Complying with all federal, state, local and University regulations and policies. Research documentation and procedures may be inspected at any time by the University’s Office of Post-Approval Monitoring. All study-related documentation should be kept in one secure location.

   B. Documenting that research team members have been trained in the purpose and overall design of the research project, and in their own responsibilities in the research project

   C. Ensuring that the research is approved by the IRB-S and is conducted exactly as approved. It is recommended that a checklist be developed and used to assure that all parts of the study are completed in the correct sequence and time frame and according to the correct procedures.
D. Ensuring IRB-S approval of any changes to the research before they are implemented. If an immediate change is required to protect participants from apparent harm, the principal investigator is responsible for protecting the participants and for suspending the research activities until necessary changes have been approved by the IRB-S.

E. Documenting fully informed consent to participate in the study from every participant using the IRB-S approved consent document, providing a copy of the consent to each participant, and securely retaining the original signed consents for three years after the close of the research study, unless specifically waived by the IRB-S. The approved consent MAY NOT BE ALTERED. ANY changes MUST be specifically approved by the IRB-S as in “D” above.

F. Promptly notifying the IRB-S of any adverse events experienced by a participant because of being involved in the research, any unanticipated problems in the research involving risks to participants or others, any deviations from the research activities approved by the IRB-S, and measures being taken in response to these situations.

G. Submitting a Progress Report for IRB-S review at the interval established by the IRB-S and upon completion of the research study. IRB-S approval is required throughout data collection and data analysis. The IRB-S considers a research project to be complete if final conclusions have been made relating the collected data to the stated purpose of the protocol, whether or not the conclusions have been published or presented.

**NOTE: IRB-S approval expires on the date shown in all approval notification letters. Should the project extend beyond the expiration date, the principal investigator is responsible for submitting a Progress Report form to the IRB-S indicating that the**
project is continuing and summarizing the research activity to date. No research activities may be conducted without current IRB-S approval of the protocol, including recruitment and enrollment of participants, interventions and interactions with current participants, collection of data, and data analysis. A Progress Report form may be printed from the IRB website.
Appendix F:
Certificate of Accord for Study from Federal University of Technology, Owerri, Nigeria to the University of Cincinnati, Ohio, USA.
University of Cincinnati,
Research and Ethics Department
Cincinnati, Ohio U.S.A

TO WHOM IT MAY CONCERN

Re: Research permission for Mrs. Egole-Ozir

The research fellow, Mrs. Adaeze Egole-Ozir is allowed to do her research with the students at the Federal University of Technology Owerri (FUTO) within the guidelines of research and ethics, protecting the human subjects. It is understood that this research will be anonymous and confidential. In addition, that it will promote health awareness, within the society.

Sincerely,
Institutional security office

VICE-CHANCELLOR
PROFESSOR CELESTINE O.E ONWULIRI

Technology for Service
Appendix G:
Certificate of Accord for Study from Imo State University, Owerri, Nigeria to the University of Cincinnati, Ohio, USA.
University of Cincinnati,  
Research and Ethics Department  
Cincinnati, Ohio U.S.A  

TO WHOM IT MAY CONCERN  

Re: Research permission for Mrs. Egole-Oziri  

The research fellow, Mrs. Adaeze Egole-Ozir is allowed to do her research with the students at the Imo State University Owerri (IMSU) within the guidelines of research and ethics, protecting the human subjects. It is understood that this research will be anonymous and confidential. In addition, that it will promote health awareness, within the society.  

Sincerely,  
Institutional security office  

CHIEF SECURITY OFFICER  
DR. VICTOR. A. NWANERI (JP), Ph.D
Appendix H:

Financial Conflict of Interest Statement
Effect of HIV/AIDS Awareness Training Program among College Students in Owerri, Imo State of Nigeria

UNIVERSITY OF CINCINNATI IRB
FINANCIAL CONFLICT OF INTEREST STATEMENT

Please complete and return with any protocol submitted for initial and continuing review.

Name of PI: Adaeze O. Egole-Oziri
IRB #:09-12-10-01
Study Sponsor Name: None
Sponsor Protocol Number:

Study Title: The Effect of HIV/AIDS Awareness Training among College Students in Owerri, Imo State of Nigeria

Person Signing Form: PI
Role in Study: PI

Study Responsibilities (check all that apply):

Screen Participants □ Randomize Participants □ Discharge Instructions
Perform Physical Exam □ Dispense Study Drug □ Follow-up Phone Calls
Record Medical History □ Drug Accountability □ Complete Source
Determine Eligibility □ Assess AEs Documents
Administer Consent □ Complete CRFs □ Sign Data Query Forms

In order to protect participants from financial conflicts of interest the IRB requires that such potential conflicts during the past 12 months be disclosed. If the IRB determines that a conflict exists that could influence the research or jeopardize the well-being of participants, the IRB may require additional information about the conflict or may require that the conflict be resolved before the research is approved. In addition, it may require that the conflict be disclosed to the participant in the Informed Consent Statement.

Please indicate the following:

☐ Yes ☐ No I or a member of my immediate family own(s) equity (stock ownership, stock options, convertible note(s), or other ownership interest in any amount) in the company or other legal entity whose drug, procedure, technique, device, or software I am testing (the “Company”).

☐ Yes ☐ No The Company holds patent rights to inventions created by me or a member of my immediate family (spouse, children, parent, in-laws, and siblings).

☐ Yes ☐ No I or a member of my immediate family hold(s) a position of senior management officer, or director of the Company.

☐ Yes ☐ No I or a member of my immediate family am/is a scientific advisor, consultant, or speaker for the Company and receive payments from the Company (including direct or indirect payments, honoraria, and all other forms of compensation).

☐ Yes ☐ No If a device, technique, software, or procedure involved in the research is marketed, I or a member of my immediate family may be entitled to royalty income or income from the sale of the product.

☐ Yes ☐ No I or a member of my immediate family have any other financial interest that may appear to conflict with the protection of subjects or which should be disclosed to subjects in order to secure informed consent.

95
IF ANY BOX ABOVE IS CHECKED YES, INCLUDE ON A SEPARATE SHEET AN
EXPLANATION OF THE CONFLICT (INCLUDING THE AMOUNT OF MONEY) FOR
THE IRB’S CONSIDERATION. INFORMATION PROVIDED IS CONSIDERED
CONFIDENTIAL.

My signature below is my representation that I have accurately completed this form to the best of
my knowledge.

_________________________________________  __________________________
Signature of Investigator/Sub-investigator        Date
Appendix I:

Map of Nigeria showing location of data collection
Effect of HIV/AIDS Awareness Training Program among College Students in Owerri, Imo State of Nigeria

Figure 1: Map of Nigeria showing Owerri in Imo State, the city of data collection.

Owerri in Imo State, the data collection city.
Appendix J:

Curriculum Vita
Curriculum Vitae of Adaeze O. Egole-Oziri

552 Hickory hill Lane
Wyoming, Ohio 45215
(513) 761-7789 (Home)
(513) 731-3338 Work
Email: Adaeze552@yahoo.com

Summary of qualifications

University of Cincinnati, Cincinnati, Ohio
Doctoral candidate in International Public Health Services
Dissertation: Effect of HIV/AIDS Awareness Training Program among College Students in Owerri, Imo State of Nigeria (Graduation Date: December, 2010).

University of Cincinnati, Cincinnati, Ohio
1992. Obtained masters degree in Health Services Administration
1983. Obtained bachelors degree, Health Services Planning
1980. Obtained Associate degree in Public Health Nursing with specialty in child & maternal care
1979. Obtained Associate degree in Nursing with Specialty in Midwifery & Neonatal Nursing

Professional experience
1993 - Present. CEO International Quality Healthcare Corp
Administrator African Mission on Health and Education

☐ Provide leadership for the company's operation
☐ Provide leadership in growing the company's employee from 1 to over 105 employees
☐ Provide leadership in growing the company's clientele and referral base
☐ have grown and expanded the company’s clients and referral base.
☐ keeping the company in compliance with all the state and federal medical regulations.
☐ Obtained Medicare/Medicaid Certification as well as Joint Commission Accreditation
☐ Expansion of the Company to three different locations within ten years.
☐ Diversification of the company services by establishing assisted leaving facilities for the elderly and mentally disabled adults. Actually worked as the care provider for the Residence until the home could hire its own staff. Responsibilities included but not limited to meal preparation, laundry menu preparation, dividing chores among residents, activity designs,
money management and encouraging independence for the residents. Attending Hamilton County Board of MRDD in-services

**Additional professional activities**

- Mentoring several minority and women own business within and outside the state of Ohio
- Speaker at the Woman Eagle Club for new business adventures
- Guest speaker at the Wisconsin ACF organization for new business ventures
- Paper presentation - Immigrant Women Experience in USA and Need for Empowerment at Women in Africa and the African Diaspora conference in Abuja
- Made presentation at the National Educational Conference on AID in Kentucky USA.

- Developed International link for AID and HIV intervention in Africa
- served as a facilitator at the Ohio Board of Regent conference on Racism.
- Developing and conducting research on AID public awareness in Africa.
- provided leadership in the establishment of Homes for the mentally challenged and developmental disabled individuals.
- Establishment of assisted living facilities for the elderly.

**Organizational affiliations**

**Member:**

- American Healthcare Executive member
- National Home Care Association
- Ohio Homecare Association
- Ohio Council on Aging Association
- Gideon International Association