TEXILA AMERICAN UNIVERSITY GUYANA

PhD THESIS

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2012/MAY/SOPHM-PHDPH96/1174

SECONDARY SCHOOL ADOLESCENT'S KNOWLEDGE, ATTITUDE AND RISK PERCEPTION TO HIV/AIDS IN URBAN COMMUNITIES OF OSUN STATE, NIGERIA: A PEER HEALTH EDUCATION BASED QUASSI EXPERIMENTAL STUDY

DISSERTATION
Submitted to Texila American University

in partial fulfillment of the requirement for the award of the Degree of

Doctor of Philosophy in Public Health

Submitted by

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2012/MAY/SOPHM-PHDPH96/1174

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CERTIFICATION

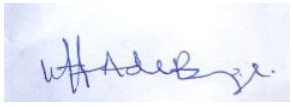
This is to certify that the thesis, entitled **"Secondary school adolescent's knowledge, attitude and risk perception to HIV/AIDS in urban communities of Osun state, Nigeria: A peer health education based quassi experimental study"** submitted to the Texila American University, in partial fulfillment of the requirements for the award of the Degree of **Doctor of Philosophy in Public Health** is a record of original research work done by **Adebimpe Wasiu Olalekan**, under my supervision and guidance and the thesis has not formed the basis for the award of any Degree / Diploma / Associateship / Fellowship or other similar title to any candidate of any University.

Professor (Mrs) Asekun-Olarinmoye Esther Olufunmilayo

May 2015.

DECLARATION

I, **Adebimpe Wasiu Olalekan**. declare that this thesis entitled **"Secondary school adolescent's knowledge, attitude and risk perception to HIV/AIDS in urban communities of Osun state, Nigeria: A peer health education based quassi experimental study** submitted in partial fulfillment of the degree of **Doctor of Philosophy in Public Health** is a record of original work carried out by me under the supervision of **Professor (Mrs) Asekun-Olarinmoye Esther Olufunmilayo**, and has not formed the basis for the award of any other degree or diploma, in this or any other Institution or University. In keeping with the ethical practice in reporting scientific information, due acknowledgements have been made wherever the findings of others have been cited



Adebimpe Wasiu Olalekan

2012/MAY/SOPHM-PHDPH96/1174

May 2015

Acknowledgement

I wish to acknowledge my supervisor/guide (Professor (Mrs) Asekun-Olarinmoye Esther Olufunmilayo) for putting me through and supervising me throughout the period of this research work. I appreciate my co-guide in Texila American University Guyana, other Faculty members and administrative staff who has contributed in one way or the other towards the success of this Thesis. I acknowledge my wife (Mrs Adebimpe Mujidat Adebukola) for her continuous encouragement and for giving the required administrative support. I also appreciate the research ethics committee of Osun State University Osogbo for giving the ethical approval to conduct this study, and all my resident doctors who served as research assistants. Finally I wish to appreciate all the students of the schools where data were collected, for their cooperation during data collection that led to a successful conduct of this research work.

Adebimpe Wasiu Olalekan

DEDICATION

This Thesis is especially dedicated to the God Almighty, the Lord of the Universe and to my Family

ABBREVIATIONS

AIDs:	Acquired Immune Deficiency Syndrome
ANOVA:	Analysis Of Variance
BCC:	Behavioural Change Communication)
CI:	Confidence Interval
FGD:	Focus Group Discussion
FHLE:	Family Life Health Education
FMoH:	Federal Ministry of Health
HIV:	Human Immune Deficiency Syndrome
IEC:	Information, Education and Communication
KAP:	Knowledge, Attitude and Practice
LGA:	Local Government Area
NDHS:	National Demographic and Health Survey
NGO:	Non Governmental Organization
NPC:	National Population Commission
OR:	Odds Ratio
PEPT:	Peer Education Programme and Training
PITC:	Provider Initiated Testing and Counseling .
PLWHAs:	People Living with HIV/AIDs
PRB:	Population Reference Bureau
RH:	Reproductive Health
SPSS:	Statistical Package for Social Sciences
STIs:	Sexually Transmitted Infections

SRH:	Sexual and Reproductive Health
UNAIDs:	United Nations Agency for International Development
UNFPA:	United Nation Fund for Population Agency
UNGASS:	United Nations General Assembly
UNICEF:	United Nations Children Funds
WHO:	World Health Organization

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The sexual and reproductive health of adolescents had always been an issue of global public health concern. Adolescence is a critical period of transition from childhood to adulthood (Adegoke, 2003). Adolescents are exposed to a wealth of uncensored information through an intensifying wave of westernization, the internet, mobile phone technology and electronic media. They are known to be an adventurous group, and indulge in risky sexual practices, for the reason of experimentation and succumbing to peer influences. Adolescents in Nigeria had been reported to be sexually active (Olugbenga-Bello, Adebimpe and Abodunrin, 2008; Bamidele, Abodunrin and Adebimpe, 2009; Orji and Esimai, 2005). The consequences of this sexual pattern are enormous, and may lead to some medical problems and disruption of social and academic life. One of the core aspects of adolescent's Reproductive Health (RH) issues addressed by the Millennium Development Goals and which has also received a lot of attention worldwide is that of HIV infection.

Young people are at the centre of the global HIV/AIDS epidemic. In Nigeria as in many other countries of the world, the occurrence of new infections is high among the age group 15-24 years (NDHS, 2013). Studies have attributed this pattern to their high-risk sexual behaviours despite, poor in-depth knowledge about sexual health risks and low self risk perception towards HIV/AIDs (Oljira, Berhane and Worku, 2012; Visser, 2007; Eaton, Flisher and Aaro, 2003). While concerted efforts are being made to stem down the magnitude of the burden of HIV infection among adolescents, the importance of creating sustained awareness about HIV risk

reduction has been recognized. Beyond awareness, spreading in-depth knowledge about HIV is important. Peer-led sexual health education is one means of addressing deficiencies in adolescent sexual health including HIV.

Peers could be an important aspect of an adolescent's transition to adulthood, influencing each other's social behavior through their role as credible role models (Bandura, 2007). Adolescents may not perceive peer educators as an authority telling them what to do, but as another member of their own group. This may be an approach by which young people through partnerships, can define and tackle their own reproductive health needs (Turner and Shepherd, 2009).Thus, peer-led sexual health education is one means of addressing deficiencies in adolescent sexual health, and can be a powerful tool for reaching, educating and changing the attitude of young people towards HIV/AIDs.

1.2 Statement of the problem:

Adolescents in Nigeria are sexually active, and are at high risk of contracting HIV/AIDs through sexual and even non sexual means. Awareness about HIV is high, detailed knowledge is poor and attitude to HIV and risk perception is poor. There is a need to reach adolescents through effectively proven methods of health promotion such as peer approach. Peer education underutilized is not a new concept. Despite its appraisal as a veritable tool in such behavioural disease control among adolescents appears rudimentary, and has not been effectively used in Nigeria. This initiative could however have improved awareness, knowledge and risk perception about HIV and bring such disease under control

1.3 Magnitude of the problem

HIV infection is one of the most devastating diseases that humanity has ever faced and it has been described as the scourge of our time, having reached a pandemic level. In developing countries, approximately 60% of new HIV infections occur among young people between 15 and 24 year (McCauley and Salter, 2006). Among adults 15 years and older, young people accounted for 40% of new HIV infections in 2006 (Joint UNAIDS/WHO, 2006). Sub-Saharan Africa, which has just over 10% of the world's population, remains the most seriously affected region (UNAIDS 2008). In terms of absolute numbers, Nigeria, with over 140 million inhabitants of which 45.4 million are adolescents, ranked second in Africa for the number of HIV – infected adults (Joint UNAIDS/WHO, 2010).

Over 16% of teenage females and 8.3% of teenage males reported first sexual intercourse by age 15 years (NPC, 2000), with a pattern of multiple sexual partners, unplanned sexual intercourse and casual sex. Since HIV is predominantly transmitted through unprotected sexual intercourse, adolescents are at high risk of HIV infection. In Nigeria, problems associated with adolescents' sexual health include high rates of teenage pregnancy; a rising incidence of sexually transmitted diseases and high rates of abortion mortality (Orji and Esimai, 2005; Dancy et al., 2006; Monasch and Mahy, 2006). Contributory factors include poor socioeconomic status, physiological factor of sexual exploitation, poor knowledge and attitude and a sense of non-vulnerability to HIV(Longfield et al., 2004; Lydie et al., 2004; Monasch and Mahy, 2006), fading socio-cultural values and slow HIV response from the health systems among others. Young people experience significant barriers that limit their access to essential RH information and

services (Boeringer et al., 2007). Consequently, adolescents suffer a disproportionate burden of poor sexual and RH outcomes, including early and unintended pregnancies.

1.4 Rationale for the study.

In most African countries, neither the adolescent boy nor girl have free unhindered access to the information he or she needs on sexuality, while questions bordering on sexuality and girl-boy relationships are usually brushed off and regarded as taboos (Esere, 2008). In Nigeria today, sex or reproductive health education is yet to be incorporated into the curricula of secondary school education (Esu, 2000), an avenue that could have assist in giving guided and first hand information about sexuality to adolescents. Also in Nigeria in particular, matters relating to sex and sexuality are usually shrouded in secrecy, and should not freely or openly be discussed (Esere, 2006). These have contributed to poor access of adolescents to RH services even in health care facilities. Several failed attempts had been made to introduce sexuality education in the refined name or form of 'Family Life Health Education' (FLHE). The consequence of this trend is that adolescents are left alone to find answers to their reproductive health problems on their own, often from questionable sources that are likely to mislead them (Esere, 2006)..

Previous studies on the knowledge of HIV/AIDs among secondary school adolescents in Nigeria have reported that general awareness on the disease may be high but the specific knowledge of the disease is still poor (Wagbatsoma and Okojie, 2006; Hanmanta and. Wadgave,2011; Kirby , Obasi and Laris, ,2006). Young people aged 10–24 years constitute around 1.8 billion and represent 27 percent of the world's population. Studies suggested that adolescents have limited knowledge about SRH and know little about the natural process of

puberty. This lack of knowledge about reproductive health may have grave consequences on their health (Farzaneh, Lori and Karima, 2011; Sime and, Wirtu, 2008). To make situation worse, Nigerian adolescents do not use existing public or reproductive health services (Olugbenga-Bello, Adebimpe and Abodunrin, 2008), largely attributable to the fact that such services do not specifically address their needs and concerns.

Previous interventions are limited in impact because they failed to recognize important socio-economic differences among young people regarding their knowledge, attitudes and practices. Peer pressure and its influence to experiment and adapt imitative behaviour could also be responsible for the risky sexual behaviour among adolescents. Traditional HIV education have increased knowledge but behavioural change have been poor One-third of adolescents identified peer pressure as one of the hardest things they had to face as a teenager, others reported peer pressure as a cause of alarming increase of exposure to HIV/AIDS risky sexual behaviour (Brown, 1982).

Thus, in order to design appropriate interventions aimed at disease control, it is important that we look into the psychology of peer pressure and use of peers in reaching others and giving correct and guided information about sexuality and HIV. Despite few empirical studies that have investigated the nature and extent of peer influence, such studies are rare in Nigeria. This study being a mixture of classroom-based and peer-led education would afford the opportunity of showcasing effectiveness of peer based intervention, and by-pass many of the socio-cultural and unavoidable peer related obstacles to HIV/AIDs control and prevention and other reproductive health problems. A scale up of such intervention would also turn HIV infection into a disease of choice among African adolescents who may have little control on their own reproductive health choice and rights.

1.5 Objectives of the Study

The goal of this study was to evaluate the effect of peer education on secondary school adolescents' knowledge and perception of risk to HIV/AIDs in urban communities of Osun State. Specific objectives include

1. To assess and compare knowledge of HIV/AIDs among secondary school students in both intervention and control groups.
2. To assess and compare attitude and perception of risk to HIV/AIDs among secondary school students in both intervention and control groups.
3. To enumerate factors influencing preventive practices of secondary school adolescents in Osun State towards HIV/AIDs
4. To carry out organized peer led health education programme, and evaluate the effects of using peers on improving knowledge and perception of risk to HIV/AIDs among secondary school students in urban communities of Osun State

1.6 Study Hypothesis

Hypothesis 1

Null hypothesis: There is no significant difference in the mean knowledge of studied adolescents before and after peer education programme

Alternative hypothesis: There is significant difference in the mean knowledge of studied adolescents before and after peer education programme

Hypothesis 2

Null hypothesis: There is no significant difference in the mean scores of attitude to HIV among studied students before and after the peer education programme

Alternative hypothesis: There is significant difference in the mean scores of attitude to HIV among studied students before and after the peer education programme

Hypothesis 3

Null hypothesis: There is no difference in risk perception to HIV/AIDs between control and intervention groups when pre and post tests are compared

Alternative hypothesis: There is a difference in risk perception to HIV/AIDs between control and intervention groups when pre and post tests are compared

CHAPTER TWO

REVIEW OF LITERATURE

2.1 Adolescence and the adolescents

The World Health Organization (WHO) defines adolescence as the period from 10-19 years of age. It is a period characterized by physical, psychological and social changes. In 2009, there were 1.2 billion adolescents aged 10–19 in the world, an increase to about 1.6 billion in 2012 (PRB, 2013). Eighty-seven per cent of these adolescents live in developing countries, and this trend is likely to affect the future global population trends (PRB, 2000).

Adolescence is a developmental period marked by discovery and experimentation that comes with a myriad of physical and emotional changes. During this time of growth and change, young people get mixed messages. Teens are urged to remain abstinent while surrounded by images on television, movies, and magazines of glamorous people having sex, smoking, and drinking.

2.2 Developmental stages of adolescence

Adolescence can be conveniently divided into three sub-periods

1. Early adolescence
2. Mid-adolescence
3. Late adolescence

The early adolescence period falls between age 10-13 years, characterized by developmental changes and the onset of puberty and the growth spirit. The adolescents are home-centered during this period, and almost every activity revolved round their parents, and most activities are primarily with members of his own sex. The mid adolescence period falls between 14 and 16

years, usually follows puberty and characterized by interest and approach towards the opposite sex and this may disrupts previous intimate friendships and peer groupings. It is also characterized by mood swings, a period of irritability and rapidly changing feelings, attempts at conforming to peer group standards and some early sexual explorations. The late adolescents period falls between 17 and 19 years and characterized by consolidation of identity, maintaining truly intimate relationships and busy with forming the future. It is the real period of transition to adulthood.

They are growing up in circumstances quite different from those of their parents, with greater access to formal education, increasing need for such technological skills as computer and internet literacy, different job opportunities, and more exposure to new ideas through media, telecommunications and other avenues

Many adolescents manage this transformation successfully while others are not so lucky, and may experience major stress. They may end up find themselves engaging in behaviours such as sexual experimentation, exploration and promiscuity and others that could place their well-being at risk[3].

2.3 Adolescents sexuality and consequences

Adolescents in Nigeria are sexually active like their counterpart elsewhere. Studies from various parts of Africa have shown a trend towards an increasing incidence of premarital sexual activity among adolescents (Olugbenga-Bello, Adebimpe and Abodunrin, 2008; Bamidele, Abodunrin and Adebimpe, 2009, Orji and Esimai, 2005). Studies have reported young age at first sexual intercourse, with a high rate of multiple sexual partners, and poor perception of the risk of

sexually transmitted infections (STIs among adolescents in many countries.. These studies also identified common problems associated with adolescents' sexual health including high rates of teenage pregnancy; a rising incidence of sexually transmitted diseases, and high rates of abortion and related mortality (Mmbaga, Leonard and Leyna, 2012; Fatusi and Blum, 2008, Oljira, Berhane and Worku

In another study (Odu et al, 2008), more than half (58.2%) had ever had sex; the mean age at their first sexual exposure (for all respondents) was 16.7 +/- 4.4 years. Almost half (48.2%) of the 191 currently sexually active respondents had multiple sexual partners. Of the sexually active respondents, 75.9% claimed to have ever used condoms; among these, male respondents were more likely to have ever used condoms than their female counterparts ($p < 0.05$).

In yet another study (Bounbouly et al, 2013), ninety-four (31.3%) of the students had a history of sexual intercourse, and 70.2% of these students had used a condom. However, only 43.9% said they used condoms consistently.

Globally, adolescent girls aged 15–19 years have among the lowest knowledge and use of contraception and the highest unmet need of any age group (Chandra-Mouli et al., 201). An estimated 16 million adolescent girls give birth each year, which contributes to morbidity and mortality, low educational attainment and socio-economic disadvantage of girls and their families (Neal et al., 2012;WHO, 2014). Preventing adolescent pregnancy and increasing use of modern contraception is therefore an important public health strategy (UNFPA, 2013).

2.4 HIV Knowledge, attitude and preventive practices among adolescents

Adolescents displaying high sexual risk needs to know the consequences of their actions. This would depend on the knowledge they have about the disease at risk and their attitude to disease prevention Young people are particularly vulnerable to HIV infection because of risky sexual behaviours and substance abuse. These are convoluted by lack of access to accurate and personalized HIV information and prevention services and a host of other socio-economic reasons (Eaton, 2003)

Despite high HIV prevalence and high rates of sexual risk behaviors in South Africa and other Sub-Saharan African countries, young people in these countries had poor detailed knowledge and attitude to HIV, while often perceived themselves as being at low risk of HIV infection (Tarkang, 2014). However, a generally high awareness of HIV/AIDs had been reported by many studies (Thanavanh[1,] et al., 2013, Nimo, Agyekum and Suapim, 2013; Lal, Badhan, and Ingle,2008; Alene, Wheeler and Grosskurth, 2004; Odu et al., 2008; Bamidele et al., 2009).

A related research found a quarter of the adolescent population believed that HIV and AIDS was a curse from God, while others blame witches, wizards and other supernatural forces (Bond et al., 2002)..This vulnerability is further heightened by the fact that most parents do not discuss issues bordering on sex at home and hence many teens turn to peers and the media and get inaccurate information. Another study indicate that the overall knowledge regarding STIs and HIV/AIDS is high although the level of knowledge seems to differ according to education, gender, and area of residence (Upreti, 2009).

In another study (Bamise, Bamise and Adedigba, 2006), about half believed that HIV can be contracted via mosquito bites and 53.7% believed via kissing. Half of the respondents agreed that a person who looks healthy can be infected and possess the ability to describe the look of an infected person. Majority (92.6%) claimed to have heard about HIV/AIDS prior to the study. More than half (67.8%) agreed that HIV/AIDS is a life-threatening disease, 29.4% said there is a cure for AIDs (Bamise, Bamise and Adedigba, 2006).

In a study (Thanavanh[1,] et al., 2013), misconceptions about transmission of HIV were observed among 59.3% to 74.3% of respondents. Positive attitudes towards HIV/AIDS were observed among 55.7% of respondents. Nearly half of the surveyed students (45.3%) said that they would be willing to continue studying in a school with HIV-positive friends, and 124 (41.3%) said they would continue attending a school with HIV-positive teachers. Students with medium and high levels of knowledge were 4.3 (95% CI=2.1–9.0, P<0.001) and 13.3 (95% CI=6.5–27.4, P<0.001) times more likely to display positive attitudes towards people living with HIV. More than three-quarters of students mentioned television and radio as major sources of information on HIV/AIDS.

In yet another study (Odu et al., 2008), most (89.4%) respondents were aware of the existence of HIV/AIDS, and knew the aetiology, routes of transmission, signs and symptoms, and preventive measures against the disease. While a little over half (59.8%) of the respondents revealed that they could hug people with HIV/AIDS, one out of four (27.2%) stated that these persons should be isolated from the community. Less than a quarter (22.3%) of the respondents believed that they were vulnerable to HIV/AIDS.

A more worrisome trend is that adolescents have low self risk of HIV, but that others are at risk (Barden-O'Fallon, et al., 2004; Macintyre et al., 2004; MacPhail and Campbell et al., 2001). In yet another study, **o**nly 39.4% of the respondents perceived themselves to be at high risk of contracting HIV (Tankang, 2014).

2.5 Factors predisposing adolescents to HIV/AIDS

Adolescents passed through series of developmental stages as they grow up mostly with their parents. They faced different challenges as they interact within their environment, amidst several economic, cultural, religious and social factors moderating their behaviour. The sex life of adolescents gets a boost during college days (they gain freedom, go out, and meet new people) while low rates of condom use [DiClemente, 1993), and experimenting with alcohol and drugs (Degroote, 2013) pave the way for unprotected sex. Young adults have a low health risk assessment; they do recognize peers as being at risk for STIs such as HIV, but not themselves (Van Rossem, Berten and Van Tuyckom, 2010). Some of these include

1. Socio-economic factor: Adolescents are particularly are at risk of unprotected sex, as a result of poverty, and unstable family environment among others.
2. Physiological factor: Adolescents is a period of unpredictable behavior lacking the judgment ability that comes with experience, leading to sexual exploitation and giving in to peer pressure
3. Sense of invulnerability: Adolescents feel invincible and they do not consider themselves to be at risk.
4. Lack of social-cultural values eg virginity, decent dressing
5. Lack of knowledge: Knowledge is poor and shallow (Oyo-Ita et al., 2005; Wodi, 2011).

6. Public response: Inadequate access to appropriate information, education and services to meet their peculiar needs, stigmatization and non availability of youth friendly RH services

7. Peer pressure: Adolescents are most sensitive to the opinions of their peers, and are often misled by their friends who engage in risky behaviour

8. Stigmatization of the diseases: The potential social effect and cost to a young person of preventing HIV infection including loss of relationship, trust and loss of peer acceptance can be too high a price for most adolescents to bear.

2.6 HIV/AIDs Prevention among adolescents

Without sustained awareness, and bridging information and counseling gaps, HIV disease control may continue to go the same way of old. Sexual behavior change through counseling and awareness creation remains the most effective way of preventing transmission. Pre-marital abstinence from sexual intercourse is still the ideal message for adolescents; it is important that we give them guided information on the mode and non modes of transmission of HIV and its prevention.

Teens are urged to remain abstinent, but they are surrounded by images on television, movies, and magazines of glamorous people having sex, smoking, and drinking. In addition, in the name of culture, religion, or morality, young people are often denied access to information about their bodies and health risks that can help keep them safe.
It is thus important to strategize on how best to reach this study group, perhaps a peer to peer education would work in saving some youths as they act as role model to one another. In a study

(Upretti, 2009), knowledge about condoms was very high but practice of correct and consistent use in premarital and extramarital sexual relations with non-regular partners seems to be lower. The overall sexual behaviour among young people is unsafe.

In another study, a gender analysis showed that more females believed in the existence of HIV/AIDS and that HIV could be contracted at sexual début; more males believed that condom use prevented AIDS and had a better understanding of routes of transmission. Adolescents of more educated parents were likely to have a better understanding of HIV/AIDS on 9 of 12 items on the questionnaire (Adegoke, 2009).

Focusing on young people is likely to be the most effective approach to confronting the epidemic, particularly in high prevalence countries. This was the basis of 2003 UNGASS global prevention goal to reduce by 2005 then, the HIV prevalence among young men and women aged 15–24 in the most affected countries by 25% and by 25% globally by 2010 (UNGASS, 2001).

Because most youths obtain at least some education, particularly with the international recognition of the importance of schooling (e.g., the Millennium Development Goals), school-based programs appear to be a logical choice for sexual and reproductive health education. However, according to recent reviews of school-based HIV interventions, such programs have had mixed results (Kirby, Obasi and Laris 2006; Kirby, Laris and Rolleri, 2007; Cleland and Ali, 2006).

A systematic review of school-based sexual health interventions in Sub-Saharan Africa found that most interventions led to an improvement in knowledge, attitudes and intentions in terms of impact, but few found evidence of lasting behavioral changes (Paul-Ebhohimhen,

Poobalan and Teijlingen, 2008), In a school-based intervention in Thailand, secondary school students who were exposed to a comprehensive sex education program had greater knowledge than other students, and were more likely to intend to refuse sex and to decrease frequency of sex, but no change was seen in consistent condom use (Thato, Jenkins and Dusitsin, 2008).In Nigeria (Akpabio et al., 2009), a randomized school-based intervention with nurses led to more favorable attitudes toward HIV prevention measures among students. A study in the Dominican Republic showed that adolescents who received sex education had higher rates of condom use and more knowledge of HIV than those who did not (Minaya, Owen-Smith and Herold, 2008)

2.7 Peer education programmes and adolescents sexuality

Traditional HIV education have increased knowledge but behavioural change have been small, while studies in Mexico found that a school-based intervention led to more positive norms related to HIV-preventive behaviors(Givaudan, 2008; Pick et al., 2007). According to Oxford Advanced Learner's dictionary, the word "peer" means 'equal', someone of the same condition as oneself.- eg age, gender, income etc. Peer education has been defined as 'the teaching or sharing of health information, values and behaviours by members of similar age or status (Milburn, 1995), and it has since become a popular strategy for health promotion and prevention among adolescents and youths in recent years. This method of health promotion was based on the fact that the health beliefs and habits formed during childhood and adolescence are carried into adulthood and that teenagers influence each other's attitudes and behavior. (Caron and Caroline, 2008). In addition, the social learning theory emphasizes that similarities in age and

interests between those giving and those receiving educational messages will increase the persuasiveness of the messages.

Peers are often likely to interact and relate on the same level of understanding, and trust one another in their own circumstances more than professionals whose experience might be entirely different from theirs. Peer educators and learners share some degree of common experience and desire to help and learn from one another. Peer educators and learners share some degree of common experience and desire to help and learn from one another.

Peer-based interventions can enhance HIV knowledge and reduce risk behaviors. Peer-based interventions may decrease the incidence of unprotected sexual intercourse, the frequency of sexual intercourse, and the number of teens' sexual partners and increase teens' acquisition and use of commodities like condoms. A peer education study reported a statistically significant improvement in knowledge about HIV (Borgia, Marinacci and Schifano, 2005)and another showed a significant change in attitudes related to sexual behaviour(Merakou, 2006).

In a study on effect of peer based sex education programme on at risk sexual behavior among adolescents in Nigeria, there were significant differences in at-risk sexual behaviours and knowledge and attitude of the two groups when the treatment (intervention) group was compared with the control group in an intention to treat analysis,. Those in the intervention group reported less at-risk sexual behaviours than their counterparts in the control group (Esere, 2008, Adeomi et al., 2014a).. Thus, peers may influence each other's social behavior through their role as credible role models and this may be an approach by which young people, through partnerships can define and tackle their own reproductive health needs. (Caron and Caroline, 2008),

CHAPTER THREE

MATERIALS AND METHODS

3.1 Study area: Osun is a state in Southwestern region of Nigeria, with Osogbo town as the capital city. The State has a population of about 3.2 million at the last national census with a rural to urban ratio of 1.4:1(NPC, 2006). The HIV prevalence rate in the State is a bit lower than the national average put at 4.1 %.(FMOH/NACA 2011). There are 326 secondary schools both public and privately owned in the State, and majority of the students are adolescents as expected. HIV treatment, care and support facilities are available essentially at the level of the eight secondary and two tertiary health institutions in the State. There is no significant presence of Non Governmental Organizations programming in the field of HIV/AIDs in the State.

Most data available on sexual risk behavior are from individual research or nationwide data, and specific State level data on such data elements concerning peers and sexuality are not routinely collected. Likewise Family Life Health Education has not yet been incorporated into the secondary school curriculum in the State as in most other secondary schools in the region. The State has a high unmet need for contraception as in many other parts of Nigeria (NDHS, 2013). Majority of health facilities in rural areas are health posts and dispensaries while the few primary health care centers lack adequate resources including contraceptives unlike the urban areas. The State is highly cultural, expected of a typical Yoruba speaking State where sex is not openly or freely discussed or mentioned

3.2 Study design: This is a quasi experimental/interventional study, employing descriptive cross sectional design of the pre and post test type. It was carried out among secondary school students in Osun State using both study group and controls. In this study design, manipulation

was carried out in form of giving peer health education to the intervention group, but a true randomization was not done.

3.3 **Study population:** The reference population was adolescents in secondary schools in Osun State. The **t**arget populations were registered higher secondary school students in public secondary schools in Osun state. Students who were out of school, those not registered in the schools, students from non mixed (boys only or girls only) schools and students from private education facilities were excluded from the study. Study population consists of those students who eventually took part in the study.

3.4 Selection of study and control population or groups: The 2 groups were essentially of the same characteristics (age range, class etc) or eligibility. However, the study group received a strategically and well planned and sustained six months, school based health promotion messages that was delivered using their school peers. Study was carried out between February and August, a time when students were still in the same class.

3.5 Sample size calculations: The design comprised comparable intervention and control groups determined by a toss of a coin, the head represented the intervention group, and the other side for control group in selection. Sample size was calculated using the Krejcie and Morgan formular.

Adapted from Krejcie and Morgan's table formular.(Krejcie and Morgan, 1970):

$$S = \frac{X^2 NP(1-P)}{D^2 (N-1) + x^2 p(1-p)}$$

S = required sample size

N = the given population size = 1920 students for each of the intervention and control group.

P = Population proportion that for table construction has been assumed to be .05 which yields maximum possible size required
d = degree of accuracy the value for d being 0.05
X = table value of chi-square from one degree of freedom relative to the desired level of confidence which is 3.841 for the .95 confidence level.

$$S = \frac{3.841 \times 1920 \times 0.5 \times 0.5}{0.05^2 (1919) + 3.841 \times 0.5 \times 0.5}$$

S= 320 for each of study and control groups.

This was increased to 350 students per each of study and control group to account for attrition and non response, bringing the total sample size to 700 for both groups during pretest and another 700 during post test.

3.6 Sampling methods: A multi-stage sampling method was adopted in sample selection. In stage I, two out of 3 senatorial districts in the State were selected through simple random sampling employing simple balloting. In stage 2, a list of Local Government Areas (LGAs) per district were obtained from Ministry of LGA and Chieftaincy affairs, and one LGA were selected through simple random sampling employing simple balloting. In stage three, one urban compound schools were also randomly selected from a list of secondary schools per LGA making a total of 2 compound schools namely (1) estate compound school and (2) testing ground compound school. A compound school in the State consist of 4 secondary schools existing within the same compound but with different administrative and control structures.

In stage 4, two schools within a compound school was selected by simple random sampling employing simple balloting making a total of 8 schools within the 2 urban based compound schools. Questionnaires were equally allocated among schools in a compound school. It was expected that each of the 3 levels in senior classes have 4 arms, out of which 2 were randomly selected, making a total of 6 arms per school. It was also expected that each arm have

40 students on the average, and this was considered as a single study subunit during the peer education and training programme. Total number of student per group was then 40 X 6 X 8 =1920 as used in above calculation of sample size.

3.7 Instrument for data collection and study variables: Eligible student were subjected to a self administered, pre coded, semi structured questionnaires conducted by trained research assistants. Reliability of the instrument was ensured by pre-testing (test retest) of the questionnaires among 24 high secondary school students from nearby Oyo State that were comparable to the study group, and this was used in modifying the questionnaire for better clarity. Face validity of the research instrument were ensured by using simple English language and clearly stated items in the questionnaires. Content validity was carried out by ensuring that the content of the questionnaire were full and comparable to some standard HIV Knowledge and attitude questionnaires found, and captured the teaching subsections in the adapted WHO HIV peer education training manual.

The trained research assistants ensured good conduct and 'no interference' among students and discouraged discussions among students during questionnaire administration. The pre intervention responses were kept aside as a baseline. Study variables include information on socioeconomic characteristics of the respondents, their sexuality pattern, knowledge and risk perception to HIV/AIDs and People Living with HIV/AIDs (PLWHAs).

A Focus Group Discussion (FGD) guide was also used to conduct one pre-training FGD sessions among subjects selected for peer education training in each of the 2 compound schools. This served a pre training baseline knowledge to assess what students generally know or believe about

HIV/AIDs in the study setting, and was not originally a part of these study data collection activities.

3.8 Peer education programme and training (PEPT):

A total of 96 students' volunteers from the intervention group were trained for one week as peer educators with the assistance of 2 research associates and 8 teachers. The selection of students as peer educators was based on their teachers' advice, their interest, ability to communicate and influence their colleagues and leadership qualities. A packaged training manual adapted from UNICEF was used for the training (UNFPA/FHI, 2006).

After the training, the peer educators used copies of the IEC material printed (attached) and the UNICEF manual to disseminate same information to their colleagues in their various schools and classes with the supervision of their class teachers, the researcher and the research assistants, on a day in a week basis programme, for 24 weeks. The weekly activities of the education programme were recorded in designed record sheets to ensure active participation and the number of attendants at each teaching session. At the end of the 24 weeks, the same questionnaire used for baseline data collection was used to collect post intervention responses from the selected students in the two groups.

Structure of the PEPT and the role of the researcher: After proper school entry, the researcher explained the rationale for the study to the school principal and head teachers during a meeting with all the teachers and management of the schools.

Selections of educators were made in conjunction with the management board, and this include

1. The class teacher of each of the selected classes
2. Four other students per class = 24 students per school =96 students in all
3. All the school prefects in the senior secondary schools were conveniently included

All these were selected for the Peer education training sessions

At the training, a pre assessment was done to assess their knowledge on HIV/AIDs. All questions asked in the assessment questionnaires were discussed. A FGD guide was also used in collecting qualitative information on HIV/AIDs from them, and their responses discussed. Misconceptions about HIV were also cleared.

The researcher printed a IEC materials (attached under appendix) and shared and the contents discussed. Each of the peer educators was given the opportunity to rehearse their planned education method and session so that they could get used to the methods. A time table of how the PEPT was done was drawn, including number of days per week on the assembly ground, the classrooms during break and literary hours

Strategies were also discussed on how students would be reached on one –on-one basis after school session, an avenue for peer educators to interact with their colleagues and discuss HIV. The teachers continuously sup[revised the students and ensure that practice sessions holds, PET session on assembly ground and classrooms were well organized and conducted. All these efforts were coordinated by the researcher who held series of meetings during the various activities.

3.9 Ethical consideration and approval: Ethical approval to conduct this study was obtained from the Research Ethics Committee of Osun State University Osogbo (attached under appendix) \, which is a member of the Nigerian National Institutional Review Board (IRB) here in Nigeria.

Permissions was also taken from the State and Local Ministries of Education, the principal and class teachers of selected schools and classes. Written informed consent was obtained from each student who took part in this study.

3.10 Data analysis and management: The Statistical Package for Social Sciences (SPSS) Version 17.0 soft-ware was used for data entry and analysis. Validity of data collected was ensured by double entry and random checks for errors. Pre and post data were analyzed and compared for each group. Relevant frequency distributions and summary measures (means) were also done. Knowledge and perception were summarily scored by calculating a summary or mean composite scores that was graded as good or poor (for marks above or below the mean score respectively).

The scoring was done using relevant knowledge and attitude variables ranging from a minimum of 9 and a maximum of 13 questions. Grading of perception of risky sexual behaviour were scored as follow: Agree = 3, Undecided = 2, Disagree = 1 where Agree is the correct answer and vice versa where Disagree is the correct answer, i.e. Disagree = 3, Undecided = 2,, Agree=1

Variations in knowledge, attitude and perception were further tested as 'Hypothesis' using Analysis of Variance (ANOVA) test after the data had been scored and scores pooled together. The mean values were then compared. The Chi-square test was used to demonstrate relationships between categorical variables and the degree of freedom and p values quoted, Binary logistic regression analysis were done for some outcome variables of interest at 95% Confidence level, and quoting both the Odds Ratio (OR) and the corresponding p values. Level of significance was set at P-values ≤ 0.05 for all inferential analysis. All analyzed data were

presented as frequency distribution tables and charts, and reported in word format at the end of each presentation.

3.11 Study limitations: The following are limitations to this study.

1. The media or other sources of information may serve as an undue advantage to the control group. The researcher may not have all control over this. However, this probable effect was reduced by taking intervention group from one LGA and Senatorial district, and the control group from another LGA and Senatorial district.
2. Circumstances under watch of teachers in school may not 100% be witnessed or monitored by researcher
3. In-school adolescents were studied in this research project. There is a need for a similar study among out of school adolescents to ensure better generalizability.
4. There is a possibility of dis –inhibition that could make the respondents to withhold information because sexual issues are often held in high esteem and confidence. This was overcome by persuasive nature of the research team, as well as assurance and confidentiality of all information to be collected
5. Stigma associated with HIV may led to some of the students not owing up as it is for many other community members (Aggleton, 2000; Bond et al., 2002; Brown et al., 2001), moreover study was carried out at a time when Senior secondary students grade 3 (most senior) were not around in school having passed their final examinations and had gone home to their parents. This was also overcome by persuasive nature of the research team, as well as assurance and confidentiality of all information to be collected

CHAPTER FOUR

RESULTS

SECTION A; SOCIODEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Table 1: Socio-demographics of respondents.

	Intervention group n(%)		Control group n(%)	
Variable(n=350/group)	**Pretest**	**Post test**	**Pre test**	**Post test**
Age in years (mean ages)	15.8(±1.4)	15.8(±1.3)	15.8(±1.5)	15.8(±1.4)
Early adolescence (10-13)	14(4.0)	19(5.4)	13(3.7)	7(2.0)
Mid adolescence (14-16)	158(45.1)	146(41.7)	231(66.0)	237(67.7)
Late adolescence(17-19)	178)(50.9)	185(52.9)	106(30.3)	106(30.3)
Sex				
Male	163(46.6)	152(48.4)	181(51.7)	168(48.0)
Female	187(53.4)	198(56.6)	169(48.3)	182(52.0)
Class				
Grade 10	101(28.9)	139(39.7)	173(49.4)	160(45.7)
Grade 11	249(71.1)	211(60.3)	177(50.6)	190(54.3)
Religion				
Christianity	43(12.3)	42(12.0)	214(61.1)	152(43.4)
Islamic	299(85.4)	299(85.4)	134(38.2)	189(54.0)
Traditional	4(1.1)	9(2.6)	2(0.6)	5(1.4)
Others	4(1.1)	-	-	4(1.1)
Marital status				
Ever married	10(2.9)	9(2.6)	5(1.4)	2(0.6)
Never married	340(97.1)	341(97.4)	345(98.6)	348(99.4)
Family setting				
Polygamous	175(50.0)	191(54.6)	258(73.7)	215(61.4)
Monogamous	175(50.0)	159(45.4)	92(26.2)	135(38.6)
Highest education level of father				
No formal	20(5.7)	14(4.0)	20(5.7)	10(2.9)
Primary	46(13.1)	28(8.0)	27(7.7)	25(7.1)
Secondary	164(46.7)	185(52.9)	108(30.9)	132(37.7)
Tertiary	112(32.0)	122(34.9)	189(54.0)	176(50.3)
Others	9(2.2)	1(0.3)	6(1.7)	7(2.0)
Highest education level of mother				
Nil formal	23(6.6)	20(5.7)	32(9.1)	20(5.7)
Primary	48(13.7)	35(10.0)	38(10.9)	42(12.0)
Secondary	166(47.4)	181(51.7)	122(34.9)	140(40.0)
Tertiary	98(28.0)	114(32.6)	156(44.6)	145(41.4)
Others	15(4.2)	-	2(0.6)	3(0.9)
Both father and mother lives together				
Yes	306(87.4)	302(86.3)	283(80.9)	295(84.3)
No	45(12.6)	48(13.7)	67(19.1)	55(15.7)
Subject lives with parents				
Yes	283(80.9)	279(79.7)	252(72.0)	280(80.0)
No	68(19.1)	71(20.3)	98(28.0)	70(20.0)

Figure I showed the socio-demographic characteristics of the adolescents studied. Majority of the adolescents were either in mid or late adolescents in both intervention and control groups. Though number of females exceeded that of males in both pretest and post test of both groups, male to female ration was 1.1 in both groups.

Figure 1 also showed mean age of respondents studied at both pretest and post test of both the intervention and the study group. Mean age was 15.8(+1.4) and 15.8(1.3) years in the pre and post test respectively in the intervention group. Among the control group, mean age of respondents was 15.8(+1.5) in pretest and 15.8(+1.4) in post test.

There was no statistically significant difference in the mean age of respondents at pre and post test in the intervention group (p 0.155) and in the control group (p – 0.198). Across al groups in both pretest and post test, majority of parents lives together, majority of respondents lived with their parents while a overwhelming majority were never married.

SECTION B: KNOWLEDGE, ATTITUDE AND PREVENTIVE PRACTICES TOWARDS HIV/AIDs.

Figure 1: Awareness about HIV/AIDs among respondents

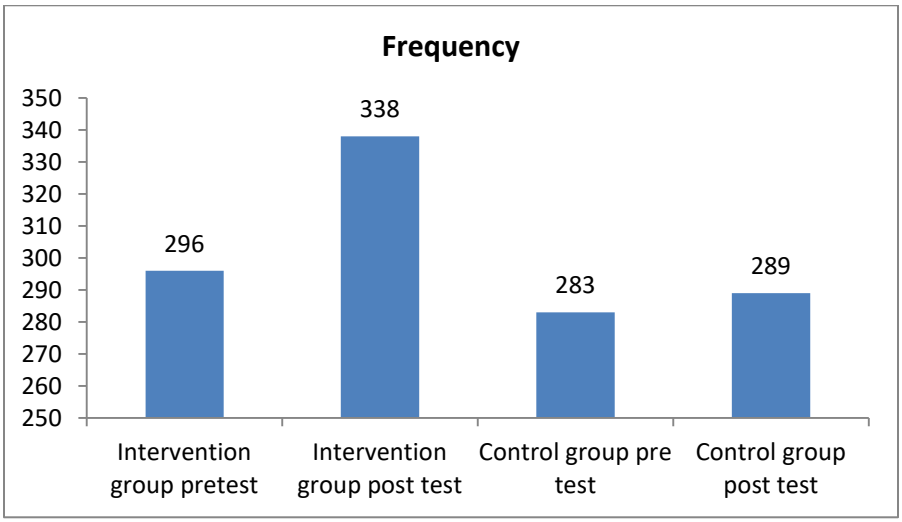


Figure 1 is a bar chart showing awareness of HIV among respondents. Two hundred and ninety six (84.6%) were aware in the pretest and 338(96.6%) in the post test of intervention group. Among the control group, 283(80.9%) were aware during pre test while 289(82.6%) were aware during post test. This amounts to an increase of 12.0% and 1.7% among intervention and control group respectively when pre and post tests are compared. This finding showcased the effect of health education carried out among the intervention group.

Table 2: Knowledge, attitude and practice scores to HIV among respondents

Variable composite scores	Intervention group n(%)		Control group n(%)	
	Pretest	Post test	Pre test	Post test
HIV Basic Knowledge scores				
Poor	65(18.6)	31(8.9)	78(22.3)	74(21.1)
Good	285(81.4)	319(91.1)	272(77.7)	276(78.9)
HIV Transmission Knowledge scores				
Poor	61(17.4)	36(10.3)	55(15.7)	71(20.3)
Good	289(82.6)	314(89.7)	295(84.3)	279(79.7)
HIV No misconception scores				
Low	125(35.7)	89(25.4)	109(31.1)	190(54.3)
High	225(64.3)	261(74.6)	241(68.9)	160(45.7)
HIV Risk Knowledge scores				
Poor	253(72.3)	114(32.6)	295(84.3)	195(55.7)
Good	97(27.7)	236(67.4)	55(15.7)	155(44.3)
General Attitude to HIV scores				
Poor	167(47.7)	56(16.0)	213(60.9)	241(68.9)
Good	183(51.3)	294(84.0)	137(39.1)	109(31.1)
Attitude to PLWHAs scores				
Poor	163(46.6)	109(31.1)	214(61.1)	196(56.0)
Good	187(53.4)	241(68.9)	136(38.9)	154(44.0)
Prevention Knowledge scores				
Poor	164(46.9)	49(14.0)	214(61.1)	245(55.7)
Good	186(53.1)	301(86.0)	136(38.9)	155(44.3)
Self Risk perception scores				
Poor	328(93.7)	282(80.6)	331(94.6)	320(91.4)
Good	22(6.3)	68(19.4)	19(5.4)	30(8.6)

Table 2 showed the composite or average knowledge, attitude and practice scores of respondents comparing pre and post test in both intervention and control groups. Each of these scores (using a range of aggregated variables ranging from 9 to 13) showed a generally appreciable and notable increase among the intervention group when pre and post tests are compared. Basic knowledge on HIV and knowledge of transmission were generally good across board while risk perception were generally poor among the various groups of respondents in both intervention and control groups.

SECTION C: EFFECTS OF PEER HEALTH EDUCATION

Figure 2:: Percentage Increase in (good) knowledge, attitude and practice scores, Pre Vs Post test

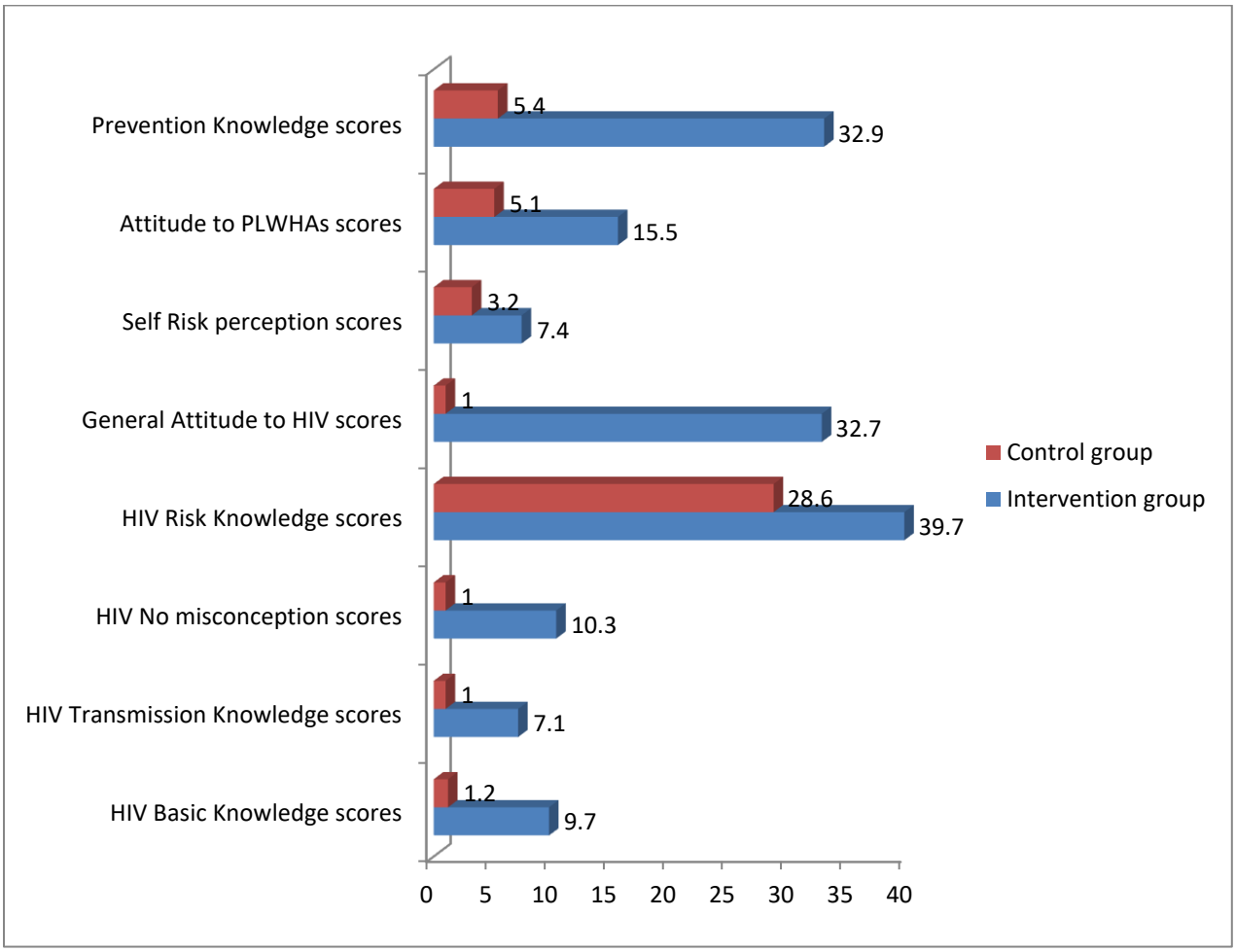


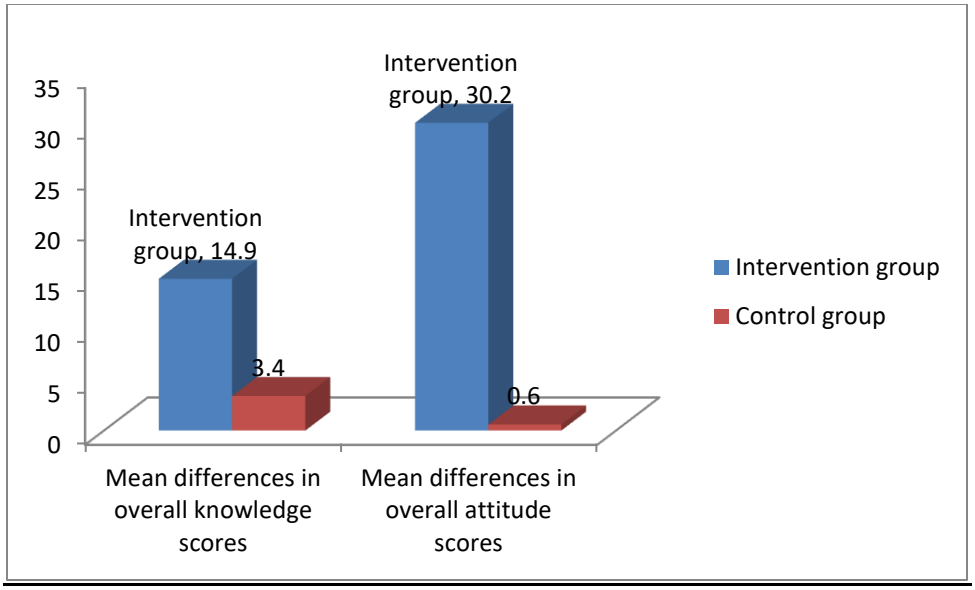
Figure 2 showed percentage increase in composite scores when pre test and post test of intervention and study groups are compared. There was appreciable percentage increase in all composite scores of post test over the pretest in the intervention group. In the control group, the difference was either marginal or absent or negative (which was denoted by 1 in the bar chart) The increment was highest or most noticeable in the areas of attitude to HIV, and knowledge of HIV prevention. This showed the effect of peer education in the intervention group when post tests and pretest scores are compared.

TABLE 3: Mean differences between pre and post test mean total knowledge and attitude scores among the 2 groups

		Total Knowledge scores		Total Attitude scores	
		Poor	Good	Poor	Good
Intervention group n (%)	Post test	19(5.4)	331(94.6)	108(30.9)	242(69.1)
	Pretest	51(20.3)	279(79.7)	214(61.1)	136(38.9)
Control group n (%)	Post test	55(18.0)	287(82.0)	267(76.3)	83(23.7)
	Pretest	75(21.4)	275(78.6)	269(76.9)	81(23.1)
P values of mean differences			0.001		0.106

Table 3 showed the mean difference in overall 9or total) good knowledge and good attitude scores when pre and post tests are compared. Among the intervention group, good level of knowledge increased from 279(79.7%) of respondents in pretest to 331(94.6^) of respondents at post test. Likewise, overall or total good attitude score increased from 38,9% to 69.1%. Among the control group, overall mean scores of good level of attitude also increased from 275(78.6%) to 287(82.0%). Mean scores of good level of knowledge increased from 81(23.1%) to 83(23.7%) of respondents.

Figure 3: Percentage increase in mean total knowledge and attitude scores in the 2 groups.



When pre and post mean scores are compared in both groups as a follow up to Table 3 above, its possible to calculate percentage increase in mean scores as in figure 2. An increase of 14.9% increase in total mean knowledge score was observed in intervention compared to 3.4% of the control group. Likewise, mean difference of 30.2% in mean good attitude scores was observed in the intervention group compared to 0.6% difference among the control group. The mean differences in knowledge scores between the 2 groups was statistically significant (p=0.001) during post test. For attitude, the mean difference between knowledge scores in both groups is also statistically significant (p=0.016).

SECTION D: HYPOTHESIS TESTING ON EFFECTS OF PEER EDUCATION

Table 4 : One way ANOVA showing knowledge, attitude and risk perception.

Variable	Group	Sum of squares	Df	Mean square	F	P
Overall knowledge on HIV(pre and post test compared)	Intervention group	0.118	1	0.051	2.051	0.130
	Control group	0.609	1	0.609	1.231	0.113
Overall attitude to HIV (pre and post test compared)	Intervention group	0.013	1	0.215	2.305	0.807
	Control group	0.369	1	0.181	1.139	0.154

Hypothesis 1

Decision rule: As seen in Figure 3, mean total scores of good knowledge increased by 14.9% among intervention group compared to an increase of 3.4% among the control group, and this observation was found to be statistically significant (0.001). This proved the null hypothesis wrong and favours the alternative hypothesis since there are significant differences between pre and post test in each group. The one –way ANOVA table above showed that there is a significant difference in overall (good) knowledge when post test and pre test are compared in the intervention group (h- 2.051. Among the control, there is no significant difference (f-1.231). This proved the null hypothesis wrong, and rather the alternative hypothesis was accepted.

Hypothesis 2:

Decision rule: Mean total scores of good attitude to HIV increased by 30.2% among intervention group compared to an increase of 0.6% among the control group , and this observation was found to be statistically significant (0.016). This proved the null hypothesis

wrong and favours the alternative hypothesis, since there are significant differences between pre and post test in each group.

Still for attitude, the one –way ANOVA table above showed that there is a significant difference in overall (good) attitude to HIV when pre and post are compared in the intervention group(F-2.305). However, no such difference was found among the control group when pre and post test were compared. This also proved the null hypothesis wrong or rejected.

Hypothesis 3:

Decision rule: Good self risk perception among the intervention group rose from 6.3% to 19.4%, giving an increase of 13.1%. Among the control, perception was only from 5.4% to 8.6% which is 3.2% increase. This proved the null hypothesis wrong and favours the alternative hypothesis, since there are significant differences between pre and post test risk perception scores.

Still for attitude, the one –way ANOVA table above showed that there is a significant difference in overall (good) attitude to HIV when pre and post are compared in the intervention group (F-2.305). However, no such difference was found among the control group when pre and post test were compared. This also proved the null hypothesis wrong or rejected.

SECTIONC E: FACTORS CONTRIBUTING TO HIV KNOWLEDGE, ATTITUDE AND PRACTICE

Table 5: Factors contributing to HIV knowledge, attitude and practice

	Intervention group n(%)		Control group n(%)	
Variable (n=350)	Pretest	Post test	Pre test	Post test
Sources of information about HIV/AIDs				
• Radio/TV etc	152(51.4)	143(42.3)	185(65.4)	141(48.8)
• Print media+ posters	35(11.8)	45(13.3)	54(19.1)	49(17.0)
• Health care workers	70(23.6)	75(22.2)	83(29.3)	72(24.9)
• Internet	12(4.1)	12(3.6)	54(19.1)	13(4.5)
• Relatives	38(12.8)	40(11.8)	81(28.6)	46(16.0
• Health campaign	6(2.0)	18(5.3)	27(9.5)	17(5.9)
• School teachers	33(11.1)	40(11.8)	27(9.5)	40(13.8
• Public lectures	7(2.4)	7(2.1)	27(9.5)	5(1.7)
• Others	1(0.3)	1(0.3)	27(9.5)	1(0.3)
Is HIV preventable				
Yes	57(16.0)	188(52.6)	40(11.1)	85(24.0)
No	245(68.6)	114(32.0)	317(88.9)	118(33.0)
Don't know	55(15.4)	55(15.4)	-	154(43.0)
Have you done HIV testing				
Yes	101(28.9)	111(31.7)	81(23.1)	114(32.6)
No	249(71.1)	239(68.3)	269(76.9)	236(67.4)
Do you know where to get a HIV test done				
Yes	183(52.3)	210(60.0)	135(38.6)	187(53.4)
No	167(47.7)	140(40.0)	215(61.4)	163(46.6)
Have received counseling/ health education/campaign session on HIV				
Yes	223(63.7)	340(97.1)	245(70.0)	249(71.0)
No	127(36.3)	10(32.7)	105(30.0)	101(29.0)
Parents have discussed HIV issues with respondents				
Yes	270(77.1)	267(76.3)	268(76.6)	271(77.4)
No	80(22.9)	83(26.7)	82(23.4)	79(22.6)

Table 5 showed some factors contributing to HIV knowledge, attitude and preventive practices. Major sources of information on HIV were largely from Radio and Television followed by the print media, health care systems and relatives, and this was the situation in both groups. More than 2/3rd across board has not done HIV testing, while about ½ have neither received health

campaign of HIV nor knew where to get a HIV test done. There was an appreciable increase of 16.0% to 52.6% when pre and post response on ‘Is HIV preventable’ was compared among intervention group. Such increase was marginal among pre and post test responses in the control group. To demonstrate that the intervention group has received peer education training, an appreciable increase was recorded when pre and post test responses on ‘having received counseling session’ was compared. This was not so among the control group.

Table 6: Pattern of sexuality and Contraception

	Intervention group n(%)		Control group n(%)	
Variable	Pretest	Post test	Pre test	Post test
Have ever had sex				
Yes	82(23.4)	83(23.7)	74(21.1)	70(20.0)
No	268(76.6)	267(76.7)	276(78.9)	280(80.0)
Age at first sexual intercourse				
Mean age	14.4(+2.9)	14.8±(2.0)	(14.7(+2.1)	14.4+(3.5)
10-13	14(17.1)	15(18.1)	17(23.0)	9(12.9)
14-16	36(43.9)	35(42.2)	42(56.8)	35(50.0)
17-19	23(28.0)	26(31.3)	8(10.8)	16(22.9)
Others/no response	9(11.0)	7(8.4)	7(9.5)	10(14.3)
Average number of sexual partners				
One	42(51.2)	45(54.2)	53(71.6)	46(65.7)
Multiple (>1)	22(26.8)	17(20.5)	17(23.0)	19(27.1)
None for now	18(22.0)	21(25.3)	4(5.4)	15(21.4)
Ever been pregnant (Yes)	15(19.5)	17(20.5)	13(17.6)	16(17.6)
Have you ever heard about Family Planning (FP)/contraceptives				
Yes	199(56.9)	191(54.6)	200(57.1)	174(49.7)
No	143(40.9)	156(44.6)	150(42.9)	165(47.1)
Not sure	8(2.3)	3(0.9)	-	11(3.1)
Sources of information on FP				
• Radio/TV etc	104(52.3)	100(52.4)	108(54.0)	95(54.6)
• Print media+ posters	43(21.6)	53(27.7)	56(28.0)	60(34.5)
• Health care workers	81(40.7)	59(30.9)	55(27.5)	62(35.6)
• Internet	20(10.1)	23(12.0)	55(27.5)	21(12.1)
• Relatives	35(17.6)	11(5.8)	31(15.5)	19(10.9)
• Health campaign	22(11.1)	12(6.3)	21(10.5)	19(10.9)
• School teachers	17(8.5)	5(2.6)	34(17.0)	12(6.9)
• Public lectures	8(4.0)	12(6.3)	15(7.5)	13(7.5)
• Others	4(2.0)	-	3(1.5)	5(2.9)
Have you ever used a method of FP				SS
Yes	111(31.7)	100(28.6)	81(23.1)	87(24.9)
No	216(61.7)	238(68.0)	269(76.9)	243(69.4)
Not sure	23(6.6)	12(3.4)		20(5.7)
Did you use a condom at last sex (n)	82	83	74	70`
Yes	5(6.1)	6(7.2)	12(16.2)	12(17.1)
No	77(93.9)	77(92.3)	62(83.8)	58(82.9)
Would like to reject a new offer of sexual intercourse				
Yes	179(51.2)	269(76.9)	191(54.6)	213(60.9
No	171(48.8)	81(23.1)	159(35.4)	137(39.2)

Table 6 showed pattern of sexuality and contraception among respondents. A little above 20% or one-fifth in each study groups have had sexual intercourse in either pre test or post test. Average age at first sexual intercourse was an average of 14 years in both groups. This means that those who have had sexual intercourse had it before the age of 15 years on the average. Across both pretest and post test in both intervention and control groups, awareness of family planning was high, use of a method of contraception was low, condom use at last sexual intercourse was low whereas willingness to reject next offer of sexual intercourse when made by a partner was high. About 76.9% of intervention group said they would reject a new offer of sexual intercourse during post test compared to 51.2% during pretest. In the control group, the incensement was from 54.6% to 60.9% which is only marginal compared to what happened in the intervention group.

SECTION F: ASSOCIATIONS ON BI VARIATE AND MULTIVARIATE ANALYSIS

Table 7: Bi-variate analysis showing associations between mean KAP scores and age

	Age in years							
	Pre test				Post test			
Control group	**Early**	**Mid**	**Late**	**X^2, Df P value**	**early**	**Mid**	**Late**	**X^2, Df P value**
HIV BKS				0.012				4.070
Poor	2(15.4)	36(15.0)	17(16.0)	2	0(0.0)	88(37.1)	38(35.8)	2
Good	11(84.6)	195(84.4)	89(84.0)	0.994	7(100)	149(62.9)	68(64.2)	0.131
HIV-TS				0.012				3.130
Poor	2(15.4)	36(15.6)	17(16.0)	2	0(0.0)	53(22.4)	18(17.0)	2
Good	11(84.6)	195(84.4)	89(84.0)	0.994	7(100)	184(77.6)	88(83.0)	0.209
HIV-RKS				0.742				3.395
Poor	11(84.6)	192(83.1)	92(86.8)	2	5(71.4)	131(55.3)	49(46.2)	2
Good	2(15.4)	39(16.9)	14(13.2)	0.690	2(28.6)	106(44.7)	57(53.8)	0.183
Attitude-HIV				1.505				0.777
Poor	10(76.9)	140(60.6)	63(59.4)	2	4(57.1)	166(70.0)	71(67.0)	2
Good	3(23.1)	91(39.4)	43(40.6)	0.471	3(42.9)	71(30.0)	35(33.0)	0.678
Attitude-PLWHAs				0.510				1.077
Poor	7(53.8)	140(60.6)	67(63.2)	2	4(57.1)	123(51.9)	49(46.2)	2
Good	6(46.2)	91(39.4)	39(36.8)	0.773	3(42.9)	114(48.1)	57(53.8)	0.584
HIV-PKS				3.733				0.313
Poor	8(61.5)	84(36.4)	44(41.5)	2	5(71.4)	168(72.9)	72(67.9)	2
Good	5(38.5)	147(63.6)	62(58.5)	0.155	2(28.6)	69(29.1)	34(32.1)	0.855
Intervention group								
HIV BKS				3.530				2.252
Poor	4(28.6)	21(13.3)	20(111.2	2	2(10.5)	9(6.2)	20(10.8)	2
Good	10(71.4)	137(86.7)	158(88.8)	0.171	17(89.5)	137(93.8)	165(89.2)	0.224
HIV-TS				9.698				6.367
Poor	6(42.9)	23(14.6)	22(12.4)	2	3(15.8)	8(5.5)	25(13.5)	2
Good	8(57.1)	135(85.4)	156(87.6)	0.008	16(84.2)	138(94.5)	160(86.5)	0.041
HIV-RKS				0.899	9(47.4)			2.405
Poor	11(78.6)	117(74.1)	125(70.2)	2	10(52.6)	49(33.6)	56(30.3)	2
Good	3(21.4)	41(25.9)	53(29.8)	0.638		97(66.4)	129(69.7)	0.300
Attitude-HIV				2.293				1.614
Poor	6(42.9)	69(43.7)	92(51.7)	2	5(26.3)	23(15.8)	28(15.1)	2
Good	8((57.1)	89(56.3)	86(48.3)	0.318	14(73.7)	123(84.2)	157(84.9)	0.446
Attitude-PLWHAs				2.319				0.262
Poor	8(57.1)	67(42.4)	88(49.4)	2	5(26.3)	45(30.8)	59(31.9)	2
Good	6(42.9)	91(57.6)	90(50.6)	0.314	14(73.3)	101(69.2)	126(68.1)	0.877
HIV-PKS				1.687				1.454
Poor	7(50.0)	68(43.0)	89(50.0)	2	3(15.8)	24(16.4)	22(11.9)	2
Good	7(50.0)	90(57.0)	89(50.0)	0.430	16(24.2)	122(83.6)	163(88.1)	0.483

Table 7 showed that no statistically significant association between any of the mean knowledge scores calculated and age (either in the early, mid or late adolescents) of respondents, either in the control or the intervention groups and when pre and post tests observations were compared ($p>0.05$).

'Table 8: Bi-variate analysis showing association between mean KAP scores and gender

	Gender					
	Pre test			Post test		
Control group	**Male**	**Female**	**X^2, P value**	**Male**	**Female**	**X^2, P value**
HIV BKS			0.017			1.874
Poor	28(15.5)	27(16.0)	1	52(40.6)	74(73.3)	1
Good	153(84.5)	142(84.0)	0.896	76(59.4)	148(86.7)	0.171
HIV-TS			0.017			1.240
Poor	28(50.5)	27(16.0)	1	30(23.4)	41(18.5)	1
Good	153(84.5)	142(84.0)	0.896	98(76.6)	181(81.5)	0.266
HIV-RKS			0.027			1.006
Poor	152(84.0)	143(84.6)	1	68(52.1)	117(52.7)	1
Good	29(16.0)	26(15.4)	0.870	60(46.9)	105(47.3)	0.939
Attitude-HIV			0.390			1.358
Poor	113(62.4)	100(59.2)	1	93(72.7)	148(66.7)	1
Good	68(37.6)	69(40.8)	0.532	35(27.3)	74(33.3)	0.244
Attitude-PLWHAs			2.589			2.872
Poor	118(65.2)	96(56.8)	1	72(56.3)	104(46.8)	1
Good	63(34.8)	73(43.2)	0.108	56(43.7)	118(53.2)	0.090
HIV-PKS			0.262			1.710
Poor	68(37.6)	68(40.2)	1	95(74.2)	150(67.6)	1
Good	113(62.4)	101(59.8)	0.609	33(25.8)	72(32.4)	0.191
Intervention group						
HIV BKS			3.595			6.156
Poor	27(16.6)	18(9.7)	1	20(13.2)	11(5.6)	1
Good	136(83.4)	167(90.3)	0.058	132(86.8)	197(94.4)	0.013
HIV-TS			1.001			11.055
Poor	24(14/7)	27(14.6)	1	25(16.4)	11(5.6)	1
Good	13(85.3)	158(85.4)	0.973	127(83.6)	187(94.4)	0.001
HIV-RKS			0.239			11.120
Poor	116(71.2)	136(73.5)	1	64(42.1)	50(25.3)	1
Good	47(28.8)	49(26.5)	0.625	88(57.9)	148(74.7)	0.001
Attitude-HIV			0.341			3.861
Poor	80(49.1)	85(45.9)	1	31(20.4)	75(12.6)	1
Good	83(50.9)	100(54.1)	0.559	121(79.4)	173(87.4)	0.049
Attitude-PLWHAs			0.117			3.184
Poor	77(47.2)	84(45.4)	1	55(36.2)	54(21.3)	1
Good	86(52.8)	101(54.6)	0.732	97(63.8)	114(72.9)	0.074
HIV-PKS			2.714			0.050
Poor	84(51.5)	79(42.7)	1	22(14.5)	27(13.6)	1
Good	79(48.5)	106(57.3)	0.099	130(85.5)	171(86.4)	0.823

Figure 8 showed that when pre and post tests were compared among the control group, there was no statistically significant association between any of the calculated mean scores and

gender.($p>0.05$). For the comparism of pre and post test among the intervention group, a statistically significant association exists between all the calculated mean scores and gender ($p<0.05$), except for HIV prevention mean scores.

Table 9: Bi-variate analysis of association between HIV influencing factors and age / gender.

	Gender					
	Intervention group post test			Control group post test		
	Male	Female	X^2,Df P value	Male	Female	X^2, Df P value
Have had sexual intercourse			12.787			6.802
Yes	82(52.9)	69(34.8)	1	35(27.3)	35(15.8)	1
No	70(46.1)	129(65.2)	0.000	93(72.7)	187(84.2)	0.009
Heard about HIV			1.181			0.020
Yes	140(92.1)	188(94.9)	1	104(81.3)	179(80.6)	1
No	12(7.9)	10(5.1)	0.277	24(18.7)	43919.4)	0.887
Willing to go for HIV test			2.194			1.585
Yes	106(69.7)	152(76.8)	1	99(77.3)	158(71.2)	1
No	46(30.3)	46(23.2	0.139	28(22.7)	64(28.8)	0.208
Have done HIV testing			4.551			0.160
Yes	39(25.7)1	72(36.4)	1	40(31.2)	74(33.3)	1
No	13(74.3)	126(63.6)	0.033	88(68.8)	148(66.7)	0.689
Have used a method of contraception			12.560			0.296 1
Yes	57(39.9)	43(22.1)	1	34(23.1)	53(25.4)	0.586
No	86(60.1)	152(77.9)	0.000	87(71.9)	156(74.6)	

	Age in years							
	Intervention group post test				Control group post test			
	Early	Mid	Late	X^2, P value	early	Mid	Late	X^2, P value
Have had sexual intercourse				0.839				8.136
Yes	8(42.1)	59940.4)	84(45.4)	2	1(14.3)	38(16.0)	31(29.2)	2
No	11(57.9)	87(59.6)	101(54.6)	0.657	6(85.7)	199(84.0)	75(70.8)	0.017
Heard about HIV				6.192				2.155
Yes	17(89.5)	132(90.4)	179(96.8)	2	7(100.0)	193(81.4)	83(78.3)	2
No	2(10.5)	14(9.6)	6(3.2)	0.451	0(0.0)	44(18.6)	23(21.7)	0.340
Willing to go for HIV test				2.288				0.261
Yes	16(84.2)	11(76.0)	131(70.8)	2	5(71.4)	176(74.3)	76(71.7)	2
No	3(15.8)	35(24.0)	54(29.2)	0.318	2(28.6)	61(25.7)	30(28.3)	0.878
Have done HIV testing				5.180				2.593
Yes	10(52.6)	49(33.6)	52(28.1)	2	71(14.3)	83(35.0)	30(28.3)	2
No	9(47.4)	97(66.4)	133(71.9)	0.075	6(85.7)	154(65.0)	76(71.7)	0.273
Have used contraception				1.175				3.431
Yes	4(21.1)	44(32.1)	52(28.6)	2	0(0.0)	64(28.4)	23(23.5)	2
No	15(78.9)	93(67.90	130(71.4)	0.556	7(100.0)	161(71.6)	25(76.5)	0.180

For the control group, association exists between gender and having had sexual intercourse and gender and age of respondents ($p<0.05$). For the intervention post test group, an association exists between gender and having had sexual intercourse and use of contraceptives ($p<0.05$). All other associations tested on bi-variate analysis in both intervention and control group post test were not statistically significant ($p>0.05$) as shown in Table 9.

Regression analysis

Table 10: Binary logistic regression analysis between socio-demographic data and post test total mean knowledge and attitude scores

Post test comparism	Good total knowledge scores				Good total attitude scores			
	Odds ratio	95% CI		P	Odds ratio	95% CI		P
		Lower	Upper			Lower	Upper	
Intervention group								
Age (constant=early adolescence)	1.7	.907	3.502	0.071	1.9	.829	4.411	.128
Sex (constant=male)	3.3	1.121	3.439	0.030	1.5	1.964	2.472	0.071
Grade (constant=grade 10)	1.2	0.461	3.162	0.702	0.8	0.515	1.344	0.453
Control group								
Age (constant=early adolescence)	1.3	.697	1.738	1.1	1.412	.708	2.816	.328
Sex (constant=male)	0.9	0.594	1.462	0.759	1.8	1.065	3.206	0.029
Grade (constant=grade 10)	1.0	0.645	1.538	0.986	1.5	0.942	2.615	0.084

Table 11 showed that among the intervention group, late adolescents were about twice more likely to have good knowledge scores compared to the early adolescents though this observation was not statistically significant (OR 1.7, 95%CI 0.907-1.502 and p 0.071). Late adolescents were also twice more likely to have good total attitude scores compared to the early adolescents (OR 1.9, 95%CI 0.828-4.411 and 0 0.128).

Female adolescents were 3 times more likely to have good total knowledge scores compared to male and this observation was found to be statistically significant (OR 3.3, 95%CI 1.121-3.439 and p 0.030). Also female adolescents were one and a half times more likely to have good total attitude scores compared to males (OR 1.5, 95%CI 1.964-2.472 and p 0.071). There is no significant difference between total knowledge or attitude scores among the two different grades of adolescents studied (OR 1.2 Vs 0.8)

Among the control group, there was no statistically significant difference between total knowledge or attitude scores among the late adolescents compared to the mid and the early adolescents studied (OR 1.3 Vs1.18). Female adolescents were twice more likely to have good total attitude scores compared to male and this observation was found to be statistically significant (OR 1.8, 95%CI 1.065-3.205 and p 0.029). There was no statistically significant difference between the 2 sexes as it relates to overall good attitude scores ((OR 0.9).Adolescents in grade 11 are 1.5 times more likely to have good overall attitude scores compared to the adolescents on grade 10 (OR 1.5, 95%CI 0.942-2.615 and p 0.084).

Table 11: Binary logistic regression of KAP scores Vs gender (pre test and post test) among intervention study group

	Post test				Pre test			
	Odds ratio	95% CI		P value	Odds ratio(Exp B)	95% CI		P value
Control group	OR	Lower	Upper	P value	OR	Lower	Upper	P value
HIV-BKS (constant=poor)	1.640	.970	2.774	.319	.319	.026	3.918	.372
HIV- TKS (constant=poor)	.868	.444	1.696	-	-	-	-	-
HIV-NMS (constant=none)	1.130	.661	1.930	.334	.334	.068	1.655	.179
HIV -RKS (constant=poor)	1.065	.640	1.773	.289	.289	.034	2.434	.253
Gen. Attitude (constant=poor)	1.328	.761	2.316	.718	.718	.230	2.243	.569
Att. to PLWHAs (constant=poor)	1.531	.917	2.558	.994	.994	.348	2.839	.991
HIV-PKS (constant=poor)	1.072	.595	1.930	2.769	2.769	.451	16.997	.271
HIV-SRS (constant=poor)	.665	.268	1.649	-	-	-	-	-
Intervention group								
HIV-BKS (constant=poor)	1.913	.829	4.411	1.913	1.782	.907	3.502	.094
HIV- TKS (constant=poor)	2.645	1.160	6.031	2.645	.837	.440	1.595	.589
HIV-NMS (constant=none)	1.446	.837	2.496	1.446	.980	.597	1.609	.937
HIV -RKS (constant=poor)	2.120	1.272	3.535	2.120	.884	.532	1.470	.636
Gen. Attitude (constant=poor)	1.412	.708	2.816	1.412	1.100	.697	1.738	.681
Att. to PLWHAs (constant=poor)	1.129	.676	1.886	1.129	.979	.617	1.555	.929
HIV-PKS (constant=poor)	.507	.240	1.073	.507	1.332	.830	2.138	.235
HIV-SRS (constant=poor)	.291	.122	.690	.291	.426	.188	.968	.042

Table 13 showed binary logistic regression of the various composite scores in both pretest and post test of both intervention and control group, Versus some socio-demographic characteristics of respondents (gender). Across board, the odds ratio(s) were significantly increased in intervention groups than the control. However females had more significant odd ratios than male. The 95% confidence intervals and p values for each of these observations were also stated for each of the composite scores

Table 12: Binary logistic regression of : KAP scores Vs class or higher grade or education level

	Pre test				Post test			
	Odds ratio	95% CI		P	Odds ratio	95% CI		P
Control group		Lower	Upper			Lower	Upper	
HIV-BKS (constant=poor)	.309	.025	3.778	0.358	.350	.198	.616	.000
HIV- TKS (constant=poor)	-	-	-	-	3.439	1.701	6.952	.001
HIV-NMS (constant=none)	.695	.143	3.379	.652	.659	.379	1.146	.140
HIV -RKS (constant=poor)	.517	.062	4.310	.542	1.437	.865	2.386	.162
Gen. Attitude (constant=poor)	.523	.167	1.643	.267	1.015	.586	1.758	.958
Att. to PLWHAs (constant=poor)	1.178	.410	3.384	.761	1.202	.716	2.020	.486
HIV-PKS (constant=poor)	2.004	.332	12.104	.449	1.166	.653	2.082	.604
HIV-SRS (constant=poor)	-	-	-	-	.589	.235	1.480	.260
Intervention group								
HIV-BKS (constant=poor)	.447	.187	1.068	.070	.676	.293	1.559	.358
HIV- TKS (constant=poor)	.883	.429	1.815	.734	.547	.241	1.244	.150
HIV-NMS (constant=none)	1.136	.668	1.930	.638	1.081	.632	1.850	.776
HIV -RKS (constant=poor)	.864	.504	1.482	.596	1.316	.796	2.175	.284
Gen. Attitude (constant=poor)	1.044	.636	1.716	.864	1.260	.642	2.471	.502
Att. to PLWHAs (constant=poor)	1.310	.793	2.162	.291	.718	.432	1.193	.201
HIV-PKS (constant=poor)	1.045	.625	1.747	.868	1.228	.606	2.487	.569
HIV-SRS (constant=poor)	1.727	.656	4.546	.269	1.773	.739	4.254	.200

Table 13 showed binary logistic regression of the various composite scores in both pretest and post test of both intervention and control group, versus respondent's grade or education level. Across board, the odds ratio(s) were significantly increased in intervention groups than the control. However higher classes had more significant odd ratios than the lower classes, while adolescents in grade 11 had significant odd ratio compared to those in grade 10. The 95% confidence intervals and p values for each of these observations were also stated for each of the composite scores..

CHAPTER FIVE

DISCUSSIONS

There is no statistically significant difference between the mean age of respondents in the pretest and post test when the 2 groups (intervention and control) were compared, likewise other socio-demographic characteristics. This supports other related studies among in-school adolescents (Adeomi, et al, 2014a; Adeomi et al, 2014b). This attested to the fact that the two groups were comparable and identical in terms of socio-demographic data. Adolescents used in this study are all in the higher secondary school and the different groups would most likely have the same age range and mean age. The fact that majority of the adolescents in our study were in mid to late adolescents supports that of another study (Bamidele, Abodunrin and Adebimpe, 2009), in which their respondents were majorly late adolescents and that of (Adeomi et al., 2014a), in which majority of adolescents studied were in mid adolescence. The bottom line is that these age groups as a part of young persons are important to HIV transmission. Young people are at the centre of the global HIV/AIDS epidemic as regards both new infections and opportunities for halting disease transmission of HIV (Monasch and Mahy, 2006). Currently, the highest rates of new infections occur in the age group of 15-24 years which incorporates the adolescents 10-19 years of age (Dorrington, 2006)..

Awareness about HIV was generally high among respondents in both groups either during pretest or post test. This supports several other studies within and outside Nigeria(Adeomi et al.,2014a; Adeomi et al., 2014b; Bamidele et al., 2009; Odu et al., 2007, Thanavanh et al., 2013). At least a majority of respondents were aware of HIV, the least being among the control pretest groups. However In the intervention group awareness increased drastically or significantly with a sharp rise, while it only increased steeply in the control group when pre and

post tests are compared. This observation supports the effectiveness of peer health education in spreading awareness about HIV among adolescents compared to some other methods of achieving the same aims and objectives (Adeomi et al., 2014a, Gao et al., 2012). In Nigeria, the high scourge and burden of HIV (Adeomi et al., 2014a), has led to several awareness campaign through which information about preventive measures were shared in almost all nooks and crannies of the country.

Sources of information about HIV were highest in the electronic media (TV and radio) in both studies, followed by the print media, health care workers and relatives. This supports similar studies done, but with a precaution that awareness may not necessarily translate into attitudinal change when these media –most especially electronic media are used (Wilson et al., 2004; Young, Norman and Humphreys, 2008). Awareness is also an indication of readiness to put what one heard into practice. However, radio and TV are easily accessible to an average household in Nigeria compared to many other sources of health information. The same explanation holds for the electronic media being the highest source of information on health matters because of its easy access.

Generally there is a high HIV knowledge among respondents. At least a majority (more than three quarter across board) of respondents have a high knowledge in terms of basic knowledge, transmission knowledge, risk knowledge, and preventive practice knowledge. This observation supports several similar studies (Adeomi et al., 2014a; Bamidele et al., 2009; Odu et al., 2008; Adeomi et al., 2014b). Altogether these categories of knowledge increased drastically when post test is compared with pretest in the intervention group. In the control group, an increase was hardly noticed (Adeomi et al., 2014a). This trend also showcased the effectiveness of peer health education compared to Behavioural Change Communication (BCC) model and

other methods. This finding also agrees with the results from previous studies among in-school adolescents that knowledge can increase after educational interventions (Medley et al., 2003 Ajuwon and Brieger, 2007; van der Maas and Otte, 2009), and it is very encouraging. Although knowledge alone is often not sufficient in itself to produce change in sexual behaviour in most people, acquisition of knowledge is usually the first stage in the process of changes in behavior (Ajuwon and Brieger, 2007).

Altogether the various categories of knowledge and attitude scores increased drastically when post test were compared with pretest in the intervention group. In the control group, an increase was hardly noticed. This supports some other studies for knowledge,(Van Rossem, 2013, Carol and Caroline 2008, Adeomi, 2014a)[7] and attitude (Bamidele, Abodunrin and Adebimpe, 2009, Odu et al., 2007; Richard, 2004) Increased comprehensive and correct knowledge about HIV has also been found to reduce HIV incidence and prevalence in most countries with high HIV prevalence (UNAIDS, 2010).

This means that peer education is an effective ways of delivering quality HIV education among secondary school students. The low increase in differences among HIV knowledge categories could be because HIV is generally high across board. However, the sharp increase in attitude and preventive practices knowledge in the intervention groups showed that peer education has influenced attitude and preventive practice knowledge after post test of the intervention group compared to pre test. This is not the case in the control group as some of these parameters either remain the same or very steep or unnoticed differences in post test when compared to pretest, due to the absence of the 6 months peer education programme.

Attitude to HIV and PLWHAs were good (at least among half of respondents) in both study groups, though attitude was higher in post test than pretest in the intervention group. In the control, improvement in attitude was only marginal if at all it exists. This trend supports other studies (Bamidele et al., 2009 Odu et al., 2008; Gao et., 2012). Medley et al., 2003 described peer education as an effective behaviour change strategy in developing countries with the strongest impact on changing not only HIV knowledge but also attitudes

Self perception risk scores was generally low across respondents in both groups as only about one tenth said they were at risk of contracting HIV. Though a better perception of risk was observed in the post test of intervention when compared to pre test, HIV risk perception is still low among respondents in both groups after post test. This supports several other studies (Adedimeji Omololu and Odutolu, 2007; Sychareun et al., 2013).

. This is also the trend in the NDHS 2008, despite several years of efforts at combating the HIV scourge in Nigeria, and this pseudo confidence may put adolescents at risk of risky sexual and other behaviours that can predispose them to acquiring HIV.

Though more intervention group respondents said HIV was preventable when pre test and post test were compared, there is no statistically significant difference in the practice of going for HIV testing (and even knowledge of where to get a HIV test done) between pre and post test of both intervention and control groups going by their p values, as supported by other studies (Adeomi et al., 2014a; Adeomi et al., 2014b).

The restricted access of adolescents to reproductive health issues generally could be responsible for this trend, in addition to the fear of going for HIV testing or being positive to the test. For the same reason that sexual issues like HIV should not be openly discussed as a matter

of culture and religion, only minority or few of our respondents in both groups seemed to have had HIV health education or counseling from parents or the health care workers respectively.

There is no statistically significant difference in the mean age of first sexual experience of less than 15 (average 14.4) years in both groups when pre and post tests were compared going by the corresponding p values, likewise no significant difference in the number of sexual partners in which about one fifth had multiple sexual partners. This supports several other studies (Adeomi et al., 2014a Bamidele et al., 2009). However, the mean age at first sexual intercourse in this study is slightly lower when compared to another Nigerian study (Odu et al., 2008).

Differences in mean age at first sex could be due to many reasons including family up-bringing, whether adolescents' lives with parents or not, family setting all of which are variables that are comparable among adolescents in both groups under study. In both groups, there is generally high awareness about contraception, and generally low use of contraceptives and low use of condoms as at the last sexual intercourse (Bounbouly et al., 2013, Chandra-Mouli et al., 2001, Odu et al., 2008), though situation is better in this study when compared to another study (Bamidele et al., 2009) and worse when compared to yet another study (Odu et al., 2008).

Use of condoms is one of the core strategies in combating the spread of HIV, so the low prevalence of use of condoms thus portrays danger to the control of HIV/AIDs. In addition, many adolescents may not have planned for sexual intercourse in most instances and may not have come around with latex rubber condoms. The guilt that may be associated with condom use may also add to the poor accessibility of adolescents to family planning services in many health care facilities which is usually the case in many African settings including Nigeria (Rai et al., 2013).

To showcase the effect of health education as expressed in the various increment when post and pretest parameters are compared, all parameters of knowledge and attitude including mean total knowledge and attitude scores were significantly higher in post test when compared with pre test of intervention group. In the control group, post test changes were hardly noticed or non existent. Differences was significant (more than doubled) across knowledge parameters in intervention group with no change in control group as supported by another study (Adeomi et al, 2014a). Increased comprehensive correct knowledge has also been found to reduce HIV incidence and prevalence in most countries with high HIV prevalence (UNAIDS, 2010).

Though the generally poor attitude supports other studies (Ayankogbe et al., 2003 Oyo-Ita et al., 2005), differences were more than tripled across both attitude and preventive practices when pre and post test increases were compared in intervention group, while no such difference exists in the control group. This finding is in line and agrees with results from previous studies that peer-led intervention can have a positive effect on the attitude of secondary school students towards reproductive issues like HIV/AIDs (Brieger et al., 2001; Speizer, Tambashe, and Tegang, 2001; Ali, Bhatti, and Ushijima, 2004). This positive change in attitude is very important and encouraging, because attitude has been said to be a predictor of intentions to undertake any behavior (Ajuwon and Brieger, 2007; Caron, Otis, and Pilote,, 1998; Fishbein and Middlestadt,, 1987).

This means that peer education is an effective ways of delivering quality HIV education among secondary school students. The low increase in differences among HIV knowledge categories could be because HIV is generally high across board. However, the sharp increase in attitude and preventive practices knowledge in the intervention groups showed that peer

education has influenced attitude and preventive practice knowledge after post test of the intervention group compared to pre test. This is not the case in the control group as some of these parameters either remain the same or very steep or unnoticed differences in post test when compared to pretest, due to the absence of the 6 months peer education programme.

The statistically significant association found between attitude and preventive practices among adolescents and age, gender and grade/class of adolescents and the non significant association with knowledge can be supported by other studies.(Brieger et al., 2001; Ali, Bhatti and Ushijima, 2014). Peer education has been described as effective at improving knowledge and promoting attitudinal and behavioural change. By using peers as resources, information about sexual practices,, skills, and caring can be exchanged in an exponential way among friends, and peer influence often motivates their behavior(Turner, 2001; Visser, 2007).

CHAPTER FIVE

SUMMARY/ABSTRACT

Background: Adolescents constitute a significant proportion of any population. In Nigeria, they are responsible for a sizeable proportion of new HIV infections. Despite their risky sexual practices, Nigerian adolescents had been reported to have high awareness, poor attitude, and often perceive themselves as being at low risk of HIV infection. The need for a more formidable way of reaching this age group with HIV prevention massages becomes necessary. This is important in a country like Nigeria where family Life health education is yet to be introduced into the curriculum of secondary school education. Because peers are often likely to interact and relate on the same level of understanding, and trust one another in their own circumstances, peer education appear to be a veritable tool to improve awareness and knowledge of HIV infections among adolescents

Objectives: The goal of this study was to evaluate the effect of peer health education on secondary school adolescents' knowledge, attitude and perception of risk to HIV/AIDs in urban communities of Osun State. Specific objectives include. to determine knowledge and attitude, enumerate determinants of knowledge and preventive practices as well as compare effect of peer health education intervention on knowledge and attitude to HIV/AIDs among secondary school students in both intervention and control groups.

Methods: Osun is a State in Southwestern Nigeria, with a HIV prevalence rate which is a bit lower than the national average put at 4.1%. This is a quasi experimental study to evaluate effect of peer education on in- school adolescents' knowledge and perception of risk to HIV/AIDs using the pre and post test approach. Though the 2 groups (intervention and control) were essentially of the same socio-demographic characteristics or eligibility, the intervention group

received a strategically, well implemented and sustained six months, school based health education and promotion messages that was delivered using their school peers. Using adapted Krejcie and Morgan's formular, calculated total sample size was 700 (350) in each group. A multi-stage sampling method was employed in sample selection in both groups.

Data collection instrument were self administered, pre coded, semi structured, self administered questionnaires conducted by trained research assistants. Peer education session used the adapted UNICEF training manual, a designed IEC material. Peer education training were conducted for 96 students and 16 teachers while post tests were conducted after 6 months of supervised peer health education session. Data was analyzed using the SPSS version 17.0 software while p values was considered significant at values <0.05 for all inferential statistics.

Results: Majority of the adolescents studied were either in the mid or late adolescents period in both intervention and control groups, and with a male to female ratio of 1:1 in both groups. Mean age of respondents was an average of 15.8 years in both control and intervention groups, with no statistically significant age difference ($p>0.05$) between the two groups. Similarly, there was no statistically significant differences between other socio-demographic characteristics in both groups ($p>0.05\%$).. Two hundred and ninety six (84.6%) of respondents were aware of HIV/AIDs in the pretest and 338(96.6%) in the post test of intervention group. Among the control group, 283(80.9%) were aware during pre test while 289(82.6%) were aware during post test. This amounts to an increase of 12.0% and 1.7% among intervention and control group respectively when pre and post tests were compared.

Using mean composite scores, each of these seven scores (Basic HIV knowledge scores, Transmission scores, Risk scores, No misconception scores, General attitude to HIV scores,

Attitude to People Living With HIV scores PLWHAs, Knowledge of preventive practices scores and Self risk perception scores) were calculated. Pretest basic knowledge scores was generally high (81.4% in intervention and 77.7% in the control group).Pretest attitude was generally poor (51.3% in intervention and 39.1% in the control group), However, each of these 7 scores indicators drastically increased among the intervention group when pre and post tests were compared. In the control group, the difference was either negligible or absent

An increase mean difference of 14.9% in overall good knowledge scores was observed in intervention when pre and post tests were compared. A difference of 3.4% was observed among the control group. Likewise, mean difference of 30.2% in mean good attitude scores was observed in the intervention group compared to 0.6% difference among the control group. These proved wrong a null hypothesis stating that there are no differences in overall mean knowledge and attitude scores in both groups when pre and post tests are compared. Major sources of information on HIV were largely from Radio and Television followed by the print media, health care systems and relatives, and this was the situation in both groups. About 65%[d] of respondents in both groups have not done HIV testing, while about 50% in both groups have neither received health campaign on HIV nor knew where to get a HIV test done

A little above 20% or one-fifth in each study groups have had sexual intercourse in either pre test or post test. Average age at first sexual intercourse was an average of 14 years as age. Across both pretest and post test in both intervention and control groups, awareness of family planning was high, use of a method of contraception was low, condom use at last sexual intercourse was low whereas willingness to reject next offer of sexual intercourse when made by a partner was high. Self perception risk scores was generally low across respondents in both groups as only 6.3% of intervention group said they were at risk of contracting HIV. Though a

better perception of risk was observed in the post test (19.4%) of intervention when compared to pre test, HIV risk perception is still low among intervention group respondents. In controls, improvement was only marginal bust still at very low risk perception scores.

Among the intervention group, late adolescents were about twice more likely to have good total knowledge scores compared to the early adolescents though this observation was not statistically significant (OR 1.7, 95%CI 0.907-1.502 and p 0.071). Late adolescents were also twice more likely to have good total attitude scores compared to the early adolescents (OR 1.9, 95%CI 0.828-4.411 and 0 0.128). Female adolescents were 3 times more likely to have good total knowledge scores compared to male and this observation was found to be statistically significant (OR 3.3, 95%CI 1.121-3.439 and p 0.030). Also female adolescents were one and a half times more likely to have good total attitude scores compared to males (OR 1.5, 95%CI 1.964-2.472 and p 0.071). There is no significant difference between total knowledge or attitude scores among the two different grades of adolescents studied (OR 1.2 Vs 0.8)

Conclusion: Adolescents under study have a high awareness, good overall mean score knowledge but poor overall mean attitude scores and poor perception of self risk to HIV. On all the overall scores, and 8 mean attitude and knowledge scores calculated, there was a drastic or sharp rise in knowledge and (better) attitude to HIV among the intervention group when pre and post tests were compared. In the control group, changes were negligible or non-existent when pre and post tests were compared, thus attesting to the effects of peer health education in the intervention group. It was concluded that peer education is an effective ways of delivering quality HIV education among secondary school students towards behavioural change.

There is a high need for stakeholders including Governments, NGOs, schools, the media, health care workers and the communities to take more concrete efforts towards improving awareness and knowledge and attitude of adolescents through improved peer health education programmes.

Key words: Adolescents, HIV/AIDs, Knowledge, Attitude and Practice, Peer Health Education, Osun State

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

Conclusion

Socio-demographic characteristics of respondents in both groups were similar and no statistically significant difference between them. Majority of adolescents in both pretest and post test in both groups were aware of HIV. However, there was an increase of 12.0% and 1.7% among intervention and control group respectively when pre and post tests are compared.

Each of the component mean scores – basic knowledge, transmission, no misconception, risk scores, general attitude scores, general attitude to PLWHAs scores, preventive practices and self perception risk scores (using a range of aggregated variables ranging from 9 to 13) showed a generally appreciable ,increase among the intervention group when pre and post tests are compared.

An increase of 14.9% in total mean knowledge score was observed in intervention compared to 3.4% of the control group. Likewise, mean difference of 30.2% in mean good attitude scores was observed in the intervention group compared to 0.6% difference among the control group.

Mean total scores of good knowledge increased by 14.9% among intervention group compared to an increase of 3.4% among the control group, and this observation was found to be statistically significant (0.001). Mean total scores of good attitude to HIV increased by 30.2% among intervention group compared to an increase of 0.6% among the control group, and this observation was also found to be statistically significant (0.016).

Major sources of information on HIV were largely from Radio and TV followed by the print media, health care systems and relatives, and this was the situation in both groups. More than 2/3rd across board have not done HIV testing, while about ½ have neither received health campaign of HIV nor knew where to get a HIV test done

A little above 20% or one-fifth in each study groups have had sexual intercourse in either pre test or post test. Average age at first sexual intercourse was about 14 years in both groups. This means that those who have had sexual intercourse had it before the age of 15 years on the average. Across both pretest and post test in both intervention and control groups, awareness of family planning was high, use of a method of contraception was low, condom use at last sexual intercourse was low. Across board, the odds ratio(s) were significant in intervention groups than the control, and favouring late adolescence, females and grade 11

Socio-demographic characteristics of respondents in both groups are similar and no statistically significant difference. Majority of adolescents in both pretest and post test of both groups are aware of HIV. However, there was an increase of 12.0% and 1.7% among intervention and control group respectively when pre and post tests are compared.

Each of the component mean scores – basic knowledge, transmission, no misconception, risk scores, general attitude scores, general attitude to PLWHAs scores, preventive practices and self perception risk scores (using a range of aggregated variables ranging from 9 to 13) and overall mean knowledge and attitude scores – all showed a generally appreciable increase among the intervention group when pre and post tests are compared.

Recommendations

Based on findings from this study, and in order to maximize the numerous benefits of peer health education and HIV preventive measures, the following are recommendations for the various relevant sectors.

(a) Governments

Governments should lead the efforts in raising awareness and knowledge about HIV among adolescents, and this could commence with the introduction of Family Life Health Education (FLHE) in our secondary schools. This would also afford them the opportunity of getting more awareness and in-depth knowledge about other reproductive health issues concerning them.

Government should take the lead in improving the presence of peer education in schools by empowering Parents Teachers Association to put down a process of students teaching each other on sexual and reproductive health issues most especially HIV/AIDs

NGOs working in the area of HIV prevention should extend their programmatic SRH awareness and training programmes to schools and not just health facilities alone.

(b) Schools

Schools should put down a system of facilitating peer health education among students in which case seniors can teach juniors or even encourage better home discussion by enlightening parents, teachers and the students.

Schools should embrace the efforts of Government towards introduction of FLHE in their schools towards teaching students about their reproductive health.

(c) Health care system

Health workers should make our RH service centers to be adolescents and youth friendly so as to encourage them to come for sexual and reproductive health services. Barriers to their accessing services (such as bullying them or regarding them as prostitutes) should be discouraged among health care workers.

Whenever adolescents come to the hospital or health centers, health care workers should counsel towards encouraging dual protection method such as condoms. This would improve the use of condoms for prevention of STIs such as HIV/AIDs as well as prevention of unintended pregnancies.

In testing adolescents for HIV, health systems and workers should provide adequate privacy and confidentiality towards encouraging them to come to health facilities to access more services. Health care facilities without appropriate ability to render such services should promptly manage adolescents RH needs through prompt referrals- such as telling him or her where to get a HIV test done.

Health care workers should use the opportunity of adolescents coming around for one service or the other to talk to them about HIV/AIDs and encourage their going for HIV testing through Provider Initiated Testing and counseling PITC.

(d) The media

Since the TV and radio are the major sources of information on HIV among adolescents studied, the media should step up awareness on HIV, its causes, transmission and prevention so that more adolescents would learn more, change their attitude and put preventive messages into practice.

(e) The community/parents:

The culture of parents living together with adolescents should be promoted by religious and traditional or cultural leaders. This would serve as an avenue to talk to children about the consequences of early sexual intercourse and its numerous consequences most especially girls, and reduction of their sexual risk.

CHAPTER SEVEN

CONTRIBUTION TO KNOWLEDGE

Because peers are often likely to interact and relate on the same level of understanding, and trust one another in their own circumstances more than professionals whose experience might be entirely different from theirs, peer education appear to be a veritable tool to improve awareness and knowledge of HIV infections among adolescents. This study will showcase the importance, relevance and feasibility of using peers to reach other peers to effect HIV/AIDs behavioural change among adolescents in Nigeria.

There is a general belief that peer education are ideas restricted to the Non Governmental Organizations, most especially those working in the area of sexual and reproductive health, this study showcased its feasibility in academic research arena, most especially as cultural and socio-economic factors are put into consideration. This study would also add to the body of knowledge and perception to risk of HIV and other sexually transmitted infections among adolescents in Nigeria. Since these students comes from different settings and backgrounds, this study would afford the opportunity of understanding some specific settings, barriers to adoption of HIV/AIDs preventive messages and feasible and modifiable strategies to carry out effective peer education programmes to reach not only peers but women of reproductive age.. The extent to which these research findings conform to the NDHS is a pointer to the magnitude of prevention efforts already put in space by stakeholders in Nigeria towards HIV prevention. Since adolescents are important age group in acquisition of HIV infection, their knowledge and attitude to the disease as found in this study would go a long way in deciding and designing strategies to be adopted when facing adolescents in general.

CHAPTER EIGHT

SUGGESTIONS FOR THE FUTURE

There is a need to study adolescents in special circumstances such as out of school adolescents, those with special needs such as the disabled, adolescents who are in sex work and those who are street children. The mode of living of all these adolescents make them vulnerable to HIV, and their knowledge, attitude and risk perception should be studied.

The positive implications of introduction of Family Life Health Education (FLHE) on the effectiveness of peer led sexual health education programmes need to be determined. This would be important since FLHE has been introduced into some secondary schools and not into some others.

It is also important to enumerate the role of stigma and discrimination as a inhibitory factor to the implementation of FLHE and peer education among secondary school adolescents, most especially as it relates to the prevention and control of HIV.

Running Title (for this research): Evaluating the Effect of Peer Health Education on Secondary School Adolescents' Knowledge and Attitude and Perception of Risk to HIV/AIDs in Urban Communities of Osun State Nigeria

CHAPTER NINE

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CHAPTER TEC

APPENDIX

Research instrument/que/\stionnaire

Informed consent form

Ethical approval letter from UNIOSUN health research ethics commiotte

Printed Peer education training IEC material

Map of Osun state.

EFFECT OF PEER EDUCATION ON SECONDARY SCHOOL ADOLESCENTS' KNOWLEDGE AND PERCEPTION OF RISK TO HIV/AIDS IN URBAN COMMUNITIES OF OSUN STATE NIGERIA

INSTRUCTIONS

Do not write your name. Do not write your address. Feel free to answer all the questions, as all your information shall be kept strictly confidential. Do not discuss your answers with anybody. Be sincere and honest with your answers. Answer all questions as they apply to you. Ensure that you answer the questions to the last page. Take your time to answer all the questions.

Thank you. – Dr A.W.O (TAU Guyana)

Section A: Socio- demographic data of students

1. Age in years …….
2. Sex (a) Male (b) Female
3. Marital status (a) Married (b) Single (c) In a relationship
4. Religion Christianity (b) Islamic (c) Traditional (d) Others specify…….
5. Class/Grade……
6. Family type (a) Monogamous (b) Polygamous (c) Others specify
7. Family size/total number of people in the family…….
8. Fathers highest level of education (a) no formal education
   (b) primary school (c) secondary (d) tertiary like university, polytechnic, NCE etc (d) Koranic school
9. Mothers highest level of education (a) no formal education (b) primary school
   (c) tertiary like university, polytechnic, NCE etc
   (d) Koranic school
10. Did your father and mother currently lives together (a) Yes (b) No
11. Do you live with both of your parents (a) Yes (b) No

Section B: HIV Knowledge

1. Have you heard about HIV/AIDS (a) Yes (b) No
2. If yes, what is/are your sources of information (a) TV/Radio

(b) Newspapers (c) internet (d) Health care workers/clinic (d) friends/peers (e) parents (d) health campaign (f) school/teachers (g) posters/handbill (h) public lectures (i) others……

3. What does HIV mean…….
4. Do you think that HIV is deadly and can kill (a) Yes (b) No (c) don't know
5. The cause of HIV infection is (a) germ or virus (b) sin against God (c) witches and wizards (d) curse from God (e) others …….. (e) (f) don't know
6. AIDs is caused by HIV (a) Yes (b) No (c) don't know
7. Do you think that HIV have a cure (a) Yes (b) No (c) don't know
8. Do you think that HIV affects all age group and sex (a) Yes (b) No
9. HIV virus can potentially live in the human body for many years before it is noticed or develops into AIDS. (a) Yes (b) No (c) don't know
10. HIV/AIDs infection can jeopardize someone's dreams (a) Yes (b) No
11. Sexually transmitted infections (e.g. Gonorrhea) can lead to HIV (A) Yes(b) No
12. Most HIV cases do not show symptoms in the early stage (a) Yes (b) No
13. Do you think that HIV can be transmitted through the following mans
    a. having unprotected sexual intercourse (a) Yes (b) No
    b. Sharing unsterilized needles and syringes (a) Yes (b) No
    c. sharing infected sharp objects (a) Yes (b) No
    d. Infected blood transfusion (a) Yes (b) No
    e. From pregnant mother to her child (a) Yes (b) No
    f. Breastfeeding of a bay by infected mother (a) Yes (b) No
    g. Hugging and touching HIV positive client or friend (a) Yes (b) No
    h. Shaking hands with somebody who has HIV (a) Yes (b) No
    I. Living in the same room with somebody who has (a) Yes (b) No
    j. Eating with somebody who has HIV (a) Yes(b) No
    K. sharing toilet with someone who has HIV (a) Yes (b) No
    l. kissing somebody who has HIV (a) Yes (b) No

m. During local circumcision of a boy (a) Yes (b) No

n. A person ca get AIDS through mosquito bite (a) Yes (b) No

o. A person can get HIV/AID the fist time he or she has sex
(a) Yes (b) No

14. People at high risk of being infected with HIV include

a. commercial sex workers/prostitutes (a) Yes (b) No

b. Long distance drivers (a) Yes (b) No

c. Migrant workers (a) Yes (b) No

d. Injection drug users (a) Yes (b) No

e. Those taking frequent blood transfusion (a) Yes (b) No

f. Homosexuals (intercourse with people of similar sex/gender) (a) Yes (b) No

15. List 5 symptoms that somebody infected with HIV would manifest with……

Section C: HIV Attitude and perception

1. A healthy-looking person can be HIV positive i.e. infected with HIV (a) Yes (b) No
2. You can know somebody infected with HIV by just looking at the person (a) Yes (b) No
3. Have you seen someone who died of HIV before (a) Yes (b) No
4. Is HIV/AIDS preventable (a) Yes (b) No (c) don't know
5. Have you done HIV test (a) Yes (b) No
6. Do you know where to get an HIV test done (a) Yes (b) No
7. If you have not done a test, are you willing to geo for HIV test now (a) Yes (b) No
8. Which of the following factors can you use in controlling and preventing HIV infections
   a. Abstaining from premarital sexual intercourse (a) Yes (b) No
   b. Being faithful to only one sexual partner (a) Yes (b) No
   c. Avoiding unscreened blood transfusion (a) Yes (b) No
   d. Use of rubber condom during sexual intercourse reduce the risk of HIV/AIDs (a) Yes (b) No
   e. Avoiding sharing unsterilized sharp objects (a) Yes (b) No

f. Condom can 100% prevent HIV infection (a) Yes (b) No

g. Health education (a) Yes (b) No

h. Personal hygiene (a) Yes (b) No

i. Use of insecticides (a) Yes (b) No

j. Use of herbs and charms (a) Yes (b) No

k. Avoid hugging (a) Yes (b) No

9. Insistence on sterilization of barber's clippers before use (a) Yes (b) No

10. Do you think that HIV can infect you (a) Yes (b) No

11. Can you rate yourself on how you can be infected (a) I can never be infected (b) I cannot be infected (c) I may be infected if care is not take (d) I can be infected

(a) Yes (b) No

12. Have you received any counseling or health education session or campaign on HIV before (a) Yes (b) No

13. Is your school giving you reproductive/sex education (a) Yes (b) No

14. Does your parents sometimes discuss HIV or reproductiove and sex health education with you (a) Yes (b) No

15. Would you want to learn more about HIV (a) Yes (b) No

16. Are you ready to abstain from pre-marital sexual intercourse as a means of HIV prevention (a) Yes (b) No

17. Are you ready to avoid multiple sexual partners as a means of preventing HIV (a) Yes (b) No

18. Have you changed your dating or sexual behavior as a result of concerns for HIV/AIDs (a) Yes (b) No

Section D: Attitude to People Living with HIV/AIDs

1. We should care for somebody who has HIV/AIDs (a) Yes (b) No

2. Do you think we should allow such person to live in the same house or room with you (a) Yes (b) No

3. Should allow HIV positive teachers to continue to teach (a) Yes (b) No

4. Do you think we should buy vegetable from a shop keeper who is HIV positive (a) Yes (b) No

5. Do you think we should sit and learn in the same classroom with a student who is HIV positive (a) Yes (b) No
6. Do you think that we should isolate (keep separately) HIV positive people(a) Yes (b) No
7. Do you think that we should encourage somebody with HIV to get married (a) Yes (b) No
8. Can you borrow your HIV positive friend your books and class notes (a) Yes (b) No
9. Can you share clothe with somebody who is HIV positive(a) Yes (b) No
10. Can you sleep in the same room with your HIV positive friend(a) Yes (b) No
11. Will you continue friendship with your friend if he becomes HIV positive (a) Yes (b) No
12. Do you think someone with HIV should be treated just like those who do not have HIV (a) Yes (b) No
13. Why do you think that youths have sex early (a) just to catch fun
    (b) peer pressure (c) desire for material or financial gain
    (d) enticement by older men (e) fear of losing their partner
    (f) Influence of alcohol and drugs (g) No reason (h) others specify

Section E: Sexual risk behavior

1. Have you ever had sex or sexual intercourse (a) Yes (b) No
2. If yes, at what age was your first sexual intercourse
3. If yes to 1 above, did you have sex in the last 4 – 6 months (a) Yes (b) No
4. How many sexual partners do you have now…….
5. Do you occasionally have casual and unplanned sex (a) Yes (b) No
6. Do you occasionally have anal (anus) or oral (mouth) sex (a) Yes (b) No
7. How often do you change your sexual partner (a) 3- 6 months (b) 6 months – 1 (c) more than a year (d) others……
8. Do you hawk goods/markets after school (a) Yes (b) No
9. Do you have sex with older men or women (a) Yes (b) No
10. Have you ever been raped or have you ever raped someone (a) Yes (b) No
11. Have you ever visited commercial sex worker/prosititutes before (a) Yes (b) No

12. Do you take alcohol? (a) Yes (b) No
13. Do you smoke cigarettes (a) Yes (b) No
14. Do you attend night parties Have you recently received or give money for sex (a) Yes (b) No
15. Would you say that you are sexually active (a) Yes (b) No
16. Are you (as a boy) had sex with fellow boy, or as a girl had sex with fellow girl – (homosexuality) (a) Yes (b) No
17. Have you ever had any of the following symptoms of Sexually Transmitted Diseases in the last one year (a) painful urination (b) discharge from your private part (c) urine not coming out
18. If yes, how and where were you treated (a) hospital (b) self treatment (c) did nothing (d) traditional or native treatment (e) others specify
19. Have you ever been pregnant before (a) Yes (b) No
20. If yes, what eventually happened (a) I delivered the baby (b) I aborted the pregnancy (c) others
21. Have you heard about family planning or contraception (a) Yes (b) No
22. If yes, can you briefly describe it…….
23. If yes, what are the source(s) of your information on contraception of family planning
    (a) TV/Radio (b) Newspapers (c) Internet (d) Health care workers/Clinic
    (d) friends/peers (e) parents (d) health campaign
    (f) school/teachers (g) posters/handbill (h) public lectures (i) others…….

24. List 5 methods of contraception or family planning FP methods that you are aware of
    (a) condom (b) oral pills (c) injection pills (d) coil/UCD/contraceptive device (e) others……..
25. Have you ever used a method of contraception or family planning before (a) Yes (b) No
26. If yes, which method(s) do you use in the last one year (a) condom (b) oral pills (c) injection pills (d) coil/UCD/contraceptive device (e) others……
27. If you have had sex, did you used a condom during your first sexual intercourse experience (a) Yes (b) No

28. If you have had sex, did you used a condom during your last sexual intercourse experience (a) Yes (b) No

29. If you have used condom before (a) I use condoms always (b) I used condoms most of the time (c) I only used condoms sometimes (d) I only used condoms sometimes (e) I only use it occasionally (f) I used my teeth in tearing the condom

30. What are the reasons if you have never used contraception or FP method (a) Its costly (b) I don't know where to buy them (c) They may not be safe (d) they can have side effect (e) they may not be 100% reliable (f) others specify (g) partners disapproval (h) my religion is against it (i) others specify….

31. Are you more comfortable receiving this health education on HIV from your peers/friends (a) Yes (b) No

32. Would you have preferred other people to your peers/friends in delivering this health education (a) Yes (b) No

33. Do you talk or discuss about HIV/AIDS with your friends (a) Yes (b) No

34. Would you like to reject an offer of sexual intercourse before marriage the next time it comes (a) Yes (b) No

STATEMENT OF INFORMED CONSENT TO PARTICIPATE IN RESEARCH

NB: After explaining the content, every respondent must read and sign this document, prepared in both English and the local or native Yoruba language

Dr Adebimpe W.O is a final year PhD student of Texila American University. He is carrying out a cross sectional study titled: **Secondary School Adolescent's Knowledge, Attitude and Risk Perception to HIV/AIDs in Urban Communities of Osun State, Nigeria: a Peer health Education Based Quassi Experimental Study**

The researcher has explained the processes and implication of the research to me

I am aware that the research shall do no harm to me, and that it would put me at no risk. Rather humanity would benefit immensely from this research

I am also aware that I am free to withdraw from participating in this research if that is my wish

This is to certify that I willingly participate in the study, without coercion , force or any form of intimidation

I have read this document well and agree to its term this ……..day of …….2014.

Name or initial of respondents……

Address of respondent……

Signature of respondent or thumbprint……..

Date……

Counter-signing by research team supervisor……

Counter-signing by principal researcher……

Osun State University, Osogbo

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22nd April 2014.

Dr Adebimpe W.O.
College of Health Sciences
Osun State University
Osogbo

RE: SECONDARY SCHOOL ADOLESCENTS' KNOWLEDGE AND PERCEPTION OF RISK TO HIV/AIDS IN URBAN COMMUNITIES OF OSUN STATE, NIGERIA: A QUASI EXPERIMENTAL STUDY

I wish to inform you that the UNIOSUN College of Health Sciences – Health Research Ethics Committee has granted you an approval to proceed on the above study following appropriate review.

1. You are to note that this approval is given on the basis of your corrected protocol and for one (1) year in the first instance. Any proposed change in the protocol should be communicated to the committee for consideration ahead of execution
2. Kindly inform the Committee when the study is to commence to facilitate monitoring by designated representative(s) of the HREC committee
3. Please regard this letter as the Certificate of UNIOSUN Health Research Ethics Committee Approval

Kind Regards

PROVOST
COLLEGE OF HEALTH

Professor Alebiosu C.O.
Chairman, UNIOSUN HREC Committee

Note: Ordinary personal hygiene, use of insecticides, use of herbs and charms, avoiding hugging of HIV positive clients and similar actions cannot prevent HIV.

There are drugs (Antiretroviral drugs ARVs) that can treat HIV, but it is not a cure for HIV

CARE FOR PEOPLE LIVING WITH HIV/AIDS

Not all HIV positive people are promiscuous. We should not stigmatize or discriminate against them. They need our care and attention. We must show them our love and care.

We should allow such person to live and sleep in the same house or room with us, share same classrooms with us, and buy goods from them. Do not isolate them, continue friendship with them and treat them kindly

YOU BEING A ROLE MODEL

Peer education has been proven to be a reliable and effective way of students (role models) reaching out to fellow students/peers/friends

When they share ideas, and remind one another about HIV, behavioural change is possible. Understanding of HIV and influence may be greater here compared to other people doing the same, such as parents, health care workers. Such peer education can also take place out of school

As a student, you are a role model now, you can assist your peers by:

1. Discussing the content of this tract with your friends from time to time, to remind them about HIV/AIDs while in school and at home
2. Encourage behavioural change among them. By this you can assist them to prevent HIV infection

Governments, NGOs, Health care workers, NACA at National level, and OsunSACA at Osun State level are important stakeholders putting in their best to ensure control and prevention of HIV. You also have roles to play at least towards your friends or peers. *Be a role model peer today.*

TRACT PRINTING AND INFORMATION:
SUPPLIED AND SPONSORED BY DR A.W.O.
OF TEXILA AMERICAN UNIVERSITY GUYANA, SOUTH AMERICA

PREVENTING HIV INFECTIONS AMONG SECONDARY SCHOOL STUDENTS IN NIGERIA: KNOW THE FACTS TODAY AND BE A ROLE MODEL BACKGROUND

HIV means Human Immunodeficiency Virus. It is a virus and the germ causing HIV infection. The first case of HIV infection was identified in Nigeria in 1986, thus establishing the presence of the epidemic in the country. Nigeria carries the 2nd highest burden of HIV globally with about 4 million Nigerians infected with HIV, leading to sicknesses and deaths. The disease have no respect for age, gender/sex, locations, and even the generation yet unborn. It affects people of all ages and background, with women and children constituting the largest percentage of those infected and affected in Nigeria.

HIV destroys the natural body soldiers or immune system of Man and renders it defenseless. Most HIV cases do not show symptoms in the early stage, during which it multiplies inside the system of Man, operating silently until later (window period) when it become manifest. As infection progress after many years, HIV later give way to the terminal stage of the illness called AIDs (Acquired Immunodeficiency Syndrome). HIV is deadly, can kill or jeopardize someone's dreams. Presently HIV does not have a cure but it is treatable. The sufferer will eventually succumb to the pressure of the illness and die

MODES OF TRANSMISSION OF HIV:

HIV CAN be commonly transmitted through any of the following routes

a. Having unprotected sexual intercourse with an infected person (most common). Heterosexual transmission accounts for the majority of HIV transmission in Nigeria.
b. Sharing unsterilized needles and syringes
c. Sharing infected sharp objects
d. Transfusing unscreened or infected blood
e. Transmission from pregnant mother to her child during

pregnancy, childbirth and breast-feeding

HIV CANNOT be transmitted through any of the following routes

a. Shaking hands with somebody who has HIV.
b. Living in the same room with somebody who has HIV
c. Eating with somebody who has HIV
d. Sharing toilet with someone who has HIV
e. Hugging, gently kissing and touching a HIV positive client or friend
f. By sitting in the same class or sharing textbooks and class notes
g. Through mosquito bite.

Some people are at higher or special RISK of being infected with HIV, these include

a. Commercial sex workers/prostitutes
b. Long distance drivers/transport workers
c. Migrant workers
d. Injection drug users
e. Those taking frequent blood transfusion
f. Homosexuals (same sex intercourse)
g. Anybody having risky sexual intercourse

Note: By just looking at somebody, you cannot say that the person is HIV infected or positive.

Some symptoms such as excessive weight loss, unexplained and serious diarrhoe and cough for more than 6 weeks, swollen lymph glands etc may give rise to a suspicion of HIV infection. Even with these, you must conduct some laboratory test first to confirm.

Somebody cal be healthy or look healthy and still have HIV infection probably the person is still in the window period. So it is always good to visit the health care worker and ask for an HIV testing since HIV can infect anybody

HIV is not as a result of curses or sins against God.

The presence of a Sexually Transmitted Infections STIs (such as Gonorrhea, Syphilis etc) can increase the chance of getting HIV,

A person can get HIV/AIDS the first time he or she have sex

PREVENTION OF HIV

Going by the means of transmission, HIV is preventable. Ways of HIV prevention include

a. Abstaining from pre marital sexual intercourse. Do not have sexual intercourse until you are ready to get married. This is the best assurance
b. For those who are married or are in serious relationships, they must be faithful to only one sexual partner
c. Avoid multiple sexual relationships or partners, avoid oral and anal sex, avoid casual sex, don't just change sexual partners like changing clothes, avoid sexual relationships with older or any persons for financial gains etc.
d. Avoid sharing unsterilized sharp objects e.g. razor blade. Insist on sterilization of barber's clippers, and materials for manicure and pedicure etc
e. Ensure needles and syringes used for clients are new and not contaminated by the virus
f. Screen all blood before transfusing them
g. Those who must have sexual intercourse must use rubber condom during every sexual intercourse.

   This reduces the risk of HIV/AIDs transmission, but not 100% reliable. Use condoms consistently and correctly all the time
h. Health education to everyone to encourage behavioural change. Such may come from schools, parents, guidance, health care workers etc
i. Report and treat all symptoms of STIs to the health care workers

Map of Osun state

Plagiarism Check- 93% unique content