ADDIS ABABA UNIVERSITY

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Change on Knowledge Attitude and Practice of HIV/AIDS among High school students.

By

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Declaration

I, Henrietta U. Aniobi, the under sign declare that this is my original work and has not been presented in this or any other University and all sources of materials used for this thesis have been duly acknowledged.

……. …….

Signature Date

This thesis work has been submitted with my approval as university advisor

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…… ……

Signature Date

Dedication

I dedicate this work first to God Almighty who makes all things possible for me. His abundant grace is always available for me through Christ Jesus. My Loving and ever supportive husband Mr Fredrick Ifeanyichukwu Aniobi and my children who stood by me during the process Ifeanyichukwu, Chukwuemeka, Adaku, and Eyinchukwu you are indeed God's blessing to me and I love you all.

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List of Acronym

AAU	Addis Ababa University
AAP	American academy of Pediatrics
AIDS	Acquired immune deficiency syndrome
ART	Anti-retroviral therapy
CD4	cluster for differentiation 4
CDC	Centre for disease control prevention
DHS	Demographic health survey
Epi-Data	Epidemiological data
FMOH	Federal ministry of health
HAART	Highly active antiretroviral therapy
HAPCO	HIV/AIDS prevention and control office
HIV	Human Immunodeficiency Virus.
HVCT	HIV Voluntary Counselling Centers
KAP	Knowledge Attitude and Practice
M.B, B.S	Bachelor of medicine and bachelor of surgery
MDG	Millennium Developmental Goals
MOH	Ministry of health
MPH	Master of public health
OR	Odds Ratio
PLWA	People living with HIV/AIDS
SD	Standard Deviation
UNFPA	United Nations Population Funding Agency
WHO	World health Organization

ABSTRACT

Background: In 2012 the second highest estimated proportion of adolescents (age 10-19 years) living with HIV/AIDS in 12 selected high burden countries is Nigeria with 8%. The prevalence of HIV within the age group of 15-24 years in Nigeria is 4.33%. In Enugu state the place for this study, the estimated prevalence by state is given as between 6.1-8.6%. This is higher than the national prevalence. In Nigeria adolescents are the majority (median age of 17.7 years). And the first HIV case in Nigeria was in a sexually active 13 year old girl. Poor knowledge on reproductive health and sex education by adolescents is associated with early onset of sexual activities and wrong choices. And a predisposing factor to poor attitude and practices of HIV/AIDS and STIs.

Objective: To asses changes in knowledge, attitude and practice about HIV/AIDS among adolescents in rural Nigeria.

Methods: An interventional study was conducted among adolescents in a rural community in South Eastern Nigeria. The study population was school adolescents in Nenwe town. The estimated sample size was 196 high school students for controls and the same number (196) for the intervention group. A baseline data was collected followed by intervention. The sampled students were allocated to two groups by lottery method. A health education intervention package on reproductive health, and prevention methods towards HIV was given for 40 minutes, then a repeat survey was conducted after 3 months. A structured self-administered anonymous questionnaire was used for data collection. Descriptive statistics was applied, comparison between the intervention and control groups was done using matched chi-squared statistics and logistic regression was used to assess independent factors on KAP about HIV/AIDS.

Results: A total of 396 secondary school participants were enrolled. The data reflects 199 and 197 in intervention and control groups respectively after intervention difference in knowledge of HIV/AIDS among the intervention and control groups (P= 0.012) is observed, significant increase in knowledge that HIV can be prevented by condom use 59% (p=0.001), increase need for HVCT (p=0.045).

Conclusion: Although health education results in increase in knowledge, repeated ongoing health education will be required to see changes in attitude and practice of adolescents towards HIV/AIDS. A prospective study may be required to assess when changes in attitude and practice effectively occurs in adolescents after they are exposed to health education.

1.0 INTRODUCTION

1.1 Background

Global reports on adolescent reveal that 2 million adolescents are living with HIV. Although decline in HIV related death since 2005 was by 38%, estimates suggests that death rates amongst adolescent are rising[1]. About 31 % of new infections is in sub-Saharan Africa (1, 2).

In Nigeria it is estimated that 3.2 million people are living with HIV/AIDS, adults aged 15- 49 years have an estimated HIV prevalence of 3.2%. HIV testing in the general population amongst men and women age 15-49 years in the last 12 months and who know their status is reported as low at 8.6%, percentage of schools that provide life skill education in the last academic year is about 34%. Young men and women aged 15-24 who both correctly identify ways of preventing the sexual transmission of HIV and who know major misconception about HIV transmission is about 23%, the prevalence of HIV within this age group in Nigeria is 4.33%. In Enugu state the place for this study, the estimated prevalence by state is given as between 6.1-8.6%. This is higher than the national prevalence (3, 4).

Therefore adolescent are especially at risk for HIV/AIDS because this developmental stage is characterised by taking risks that allow them to define and to discover their identity. Adolescents is a time when they try things to discover who they are, become more independent which makes them more vulnerable to HIV/AIDS infection. Those at risk are those who have unprotected sex, those who have multiple sexual partners, those who have sex with intravenous drug users. These risky sexual behaviours have future consequences in terms of adolescents' mortality and morbidity (for example, unplanned pregnancies, sexually transmitted infections and HIV/AIDS) and have a significant impact on social, economic and political progress (5-17).

1.2 Statement of the problem

Various studies reported by WHO reveal that most preventive studies on KAP of HIV/AIDS in Africa focus mainly on use of condoms as a preventive measure (18, 19). While condom use may have risen in sub-Saharan Africa with varying percentage across the region (17% to 40%), there are many factors that keep people from using them (8, 11, 16, 17). But there is still the evidence that African adolescents may require an introduction to age appropriate sex education. Adolescent sex may be a reality but is there some chance that we can intervene the concept of delay in age when they commence sexual activities or perhaps their approach to initiation and exposure to sex by early knowledge through age appropriate sex education. This is more or less the desired focus for this study (5, 6).

Africa may be aware that prevention is key to control of HIV/AIDS. However, Africans have focused on prevention mostly in the urban communities than in the rural communities. In the United States it is reported by CDC in 2008 that attention has returned to HIV/AIDS prevention strategies and necessitates addressing the mental health needs of the forth coming uninfected generations (13).

One in 6 persons in the world is an adolescent and there are 1.2 billion people aged 10 to 19 years. Adolescents are also exposed to significant deaths, illness and diseases. Unprotected sex may jeopardize not only their current health but also their health for years to come. Critical steps in prevention of health problems in adulthood and future of countries, will involve promotion of healthy practices during adolescence (12).

In 2009 only 23 percent of schools were provided life skills based HIV education. In Nenwe there have been cases of reported sudden deaths of youths which nobody can account for the cause of death. It is also the practice for young people to leave the community during the year and go to large cities to earn a living returning back home only during festive periods. If HIV/AIDS is considered to be a disease only in the cities then chances that the young people in the villages with less knowledge of HIV/AIDS will be vulnerable to infection if there is no change in knowledge attitude and practice (14).

There is also lack of adequate data of KAP on HIV/AIDS among adolescents in this setting. National demographic health survey (NDHS) reports that knowledge of HIV/AIDS is about 93% in women and 96% in men, and that knowledge of HIV/AIDS is slightly less in rural areas and among those with no education and the least likely to have heard of HIV/AIDS were among 15-19 years (14).

1.3 Significance of the study

Adolescent HIV/AIDS prevention strategies may focus on factors that are open to change, and, therefore research should address social and cognitive determinants. In rural Nigeria HIV/AIDS is a sensitive issue thus knowledge of an adolescent motivation as regards to sex is useful (6, 7, 16, 17).

HIV/AIDS preventive efforts should be dictated by the populations most affected by the illness. At an increasing rate rural African ethnic minority adolescents in sub-Saharan Africa have been hardest hit by the HIV epidemic (1, 2, and 4). In order to respond to some of their needs on HIV/ AIDS the psychological experience of adolescents needs to be better understood. It is also stated that minority population presents with unique issues pertaining to health, health concerns,

social economic status and coping strategies (16). The purpose of this study is to assess for changes due to health education, towards HIV/AID knowledge attitude and practice of adolescents in a rural community of Nigeria. This research hopes to answer these questions:

1. What age do adolescents think is safe to commence sex based on their current knowledge of HIV/AIDS
2. When is the current age adolescent commence sexual activities in rural area of Nigeria
3. What are the sources and where do adolescents in rural Nigeria go to seek sexual knowledge? Are they aware of HVCT centres and if they use them
4. What are the risky sexual activities engaged in by adolescents in rural Nigeria and if they willing to change if they are well informed about HIV/AIDS.

2.0 LITERATURE REVIEW

2.1 Introduction

The review will give an overview of AIDS as a global pandemic in the world and in Africa. More focus is given to the reports of KAP surveys conducted sub-Saharan African countries. And also a review from studies conducted in Nigerian so as to assess the Nigerian context. And finally the implications on adolescents sexual health education, as the next generation of the world and the Nigerian work force. It will discuss the knowledge, attitudes and sexual practices of adolescent in a rural community of Nigeria.

The method used for this review was the use of library text book, review of journals and thesis of previous MPH students available the departmental library. Search engines like google scholar, PubMed were used. Keywords were Knowledge, attitude practice and adolescence.

2.2 General overview of HIV and AIDS

Since 1981 when the first case of HIV/AIDS was diagnosed, 75 million people worldwide have become infected with HIV and 39 million people have died of AIDS related illness from this pandemic. Although there has been a global decline in new infection with HIV since 2001 by 38% as of 2013, the number of people living with HIV is estimated as 35 million people. An observed rise from 29million in 2001 to 35 million by 2013. HIV/AIDS report in sub-Saharan Africa reveals that there are estimated 24.7 million people living with HIV aids of which 1.5 million accounts for new HIV infection in sub-Saharan Africa. Between 2005 and 2013 there has been a decrease in the new HIV infection in sub-Saharan Africa by 33%. Africa is home to 15.2% of the world population. However, sub-Saharan Africa accounts for almost 70% of the global total of new HIV infections and 70% of all AIDS death in 2013, and 1.1 million People died of AIDs related causes in 2013 (2).

HIV/AIDs may still remain an epidemic in sub-Saharan Africa. Treatment coverage remains at an all-time low of 37% of all people living with HIV in this region. HIV prevalence in western Africa is highest in Nigeria with the second largest number of people living with HIV in Africa second in number to South Africa[5] with an infection rate of 3.2% (4, 5).

2.3 HIV and AIDS epidemic in Nigeria

In Nigeria the number of people living with HIV increased from 2,500,000 in 2001 to 3,400,000 in 2011. Deaths from HIV was reported to have increased from 150 000 in 2001 to 210 000 in 2011, new infection with the virus from 310 000 in 2001 to 340 000 in 2011. Also in Nigeria 80% of people infected with the virus have no access to treatment (4).

Nigeria's ministry of health estimates the prevalence of HIV/AIDS to have risen from 3.8% in 1993 to a peak of 5.8% in 2001 the prevalence then declined steadily throughout the decade to 3.1 %[6]. Nigeria accounts for 21% of new infection in children globally. Since the emergence of the disease in Nigeria in 1986 an estimated 2.5 million children have been orphaned by HIV/AIDS. The most common cause of death in Nigeria is HIV/AIDS (4).

Regions with highest HIV positive adolescents are in sub-Saharan Africa and south Asia. Of the 2.1 million infected adolescents about 1.3 million (62%) live in Eastern and southern Africa. The second highest estimated proportion of adolescents (age 10-19 years) living with HIV in 12 selected high burden countries in 2012 is Nigeria with 8% after South Africa with 15%. The number of newly infected adolescents was estimated as 300 000 in 2012, and number of deaths 110 000 (1).

2.4 Burden of HIV/AIDS in Adolescents

Adolescence includes young people aged 10-19 years. One in six persons in the world are adolescent and there are 1.2 billion people aged 10 to 19 years. Adolescence is the period when many people begin to explore their sexuality most young people at this age become sexually active. Adolescents are also exposed to significant deaths, illness and diseases. Unprotected sex may jeopardize not only their current health but also their health for years to come. Global reports on adolescent[1] reveal that 2 million adolescents are living with HIV (18, 19).

HIV/AIDs is the second highest cause of adolescent deaths globally an estimated 1.3 million adolescent died in 2012. All age except adolescents experience a decline in AIDS related death between 2005 and 2012, over these eight years AIDs related death among all ages fell by 30%, but among ages 10-19 years it increased by 50%. This may because less emphasis is placed on reaching boys and girls with HIV preventive care and treatment programmes. Emerging evidence suggest that young people living with HIV especially adolescents are less likely than others to receive health care that can keep them healthy and alive (1,2, 12, 13, 19).

Decline recorded in HIV prevalence in young people in 21 of 24 countries with natural HIV prevalence of 1% or higher, has been attributed to effects of behavioural changes, such as waiting longer to become sexually active, having fewer multiple partners and an increase use of condoms amongst people with multiple sexual partners (5).

Critical steps in prevention of health problems in adulthood and future of countries will involve promotion of healthy practices during adolescence. As a result access to sexual and reproductive health information becomes increasingly important during this period. Adolescence is an

important time for laying the foundations of good health. Many health related behaviours and conditions that underlie diseases commence or are reinforced during this period. An example is HIV/AIDS. If left unattended health problems and behaviours that arise during adolescence can affect quality of adulthood (6).

Recent surveys in low and middle income countries reveal that only 24% of young women and 36% of young men respond correctly when asked five questions on HIV/AIDS transmission (8). Knowledge is the best tool for prevention of disease as it has the power to influence change in attitude and practice. Also young adolescent girls are not only biologically more susceptible to HIV infection, they are more likely to have older sexual partners who use injecting drugs, thus increasing the potential exposure to HIV/AIDS (20-24).

In a study conducted on adolescents in Tanzania it was observed that 11% and 13% of males and females respectively had sex before 15 years of age. Of the study subjects aged 15 to 24 years 81% and 36% of males and females respectively had sex in the previous twelve months prior to the data collection; of whom 47% of males and 42% of females used condoms the last time they had sex. In the same study only 44% of the Tanzanian young females correctly knew how to prevent HIV infection as does 49% of the males. A similar study in Zambia reported that 16% of males and 14% of females had sex before 15 years of age, respectively; of whom only 37% currently knew how to prevent HIV infection (25).

The above studies and burden of HIV/AIDS amongst youth suggest that continual HIV prevention outreach and education efforts including programmes on abstinence and on delaying the initiation of sex are required as new generations replace the generations that benefited from earlier prevention strategies (13, 16, 17, and 26).

To prevent the spread of new infection, adolescents and young people need accurate and relevant information (age appropriate) this may also be accompanied by access to voluntary counselling and testing, HIV education in schools and the prevention of other STIs. Besides, CDC estimates show that about 47% of high school students have had intercourse and 7.4% of them had their first intercourse by age 13 years worldwide (13).

Therefore, adolescents are vulnerable to early age initiation of sexual activities, STIs, substance /drug abuse, alcohol and the like which facilitate the risk of acquiring HIV/AIDS. Researches also reveals that a large proportion of young people do have low attitude (less concern) about becoming infected with HIV. While condom availability may have increased in sub-Saharan Africa, many factors keep adolescents from using them (27-33).

One of the MDG 6 to halt the spread of HIV/AIDS, and has as its indicators prevalence amongst 15-24 year olds and the proportion of this age group with comprehensive correct knowledge of HIV/AIDS. Young people need to know how to protect themselves and have the means to do so. this includes being able to obtain condoms to prevent sexual transmission of the virus and clean needles and syringes for those who inject drugs , better access to HIV testing and counselling is also required (5).

2.5 Addressing HIV/AIDS in Adolescents

Evidence shows that school based sex education can be effective in changing the knowledge attitude and practices that lead to risky behaviour (24-26). The lack of data at the country level continues to stale mate an effective natural response on how to promote HIV prevention most countries have no or insufficient data on HIV prevalence and or sexual behaviour trends among young people including several countries with exceptionally high prevalence in sub-Saharan Africa (1, 2, and 19).

Majority of preventive research done in Africa and adolescents have focused on the knowledge attitude and practice of condom usage for the prevention of HIV but none has really focused on abstinence (27-33).

Hypothesis one: If knowledge of HIV/AIDs will help change their attitude towards sex for a possible delay in the time to commence

Age appropriate sexual education can increase knowledge and contribute to more responsible sexual behaviour. Out of 83 evaluations reviewed in 2006, around 50% of such programmes showed decrease in sexual risk taking among participants (6, 8).

In many countries sexual activity is initiated in early adolescence before age 15 years. Evidence shows that sexual activity among young people is a reality there is a need to take action to empower them to make responsible and informed decisions in regards to sexual health and HIV (2, 5).

Programmes to prevent HIV infections amongst young people will be more effective if they include combination of prevention approaches that are youth friendly and promote comprehensive services that include sexuality education, knowledge of HIV, access to sexual and reproductive health services, and discussion on harmful sexual norms and practices. Therefore actively engaging young people in the design, implementation, monitoring and evaluation of HIV policies, services and programmes will enhance leadership skills to equip them to demand youth friendly services and programmes (8, 16, 17).

Adolescents are not educated well enough in sex related matters. Wagbatsoma and Okoli observed that cultural traditions beliefs fear and other inhibitors are known to prevent adolescents from acquiring knowledge from their parents and teachers while poverty parents' unemployment and the desire to explore themselves expose them to the risk of infection. Poverty is known to significantly increase the likelihood of a number of unsafe sexual behaviours. In South Africa poverty and orphan hood was reported to influence coerced sex and multiple sexual partner especially among female adolescents (6, 13, and 14).

2.6 Knowledge of HIV/AIDS

In a survey conducted in Sierra Leone in 2002, the following information was gathered as regard to adolescents and HIV/AIDS an alarming 30% of adolescents are yet to learn about HIV/AIDS. There was also differences observed between rural and urban areas of about 26%. The knowledge of the term HIV/AIDS is well over 50%. There is very little understanding of HIV/AIDS and only about 8% knew the difference between the virus and the disease. There is also gender differences in knowledge the boys being better informed than the girls concerning HIV/AIDS. Sources of information on HIV /AIDS were peers, sexual partners, parents, teachers, and mass media including radio, TV, and newspapers. The most reported of where they get their information from mass media 45%. Radio in particular, 9.5% from peers and only 2.5% receive information from their parents (34).

In Uganda we observe that the knowledge of HIV/AIDS is increased. 86% of male and 78% of female adolescent knew two or more effective ways to avoid HIV/AIDS (35).

2.6.1 Knowledge about how is HIV/AIDS prevention

Concerning the knowledge of prevention in the same survey conducted in Sierra Leone in 2002 only 7.2 % stated all three methods (ABC) abstinence, be faithful and condom use as means of protective methods known to them. As of 2002 sticking with one partner was still relatively common 54.5%, however if sticking with one partner is practised still remains unassessed. 55% of adolescents do not abstain from sex to protect themselves from HIV infection and adolescents in rural area 34% are less likely to abstain from sex. Urban 55% are less likely to abstain from sex in order to prevent HIV. In the same study[34] 10% of adolescent preferred condom use as a means of protection (34).

In Uganda 83% of adolescent male and 69% of adolescent females knew that condom can be used as a preventive method against HIV. 80% of both male and females knew that limiting the number of sexual partners is one of the ways to avoid HIV. 80% males and 72% females said

healthy looking can have HIV/AIDs only about 11% of both males and female adolescents in Uganda did not know if HIV/AIDS can be transmitted from mother to child. However this study observed that there is a gap between knowledge of safe sex behaviour and actual behaviour. The authors are convinced that the underlying barriers to behavioural change are rooted within the economic and social and cultural context of young people's lives (35).

Testing is important in the fight against HIV/AIDS. Adolescents are willing to get tested. They believe they should get tested. However there were limited testing sites. From the study 62.5% of adolescents were willing to be tested for HIV /AIDS. 19.7% knew were to get tested, 1.6 % ever had HIV test and 71.9% believe people should know their HIV/AIDS status. Uganda was at the forefront of VCT between 1990 and 2002. This study revealed that Most Ugandan adolescents say they are willing to get tested. 72% of males and 67% of female adolescents who had never been tested say they are willing to get tested and only 3% of males and 6% of females of age's 15-19years say they had ever been tested (35).

In another study conducted in Botswana. They observed that 63.1% respondents displayed adequate knowledge of HIV/AID this was an improvement from that observed by Majelantle et al which was 43%. There are still misconception about modes of transmission and perceived use of condom and testing services remains low in Botswana. However in Botswana correct knowledge of prevention remains low (36, 37).

2.6.2 Knowledge about how is HIV/AIDS is transmitted

About 50% of adolescents are aware that HIV/AIDS may be transmitted via blood transfusion this is closely followed by the use of infected needles as another mode of transmission, while about 25% of adolescents in the urban communities were not aware of this mode of transmission in the rural communities this number is said to double. The difference in knowledge of this mode of transmission between male and females was about 8%. About mother /foetus transmission as a mode of transmission 56.8 % were unaware and between the rural and urban communities was a difference of 17%. In Botswana in 2008 about 83.3% of students knew that pregnant women infected with the HIV can transmit the virus to her unborn child (34, 37).

2.6.3 Knowledge about difference in HIV and AIDS, Progress from HIV to AIDS

There is discrepancy between Knowledge of HIV/AIDS and sexual behaviours (7, 8). In 2008 Majelantle observed that about 76.5% of young people knew the difference between HIV/AIDS (37)

2.7 Attitude towards HIV/AIDS

Adolescents consider condom use as a protective means of HIV /AIDS. In an intervention study conducted in the United states in 1992 to access reduction in HIV risk behaviour among black male adolescents showed that with intervention comes increase in knowledge however less favourable attitude towards risky behaviour but after three months of the intervention, the adolescents showed fewer occasions of coitus, fewer coital partners, greater use of condoms and lower incidence of heterosexual anal intercourse than the other adolescents. The method of intervention for this study was teach proper condom use, role play group discussion and teach abstinence. While the control group received career planning and opportunity training in other to reduce Hawthorne effect. This study emphasised that major way to reduce AIDS is to reduce the frequency of high risk behaviour (22).

2.7.1 Stigmatisation discrimination and misconception regarding HIV/AIDS

In the 2002 study of Sierra Leone, adolescents had mixed attitude towards people living with HIV/AIDS. About 60.2% of adolescents believe that people living with AIDS should be discriminated, about 67% believe an infected teacher/worker should not be allowed to work, 81% believe one should not buy food from trader with HIV/AIDS, 78% believe one should not share meal with an HIV/AIDS infected person, 67.7% believe a student with HIV but no AIDS should not be allowed into class, 26.7% can keep secret the HIV/AIDS status of a family member. Adolescents believe that healthy looking persons do not carry the disease a difference between urban and rural of 27.3%. About 50% of either sex believes a healthy looking person does not carry the disease the greater percentage in this belief being the females (34).

Uganda has been at the forefront of sub- Saharan countries in the fight against HIV/AIDS. Neema observed that 83% of young people still believed in stigmatising PLWA. 37% of male and 49% of females maintained that HIV status should be kept private. One in five were willing to care for HIV/AIDS relative at home.55% male and 54% female adolescents did not believe HIV positive teachers should be allowed to keep teaching (24).

In a School survey conducted in Botswana in 2005, Botswana young people have negative attitude towards PLWA. Half of young people in Botswana believe that someone with AIDs virus should be isolated even if they do not show signs and symptoms. Majelantle et al concludes that misconception about HIV transmission tends to promote negative attitudes towards PLWA (People living with AIDS). In this study 20.8% of student reported that they view people infected with HIV /AIDs in a bad way. 72.6% thought that a healthy looking person

can be infected with HIV. And 23.9% of males had negative attitude towards people with HIV compared to 17.8% of female counterparts (37).

2.8 Sexual behaviour and practices amongst adolescents

Although aware of the dangers of HIV/AIDS adolescents continue to engage in sexual behaviours that place them at high risk of contracting the disease (24). The attitude towards condom use by adolescents in Sierra Leone in 2002 revealed that 38 % considered condom use as a protective means in the urban community 58.4% and in the rural 22.8%. 64.7% of adolescents in the urban region have the attitude that HIV may be contacted by anyone as compared to 34.1% the counterparts in the rural community (34). In 2009 we still have less than 20% reported condom use in last sexual encounter by adolescents in Africa[24]. The average mean age of sexual intercourse is 13.7 years (6, 38-41). This research hopes to investigate if this is the same finding in the rural community in Nigeria and if sexual health education in the high schools can help bring a positive change.

2.8.1 The role of gender in adolescent sexual behaviour

The study in Uganda adolescents revealed that HIV infection is high in the females within the age group of 15 years t0 19 years at a male female ratio of 3:6 the same is observed in Nigeria there is a ratio of 1:2 (6, 24).

2.8.2 HIV sexual risk behaviours/practices in adolescents

HIV/AIDS sexual behaviours among adolescents in Nigeria have been identified and are early age at sex initiation, unsafe sex, and multiple sexual partners. Prevalence of sexual activities among undergraduates at institutions in Enugu state revealed that 76.8% are actively involved in sexual activities. An alarming 85.4% of females and 62.3% of males have greater than one sexual partner, and more females 65.7% than males 42.2% had their first sexual encounter as an adolescent. Lack of condom use, anal and oral sex are observed to be common among: lower social class adolescents, females, and off campus students (14, 42).

This emphasis the need of educational risk reduction strategies to change attitudes and behavioural practices of youths. Also a need to catch those young as adolescents (38-41). In Sub-Saharan Africa we might say that condom use by adolescent increased over the years from less than 20% to about 40% in recent years. This increase may be associated with the fact that there has been an increase of condom use being the focus of studies of adolescent sexual practices. Lack of use of community reproductive health services. This may be because they are not easily assessable by adolescents which may affect their access to information and services available to them (28- 33).

2.9 Treatment, control and prevention strategies for HIV/AIDS amongst adolescents

There are proposal that a synergistic approach of combination of several behavioural and medical interventions. One of interest is that suggested by Thomas et al about a third prevention programme the effect of behavioural strategies could be increased by aiming for many goals for example delay in onset of first intercourse, reduction in number of sexual partners and increase in condom use. And suggests a multilevel approaches of which targeting institutions and communities which this research aims to achieve. King Holmes describes this as (HARP) Highly Active Retroviral Prevention (20, 21, 22, 23, and 26).

2.9.1 HIV/AIDS education and training among adolescents

There is the need to strengthen socio behavioural interventions. Studies have observed that the knowledge of study population correlates with their sexual practices and that prevention was the best option for the disease. These studies also agree that better informed youths on HIV/AIDS will enhance the principle of prevention (26).

2.9.2 HIV/AIDS voluntary counselling and testing among adolescents

Studies in Developing and developed countries reveal that adolescent friendly services such as voluntary HIV counselling and testing (VHCT) may be the best method of educating adolescent about HIV and AIDS related risks. However the argument that lack of VCT information, poor quality of services allocation of centres and the fear of stigma or the fear of VCT process remains some of the reasons identified for not attending VCT services are the reports given by youths(23,33,34).

Adolescents are willing to get tested. Neema observed that 72% male and 67% females who had never been tested say they are willing to get tested 3 % of males and 6% of females' ages 15 to 19years said they have ever been tested (24).

The Knowledge of facilities that provide HIV testing services in the community is described as high in Botswana and may vary by region, age and educational level. With the chances that the more educated the more likely to have a correct knowledge about HIV/AIDS. From their study they reported that 79.5% of students knew a place to go for HIV test in their community, 28.8% of students have ever been tested for HIV. 34.4% had an HIV test within one year, 79.8% of the students knew the results of their most recent HIV test and 30.6% of the students reported that the result of their most recent HIV test was positive(37). The case may not be the same in rural communities of Nigeria as most adolescent children especially the females will join their parents to the farms. Also most of the adolescents may not be well informed as to where to get

tested and even if they knew, they may be constrained by the distance and the amount involved in transportation.

2.9.4 Behaviour change among adolescents

There are reports that demonstrate that increased knowledge about AIDS is not a predictor for Behavioural change. However knowledge about the disease is a prerequisite for change. However, several studies have shown that health related knowledge has power to change people's attitudes and health care behaviours in different context (22, 37).

The role of peer increases in importance when the role of parents diminish (26, 36). Fakko and Stephenson both agree in their studies that intervention policies on HIV/AIDs should focus on those students whose mothers are of low socio-economic status and family cohesion and bonding should be encouraged because young people lack the information and skills that would enable them to avoid high risk behaviours (22, 24).

HVCT is considered an integral component of HIV prevention and strategies may be because perceived risk of infection may drive HIV testing among youths and a few studies have examined this HVCT behaviour among youths (35, 36).

Biraro et al observed the following sexual behavioural trends in rural setting of Uganda: First the median age of sex had increased in Uganda adolescents. Between 1993-2006 median ages at first sex amongst females increased from 16.7years to 18.2years and from 18.5 years to 19.9 years among boys. Secondly a decline in number of sexual partners in2006 of about 1.4%. However, the use of condom still varies among adolescent (36).

2.9.5 A-B-C preventive strategy among adolescents

A lot of studies conducted in sub-Saharan Africa over the years have focus mainly on condom usage as a preventive method (28-37). This study in Nigeria hopes to focus on how knowledge can cause a change at early initiation of sexual activities emphasising abstinence until they are at least wiser to make an informed consent to sexual activities. As observed in Uganda (24).

2.9.6Antiretroviral therapy among adolescents

Gaps have also been observed in young people knowledge of HIV and treatment availability (26).

2.10 Summary

Lessons to learn from Uganda: Sexual activities in adolescent is a reality (14, 19. 24). The Issue remains that adolescent may still be engaged in risky sexual practices despite knowledge of HIV/AIDS. Interventions aimed at behavioural change and service delivery strategies for adolescents' sexual health education and counselling units needs to be provided. Youth friendly

services are important and needed if young people are to receive adequate sexual and reproductive care (21, 26, and 36)

In Nigeria age of first sex remains alarmingly low with a median at 13.7 years compare this with the median observed in Uganda which is about 18 years (6, 24, 38, 39, and 40). In the study conducted in Tanzania it was discovered that first sexual intercourse was from the age range of 15years to 19 years with the median at 16.5 years and 49% of these adolescents never used condom (25). We may also try to encourage adolescents to increase age at first sex. Wide spread evidence shows that knowledge about HIV/AIDS, STIS and reproductive health care are key strategies for empowering adolescents to delay the onset of sexual activity and to make their sexual behaviour safer (20-26).

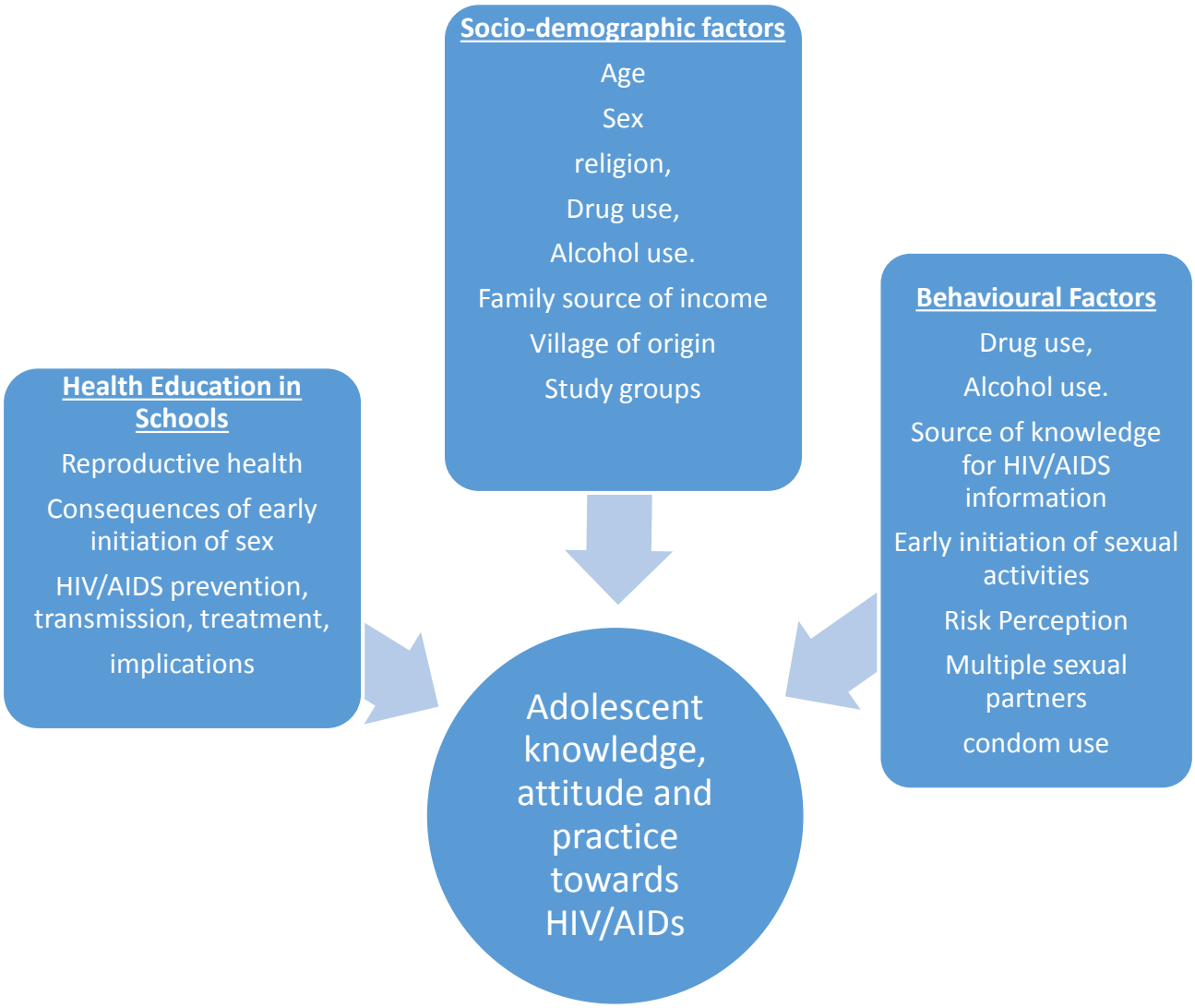

Figure 1: Conceptual Frame work of factors associated with adolescent knowledge, attitude and practice towards HIV/AIDS

3.0 OBJECTIVE

3.1 General objectives:

To assess change in knowledge, attitude and practice towards HIV/AIDS among adolescents in a rural community of Nigeria.

3.2 Specific objectives:

1. To assess change in knowledge towards HIV initiation among adolescent in a rural community in Nigeria.
2. To assess the change in attitude and practice of adolescents towards HIV/AIDS in a rural community in Nigeria.
3. To assess factors associated with good knowledge towards HIV/AIDS among adolescents in a rural community in Nigeria.

3.3 Hypothesis

1. There is no significant difference in knowledge of HIV/AIDS between control and intervention groups
2. There is no significant difference in attitude towards people living with AIDS (PLWA) between control and intervention groups
3. There is no significant difference in practice of HIV/AIDS between control and intervention groups

4.0 METHODS

4.1 Study design and setting

This study was conducted using the format of interventional study design. There was intervention after baseline data is collected. The intervention includes health education package on reproductive health, prevention methods and risk factors of HIV and other sexually transmitted infections for 40 minutes. Thereafter a repeat survey will be conducted after three months from the exposure.

The study area was in a rural community setup in south eastern region of Nigeria, specifically in Enugu state, which is about seven hours drive from Lagos state, the commercial capital of Nigeria. Sex is traditionally a very private subject in Nigeria and the discussion of sex with adolescent is often seen as inappropriate. It has been described that rural adolescent have paucity of knowledge in detailed health information on HIV/AIDS one reason being the high levels of illiteracy in these areas (34).

4.2 Study population

4.2.1 Target population/ source population

Adolescent in high schools in Nenwe

4.2.2 Study subjects

The study population were all adolescents between the ages of 10- 19 years in Nenwe.

4.2.3 Sample size calculation:

Comparison of two proportions formula was used to calculate the sample size

$$N = \frac{(Z_1 + Z_2)^2 * 2\bar{P}(1 - \bar{P})}{(P_1 - P_2)^2}$$

Where

N= Sample size in each group

Z_1 = Critical value for type one error

Z_2 = Critical value for type two error

P_1 = proportion with comprehension knowledge before intervention = 50% (14, 34, 37)

P_2 = Proportion with comprehension Knowledge After intervention = 70% (14, 34, 37)

$\bar{P} = (P_1 + P_2)/2$ = Average of P_1 and P_2

P_1 - P_2 = Minimum meaningful difference in proportions between exposed and control groups

Assuming $P_1 = 0.5$, $P_2 = 0.7$, $\bar{P} = 0.45$

Two sided confidence interval of 95%, $Z_1 = 1.96$ and

Power for the study: 80%, $Z_2 = 0.64$The required sample size for each group is 196 that is for control and intervention groups respectively.

4.2.4 Sampling Procedures

All high schools in Nenwe were eligible and cluster sampling procedure was used. Firstly all high schools in Nenwe were identified as clusters. Then by lottery six high schools were picked into two pairs. One control and the other interventional. The sampled students were allocated to two groups, namely intervention and control groups by randomisation. The school selected into the interventional groups were Nenwe girls, Agwu boys and comprehensive high school. The schools selected as the control group were Agbada comprehensive school, Johnboscho secondary school and Queens commercial school all located in Nenwe town.

The second stage was to randomly select students from the above mentioned schools, 125 students from Nenwe girls' secondary school, 60 form Agwu boys' secondary school, and 24 from comprehensive high school Nenwe making a total of 199. Seventy five students were selected from Johnboscho 30 from queen's commercial school and 94 from Agbada community secondary school.

4.3 Data collection

4.3.1 Data collection Procedures

A structured questionnaire was developed by referring to a research package on knowledge attitudes and practices of adolescents on HIV conducted in Sierra Leone in 2002 (34). First questionnaire was given to the students' in mid-January of 2015 and baseline data was collected. Then a sex education awareness was given to the intervention group for 40 minutes. This was a form of sensitizing the participants about HIV mode of transmission, prevention and risky sexual practices that promote infection of HIV/AIDS. After which students were left for 3 months. However due to time constrain after 3 months a repeat survey with the same questionnaire was conducted in both groups in order to assess for any change.

Inclusion criteria: all adolescents aged 10-19 years of age in Nenwe

Exclusion criteria: young person not within the age bracket of 10-19 years of age and living outside Nenwe.

4.3.2 Operational definitions

Knowledge assessing questions were (Q30, Q32, and Q33 through Q47).

Attitude assessing questions (Q63 through Q73)

Practice assessing questions (Q77 through Q89)

4.3.3 Variables

Independent Variables:

- Socio-demographic Variables: Age, sex, place of birth, religion, parent's occupation, other sources of family income, living condition, village, drug use, alcohol use.

Dependent Variables:

- Knowledge on HIV
- Attitude towards PLWA
- Practise towards HIV

4.4 Data processing and analysis

There were three phases for the data analysis the first phase will focus on univariate analysis majorly the independent variables that is the socio-demographic characteristics and to ascertain the prevalence or proportion of major variables. In the second phase, the proportions after the intervention were presented and compared between the intervention and control groups, using a T- test. P values were presented to determine if there was a significant difference in knowledge, attitude and practices among the adolescents between the two groups. In the third phase the analysis for factors associated with the change in attitude and practices of risky sexual behaviour was conducted.

In order to determine factors associated with change in knowledge, attitude and practice of risky sexual behaviours among adolescents in a rural community in Nigeria, a binary outcome, the comprehensive score was derived in each case as follows. First the participants were assigned a score 1 if they had good knowledge or positive attitude or good sexual practice and zero if otherwise (See tables A1, A2 and A3 in the Appendix). In each case, a percentage score was then obtained per individual and the response variable generated by setting up a cut off of 50%. Participants scoring above 50% were considered to have attained good knowledge, positive attitude and good practices towards HIV and sexual behaviours. Therefore, three binary outcomes were generated by assigning a 1 for those with good knowledge or positive attitude or good practices and 0 if otherwise. A logistic regression was then fitted to the binary outcomes after the intervention. The study group variable was entered into the model as the main predictor. Other predictors assed included the baseline factors: age, gender, religion, village group, source of family income, religion, living with family member, source of HIV knowledge,

ever heard of HIV, and alcohol consumption. Finally a multivariable analysis was conducted to adjust for confounders with significant p values at the bi-variable analysis. Data entry and cleaning was done with Epi Data version 3.1 software and the analysis of data was done using STATA version 12 (state corporation, college station Texas, USA).

4.5 Data quality management

Data collection was conducted using a careful design questionnaire (34). To ensure quality assurance all procedure were conducted by the primary investigator.

4.6 Ethical consideration

The study was conducted on receiving ethical clearance from the departmental research ethics and review and committee (DRERC) of the College of Health Sciences, Addis Ababa University. Written consent was secured from appropriate education board responsible for high schools within Nenwe. Similarly, each secondary school in Nenwe for the study was approached for consent and briefed on the purpose and objective of the study. Also the students were given a letter of information, study invitation and consent were given to parents for consent for those under the ages of 18 years old. The asset forms were given to the students as a way of getting their approval. The rights of respondents to answer any of the questions was discussed clearly and inform consent and asset obtained. Privacy was maintained during the interview by ensuring names and personal identity cards not required. Also confidentiality of information was maintained during data collection and management.

4.7 Dissemination of results

Results and recommendation based on the study will be disseminated to appropriate bodies: Some of which are the participating schools were the study was conducted, Aninri local government office and the department of public Health, Addis Ababa University, Ethiopia.

5.0 RESULTS

5.1 Demographic characteristics of participants

A total of 396 secondary school participants were enrolled. The data reflects 199 and 197 in intervention and control groups respectively. In the Intervention group nearly 68% (135/199) of the study participants were females against 56% (111/197) seen in the control. The majority were in the age group of 14-16years. Fifty two percent (103/199) and 62% (121/197) in control. The least were between 10 and 13 years in both groups. The main source of family income was observed as business with 51% (100/199) and 55% (108/197) in the intervention and control respectively, while self-employment was the least. Majority of the study participants in intervention group were from Amorji followed by Uhueze, and majority in the control group were from Agbada followed by Emudo as observed in figure 1. Only 45% (89/199) in the intervention group had lived in Nenwe town for greater than 10years, while 44% (86/197) in the control group had lived the same amount of years in the town. In both groups the majority of the participants were Christians, 98% (195/199) and 100% in the intervention and the control groups respectively. The majority lived with their family members with 95% (189/199) in the intervention and 89% (175/197) in the control group. The rest of the results are shown in Table 1.Only 5% (9/199) in intervention group and 6% (13/197) in control group had alcohol at least once a week.

5.2 Knowledge characteristics of participants

From Table 4, majority of participants had knowledge of at least one sexually transmitted infection for both groups after the intervention, 87% and 85% respectively this change was not significant. However from Table 4, 67% of the participants in the intervention group new the difference between the virus and the disease compared to 55% in the control group (p= 0.012).

While 44% (87/199) of those in the intervention group had knowledge of someone who was infected with HIV in the community, only 34% (64/197) in control know this. This was significant (p=0.044). Also 60% of those in the intervention group could identify someone who had died of AIDS compared to 49% in the control group this was also significant.

A significant increase in the proportion of those in the intervention group 59% (117/199) who knew that they could protect themselves with condom compared to 41% (78/197) in the control group (p= 0.001).

Also 80% of the participant in the intervention group knew that an infected mother can transmit HIV to her baby through breast feeding compared to 69% in the control group. This was significant (p= 0.016). No significant difference is observed in knowledge of sexual practices

that promote HIV/AIDS between control and intervention groups. For example having many sexual partners (p= 0.704), unprotected sex (p=0.25), Anal sex (p=0.910).

There was no significant difference in response to the knowledge that a person can get HIV through injections and needles used by already infected persons (p=0.063). No significant difference is observed in the number of the adolescents who knew that HIV can be prevented by sticking to one uninfected partner in both groups (p= 0.963). Also no significant increase in knowledge towards abstinence as a means of prevention (p= 0.981).

5.3 Knowledge characteristics of participants for perception of Risk

There is also a significant difference in both groups response in their perception on what can result from a sexual encounter. The result is given for intervention and control respectively. Getting HIV/AIDS 65/199 (33%), 41/197 (22%) (p=0.014), feeling of regret 48/199 (24%), 28/197(15%) (p= <0.001), pregnancy 62/199 (31%), 28/197(15% (p=0.014)), feeling proud 29/199 (15%), 12/197, (6%) (p=0.008). And 61/199 (31%) of proportion of participants in the intervention group considers themselves at risk of getting HIV compared to 31/197 (16%) in the control (p=0.001). The rest of the result can be seen on Table 4.

Table 5 also shows knowledge towards HIV testing among the intervention and the control groups. Although the participants may be willing to conduct HIV testing, the major reason for wanting to know their HIV status amongst the intervention group compared to the control, was just to know. This was significant 52% (p=0.016). However they would not want to get tested because 23% of those in the intervention group had not had sex. This was significant compared to the control 13% (p= 0.007). And because majority in the intervention group perceived that people should get tested before marriage 92% (182/199) compared to the controls 84% (159/197), (p=0.026). Again19% (39/199) in the intervention group would consider getting tested when getting married compared to the control 20/197 (11%) (p=0.012)

5.5 Attitude Characteristics of Participants

Table 6 shows attitudes towards PLWA comparing proportions after the intervention between the intervention group and the control. There is significant difference in response to a worker with HIV who is not sick should not be allowed to work amongst the intervention compared to the controls. 38% in intervention group compared to 49% in the control (p= 0.027). Table 7 reveals practices of risky sexual behaviours towards HIV.

5.6 Assessing factors associated with the good knowledge:

The results from logistic regression are presented in in Tables 8, 9 and 10 showing the effect of the intervention on adolescents' knowledge, attitudes and sexual practices after the sex

education, respectively. The results indicate a significant increase in good knowledge towards HIV/AIDS after the intervention. The odds of attaining a good knowledge towards HIV/AIDS among those in the intervention were more than twice those in the control. This association was significant (crude OR: 2.11 (1.35 – 3.30; p=0.001) and (adjusted OR: 2.06 (1.30 – 3.25; p=0.002). Age and family source of income were found to confound the above association and were adjusted for using a multiple logistic regression as shown in Table 9. None of the factors including the intervention were significantly associated with positive/negative attitude and practices after the intervention. Therefore no adjusted analysis or multiple logistic regression was performed for attitude and practice.

5.7 Tables and Figures

Table 1: Baseline demographic characteristics of study participants stratified by study group

		Intervention N=199	Control N=197	P
Age in years, mean (SD)		16.13 (1.66)	15.79 (1.58)	0.038
Age categories in years, n (%)	10 – 13	10 (5.03)	7 (3.59)	0.117
	14 – 16	103 (51.76)	121 (62.05)	
	17 – 19	86 (43.22)	67 (34.36)	
Gender, n (%)	Female	135 (67.84)	111 (56.35)	0.028
	Male	64 (42.4)	86 (57.0)	
Current class, n (%)	Junior school	57 (28.64)	58 (29.44)	0.861
	Secondary school	142 (71.36)	139 (70.56)	
Source of income by family, n (%)	Business	100 (50.51)	108 (54.82)	0.390
	Farming	74 (37.19)	69 (35.03)	0.655
	Civil servant	16 (8.04)	14 (7.11)	0.727
	Self employed	13 (6.53)	11 (5.58)	0.692
Religion, n (%)	Christian	195 (97.99)	197 (100)	0.249
	Muslim	2 (1.01)	0 (0.00)	
	Other	2 (1.01)	0 (0.00)	
Number of years living here, n (%)	<5 years	53 (26.63)	73 (37.06)	0.050
	5 – 10 years	37 (18.59)	28 (14.21)	
	>10 years	89 (44.72)	86 (43.65)	
	Don't know	20 (10.05)	10 (5.08)	
Living status, n (%)	Alone	8 (4.02)	18 (9.14)	0.137
	With family/relative	189 (94.97)	175 (88.83)	
	With employer	1 (0.50)	1 (0.51)	
	With sexual partner	0 (0.00)	0 (0.00)	
	With friend/co-worker	1 (0.50)	0 (0.00)	
	No fixed home	0 (0.00)	1 (0.51)	
	No answer	0 (0.00)	2 (1.02)	

Figure 2: Bar Chart showing the distribution of village of origin of study participants amongst control and intervention groups in Nenwe

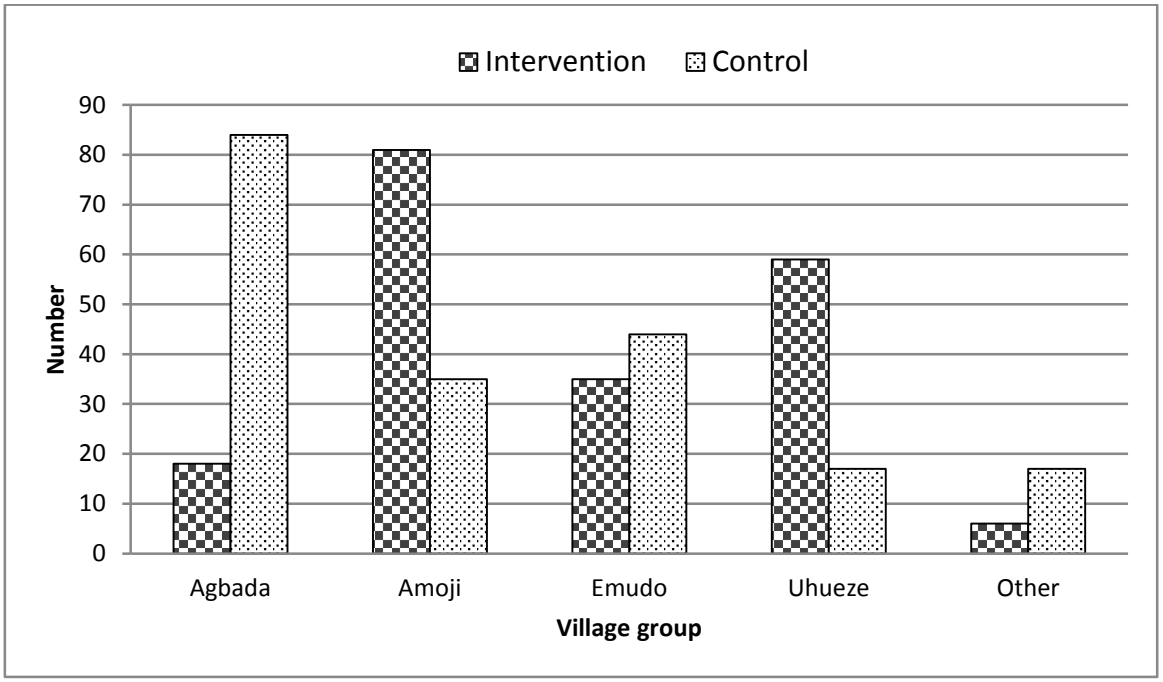

Figure 1: Distribution of study participants by village group and study group

Table 2: Baseline social characteristics and sexual behaviours of study participants stratified by study group

		Intervention N=199	Control N=197	P
How often have you had alcohol in last 4 weeks, n (%)	Every day	3 (1.51)	2 (1.02)	0.265
	At least once a week	9 (4.52)	13 (6.60)	
	Less than once a week	4 (2.01)	7 (3.55)	
	Does not drink	170 (85.43)	153 (77.66)	
	Don't know	4 (2.01)	3 (1.52)	
		9 (4.52)	19 (9.64)	
Tried any of the following drugs, n (%)	Marijuana	9 (4.52)	8 (4.06)	0.821
	Brown Brown	4 (2.01)	1 (0.51)	0.178
	Cocaine	4 (2.01)	1 (0.51)	0.178
	Crack	1 (0.51)	1 (0.51)	>0.999
	Capsule	1 (0.51)	37 (18.78)	<0.001
Ever injected drugs in the last 12 months, n (%)	Yes	16 (8.04)	41 (20.81)	<0.001
Ever had sexual intercourse, n (%)	Yes	29 (14.57)	24 (12.18)	0.485
Age when had first sexual intercourse, n (%)	<13 years	7 (24.14)	3 (12.50)	0.296
	13 –15 years	4 (13.79)	5 (20.83)	
	16 – 18 years	8 (27.59)	3 (12.50)	
	No response	10 (34.48)	13 (54.17)	
Age difference for first sexual partner, n (%)	>10 years older	13 (44.83)	3 (12.50)	0.144
	5-10 years older	4 (13.79)	5 (20.83)	
	<5 years older	1 (3.45)	3 (12.50)	
	Younger	2 (6.90)	1 (4.17)	
	Don't know	3 (10.34)	4 (16.67)	
	No response	6 (20.69)	8 (33.33)	
Was condom used, n (%)	Yes	5 (17.24)	6 (25.00)	0.059
	No	20 (68.97)	9 (37.50)	
	No response	4 (13.79)	9 (37.50)	
Had sexual intercourse in the last 12 months, n (%)	Yes	7 (24.14)	7 (29.17)	0.733
	No	19 (65.52)	13 (54.17)	
	No response	3 (10.34)	4 (16.67)	

Figure 3a: Distribution of study participants and their response by groups on what time they think is appropriate to engage in sexual activity before the intervention.

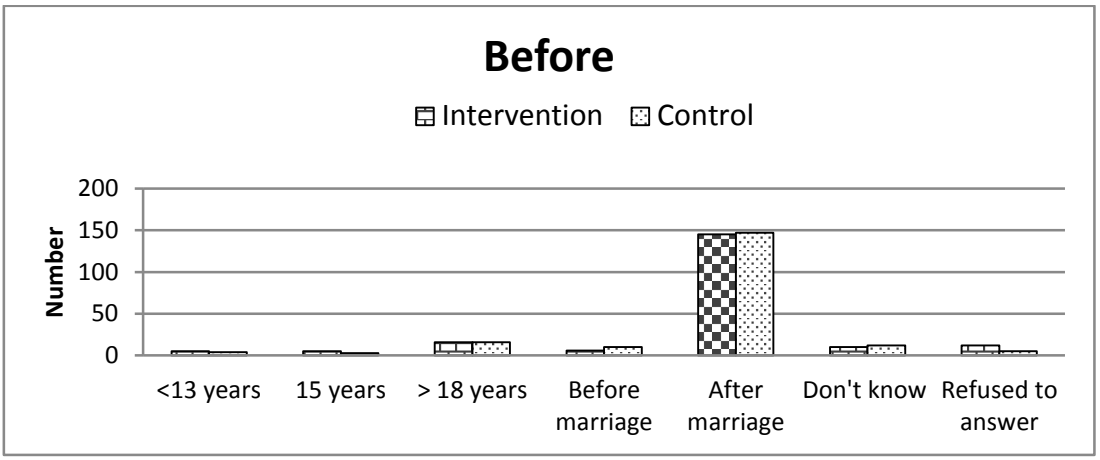

Figure 3b: Distribution of study participants and their response by groups on what time they think is appropriate to engage in sexual activity after the intervention.

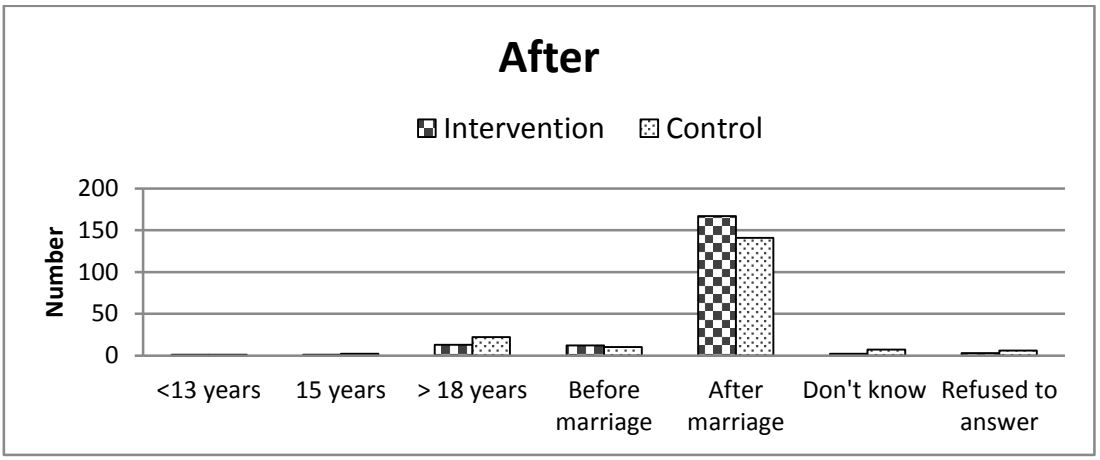

Figure 3: Study participants and their perception regarding age/time to commence sex by study group; before and after the intervention

Table 3: Sexual History of study participants before and after the intervention, by study group

	Intervention		Control	
	Before N (%)	**After N (%)**	**Before N (%)**	**After N (%)**
Ever heard of disease that can be transmitted through sexual intercourse	151 (76.65)	174 (87.44)	156 (79.19)	162 (85.71)
Can describe the following as symptoms for STIs/STDs				
Abdominal pain	65 (33.68)	75 (37.69)	62 (31.47)	54 (28.57)
Genital discharge	44 (23.40)	60 (30.15)	40 (20.30)	26 (13.76)
Foul smelling discharge	43 (22.75)	53 (26.63)	29 (14.72)	29 (15.34)
Burning pain on urination	61 (32.28)	63 (31.66)	41 (20.81)	37 (19.58)
Genital ulcers/sores	37 (19.68)	50 (25.13)	25 (12.69)	25 (13.23)
Swelling in groin area	37 (19.68)	53 (26.63)	20 (10.15)	25 (13.23)
Itching	41 (21.69)	55 (27.64)	38 (19.29)	24 (12.70)
STIs commonly known in the community				
Syphilis	46 (23.12)	52 (26.13)	46 (23.35)	56 (28.43)
Gonorrhoea	83 (41.71)	83 (41.71)	83 (42.13)	70 (35.53)
Herpes	4 (2.01)	3 (1.51)	3 (1.52)	1 (0.51)
Chlamydia	4 (2.01)	10 (5.03)	4 (2.03)	1 (0.51)
Trichomonas	6 (3.02)	7 (3.52)	2 (1.02)	2 (1.02)
HIV/AIDS	153 (76.88)	137 (68.84)	137 (69.54)	151 (76.65)
Ever contracted any STI/STD	2 (1.01)	10 (5.03)	0 (0.00)	5 (2.54)
What would do if contracted STI				
Go to hospital/ HC	145 (72.86)	169 (84.92)	150 (76.14)	155 (78.68)
Self-treatment	4 (2.01)	5 (2.51)	5 (2.54)	3 (1.52)
Herbalist	4 (2.01)	1 (0.50)	2 (1.02)	3 (1.52)
Don’t know	10 (5.03)	5 (2.51)	11 (5.58)	8 (4.06)
No response	36 (18.09)	19 (9.55)	28 (14.21)	20 (10.15)

Figure 4a: Distribution of study participants by groups showing the number of sexual partners they have had in the last one month before the intervention

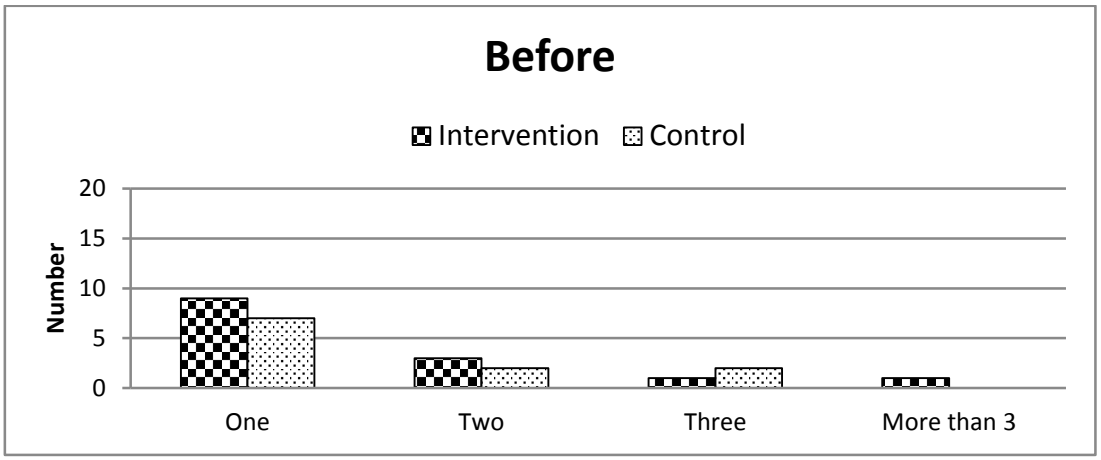

Figure 4b: Distribution of study participants by groups showing the number of sexual partners they have had in the last one month after the intervention

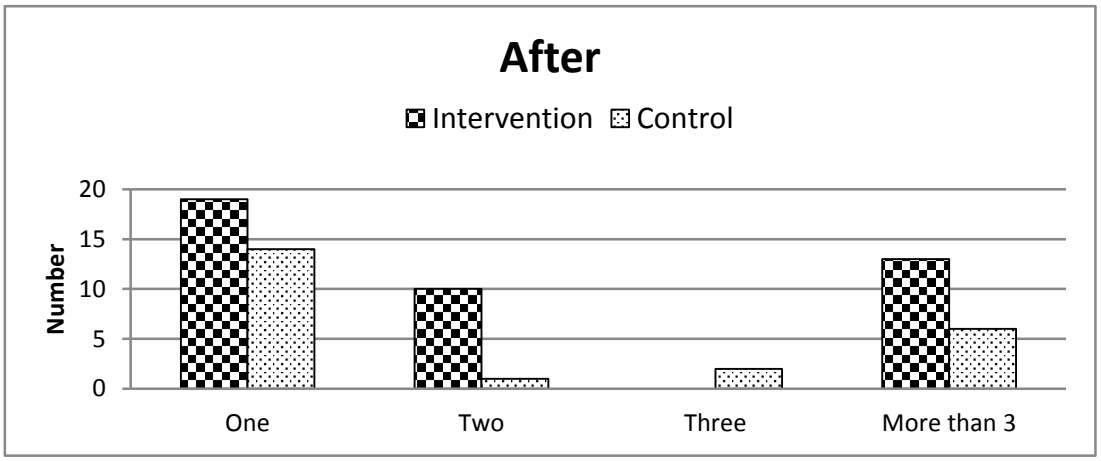

Figure 4: Number of sexual partners the participant had in the last one month before and after the intervention, by study group

Figure 5a: Distribution of study participants by groups showing their source of sexual information before the intervention

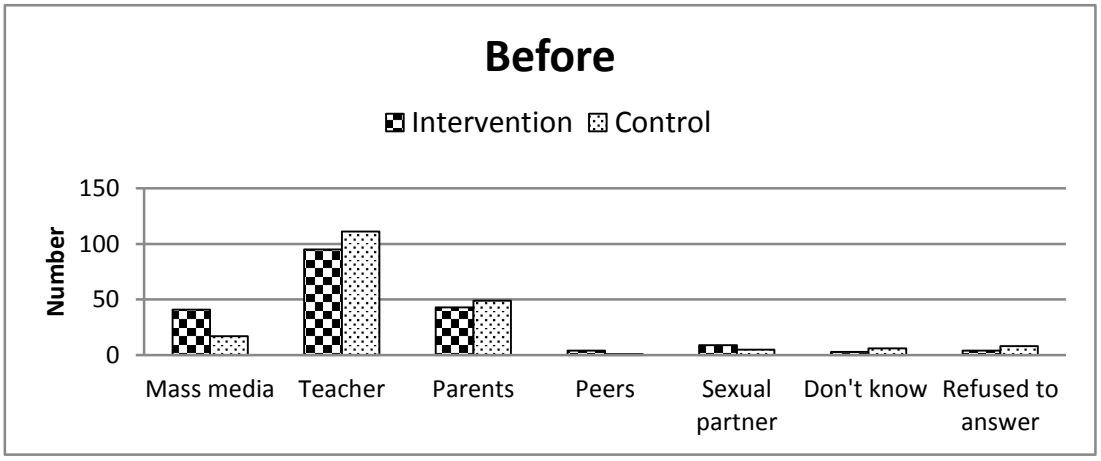

Figure 5b: Distribution of study participants by groups showing their source of sexual information after the intervention

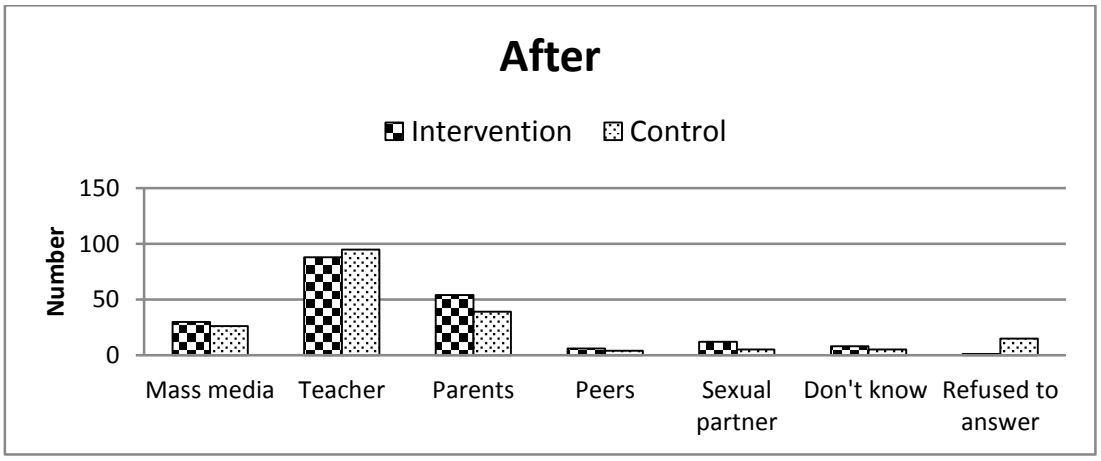

Figure 5: Source of sex knowledge before and after the intervention, by study group

Figure 6a: Distribution of study participants by groups and reason why they do not use condoms with their sexual partners before the intervention

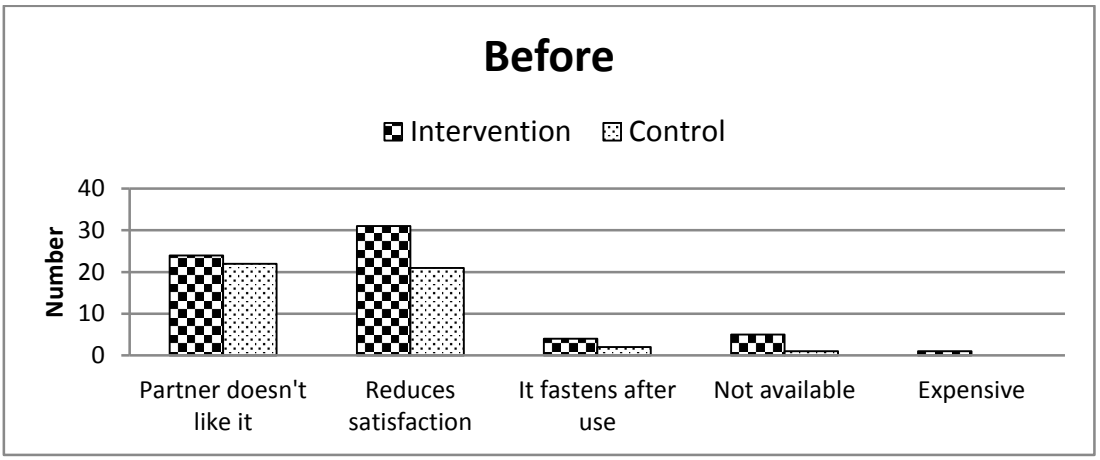

Figure 6b: Distribution of study participants by groups and reason why they do not use condoms with their sexual partners after the intervention

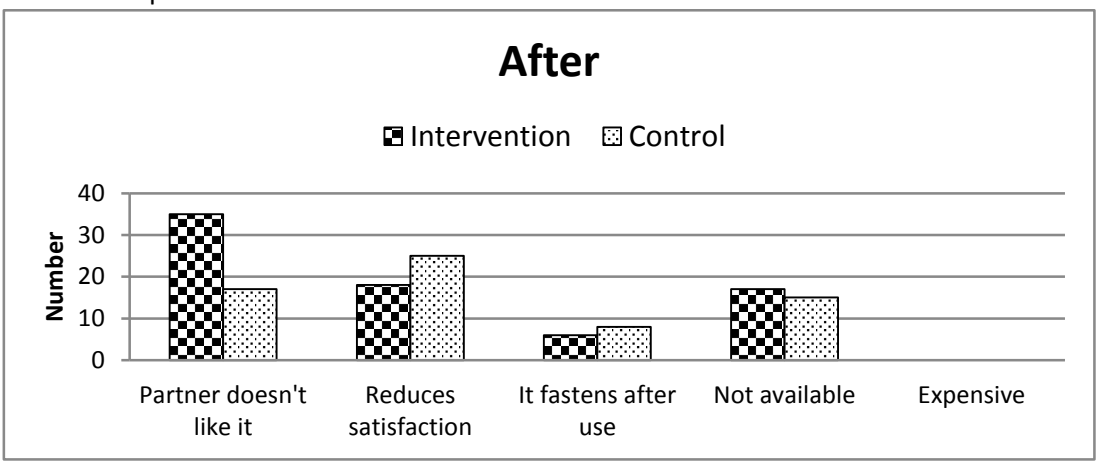

Figure 6: Reasons why study participants did not want to use condoms; before and after the intervention, by study group

Table 4: Knowledge towards HIV among the intervention and the control groups post intervention

	Intervention N=199 n (%)	**Control N=197 n (%)**	**P value†**
Ever had of HIV or disease called AIDS	174 (87.44)	162 (85.71)	0.614
Knows that HIV is an infection, AIDS is a disease	134 (67.34)	104 (55.03)	**0.012**
Knows someone infected with HIV/AIDS	87 (43.72)	64 (33.86)	**0.044**
Knows someone who died of AIDS	119 (59.80)	92 (48.68)	**0.026**
Knows that people can protect themselves from HIV by using condoms	117 (58.79)	78 (41.27)	**0.001**
Knows that HIV/AIDS can affect anyone	170 (85.43)	154 (81.05)	0.243
Knows that a health looking person can carry HIV	146 (73.37)	141 (74.60)	0.780
Knows that a pregnant woman with HIV can transmit the virus to her unborn child	128 (64.32)	125 (66.14)	0.704
Knows that HIV can be transmitted through blood transfusion	188 (94.47)	173 (91.53)	0.251
Knows that a person can get HIV through injecting needle used by already infected person	184 (92.46)	164 (86.77)	0.063
Thinks that one can get infected with AIDS through supernatural means	47 (23.62)	49 (25.93)	0.594
Thinks that mosquitoes can transfer AIDS	68 (34.17)	57 (30.16)	0.393
Knows that people can protect themselves by having sex with one uninfected partner	108 (54.27)	103 (54.50)	0.963
Knows that people can protect themselves from acquiring AIDS through abstinence	115 (57.79)	109 (57.67)	0.981
Knows that mother can transmit HIV to her baby through breast feeding	159 (79.90)	131 (69.31)	**0.016**
What a pregnant woman can do to reduce risk of HIV to unborn baby			
Take medication	74 (37.19)	65 (34.39)	0.561
Have an abortion	4 (2.01)	4 (2.12)	0.939
Seek medical advise	87 (43.72)	72 (38.10)	0.255
See a traditional healer	3 (1.51)	4 (2.12)	0.649
Don’t know	19 (9.55)	20 (10.58)	0.733
Sexual behaviours that promote HIV/AIDS			
Having too many sex partners	71 (35.68)	64 (33.86)	0.704
Un protected sex	53 (26.63)	41 (21.69)	0.251
Anal sex	9 (4.52)	9 (4.76)	0.910
Don’t know	38 (19.10)	34 (17.99)	0.776

How can adolescent girls/boys prevent unwanted pregnancies:			
By using condoms	54 (27.14)	46 (24.21)	0.505
By using family planning	18 (9.05)	9 (4.74)	0.091
Abstinence from sex	90 (45.23)	86 (45.26)	0.995
Other/don't know	12 (6.03)	14 (7.37)	0.594
Considers self at risk of:			
Getting pregnant	64 (32.16)	31 (16.32)	**<0.001**
Making a girl pregnant	61 (30.65)	32 (16.84)	**0.001**
Getting HIV/AIDS	61 (30.65)	31 (16.32)	**0.001**
Getting STIs	55 (27.64)	20 (10.53)	**<0.001**
Sexual abuse	64 (32.16)	21 (11.05)	**<0.001**
What can result from a sexual encounter:			
Getting STIs	45 (22.61)	29 (15.34)	0.065
Getting HIV/AIDS	65 (32.66)	41 (21.69)	**0.014**
Feeling of regret	48 (24.12)	28 (14.81)	**<0.001**
Pregnancy	62 (31.16)	28 (14.81)	**0.014**
Feeling proud	29 (14.57)	12 (6.35)	**0.008**
Ever heard of a condom (No)	32 (16.08)	35 (18.42)	0.538

† Comparing two proportions after (Intervention versus control) using a T-test

Table 5: Knowledge towards HIV testing, among the intervention and the control groups post intervention

	Intervention (N=199) n (%)	Control (N=197) n (%)	P value†
Ever had an HIV test			
Voluntarily	50 (25.13)	35 (18.52)	0.111
Involuntarily	28 (14.07)	26 (13.76)	0.929
Found out the result of test	52 (26.13)	56 (29.63)	0.437
Would like to be tested for HIV	121 (60.80)	96 (50.79)	**0.045**
Reason why would like to be tested			
Wanting to be treated	21 (10.55)	19 (10.05)	0.870
Just to know	104 (52.26)	76 (40.21)	**0.016**
So I don't pass it to others	26 (13.07)	28 (14.81)	0.617
Reason why would not like to be tested			
Don't want to know	16 (8.04)	16 (8.47)	0.876
Fear stigmatisation/rejection	13 (6.53)	8 (4.23)	0.311
Fear of coping with being HIV positive	17 (8.54)	12 (6.35)	0.407
It does not help, no cure	9 (4.52)	5 (2.65)	0.422
It destroys relationships	6 (3.02)	2 (1.06)	0.168
Never had sex	46 (23.12)	24 (12.70)	**0.007**
Thinks that people should be tested for HIV before marriage	182 (91.46)	159 (84.13)	**0.026**
Thinks that it would help setting up counselling & testing in the area	149 (74.87)	129 (68.25)	0.144
Under what conditions would you consider getting tested			
If there is counselling	29 (14.57)	19 (10.05)	0.171
If there is some medical therapy	24 (12.06)	28 (14.81)	0.422
If it is confidential	4 (2.01)	9 (4.76)	0.130
If there is no negative impact to my life	11 (5.53)	6 (3.17)	0.250
When getting married	39 (19.60)	20 (10.58)	**0.012**
Before having sex with partner	14 (7.04)	9 (4.76)	0.336
When partner is unfaithful	6 (3.02)	1 (0.53)	0.061
Thinks that it will be important for people to know their HIV status	168 (84.42)	149 (78.84)	0.152

† Comparing two proportions after (Intervention versus control) using a T-test

Table 6: Attitudes towards PLWA, among the intervention and the control groups post intervention

	Intervention N=199 n (%)	**Control N=197 n (%)**	**P value†**
How participant feels about people with HIV/AIDS:			
Sympathize	90 (45.23)	78 (41.27)	0.427
They deserve it	7 (3.52)	11 (5.82)	0.278
Nothing	13 (6.53)	11 (5.82)	0.769
They are immoral	11 (5.53)	7 (3.70)	0.386
Helpless	30 (15.08)	38 (20.11)	0.189
People with AIDS should be discriminated (Yes)	30 (15.08)	31 (16.40)	0.718
A worker with HIV but not sick should be allowed to continue working (No)	75 (37.69)	92 (48.68)	**0.027**
Would buy food from a shopkeeper who has HIV (No)	116 (58.29)	113 (59.79)	0.762
Can a person get HIV by sharing a meal with someone infected (Yes)	44 (22.11)	35 (18.52)	0.375
Would be willing to share food with the infected (No)	85 (42.71)	85 (44.97)	0.650
Would be willing to care for a male relative wo is infected with HIV in the household (No)	43 (21.61)	36 (19.05)	0.527
Should a student infected with HIV, but not sick be allowed to continue attending school (No)	68 (34.17)	66 (34.92)	0.875
Would be willing to care for a female relative wo is infected with HIV in the household (No)	34 (17.09)	33 (17.46)	0.922
Would want it to remain a secret if a family member got HIV (Yes)	61 (30.65)	61 (30.96)	0.947

† Comparing two proportions after (Intervention versus control) using a T-test

Table 7: Practices of risky sexual behaviours towards HIV, among the participants in the intervention and control groups post intervention

	Intervention N=199 n (%)	Control N=197 n (%)	P value†
Age adolescents think is safe to commence sex			
<13 years	1 (0.50)	1 (0.53)	0.967
15 years	1 (0.50)	2 (1.06)	0.526
>18 years	13 (6.53)	22 (11.64)	0.077
Before marriage	12 (6.03)	10 (5.29)	0.750
After marriage	167 (83.92)	141 (74.60)	**0.022**
Don't know	2 (1.01)	7 (3.70)	0.077
No response	3 (1.51)	6 (3.17)	0.274
Number of sexual partners the participant had in the last one month			
One	19 (9.55)	14 (7.11)	0.380
Two	10 (5.03)	1 (0.51)	**0.006**
Three	0 (0.00)	2 (1.02)	0.153
More than 3	13 (6.53)	6 (3.05)	0.105
Don't know	16 (8.04)	17 (8.63)	0.832
No response	141 (70.85)	149 (75.63)	0.283
Source of sex knowledge			
Mass media	30 (15.08)	26 (13.76)	0.709
Teacher	88 (44.22)	95 (50.26)	0.229
Parents	54 (27.14)	39 (20.63)	0.129
Peers	6 (3.02)	4 (2.12)	0.572
Sexual partner	12 (6.03)	5 (2.65)	0.099
Don't know	8 (4.02)	5 (2.65)	0.448
No response	1 (0.50)	15 (7.94)	**<0.001**
Has your sexual partner ever used a condom (No)	56 (28.14)	52 (27.37)	0.864
Knows where one can buy a condom (No)	77 (38.69)	76 (40.00)	0.790
Do you use condoms for sex (No)	62 (31.16)	54 (28.42)	0.414
Do you insist on using a condom (No)	45 (22.61)	48 (25.26)	0.537

Considers HIV a big threat to youth in area (No)	38 (19.10)	29 (15.26)	0.311
Discusses HIV/AIDS issues with parent/ guardian/ teacher (No)	36 (18.09)	37 (19.47)	0.725
Talks to sexual partner about HIV/AIDS (No)	29 (14.57)	30 (15.79)	0.735
Willing to change sexual practices to avoid HIV (No)	15 (7.54)	13 (6.84)	0.788
Takes care when using blades/knives/needles (No)	11 (5.53)	16 (8.42)	0.259
Do you believe there is HIV/AIDS in this area (No)	18 (9.05)	23 (12.11)	0.322

† Comparing two proportions after (Intervention versus control) using a T-test

Table 8: Assessing factors associated with good knowledge after the intervention using a logistic regression

		Unadjusted effects		Adjusted effects‡	
		OR (95% CI)	**P**	**OR (95% CI)**	**P**
Study group	Intervention	2.11 (1.35 – 3.30)	**0.001**	2.06 (1.30 – 3.25)	**0.002**
	Control	1		1	
Age category in years	10 – 13	1.37 (0.37 – 5.05)	0.634	1.56 (0.41 – 5.93)	0.517
	14 – 16	0.60 (0.37 – 0.95)	**0.031**	0.68 (0.42 – 1.11)	0.122
	17 – 19	1		1	
Gender	Female	1.11 (0.71 – 1.74)	0.644		
	Male	1			
Religion	Catholic	0.84 (0.09 – 8.13)	0.878		
	Others	1			
Village group	Agbada	1.70 (0.66 – 4.36)	0.271		
	Amorji	2.04 (0.80 – 5.23)	0.136		
	Emudo	1.39 (0.53 – 3.63)	0.504		
	Uhueze	1.48 (0.56 – 3.91)	0.427		
	Other	1			
Family source of income	Business (vs the rest)	1.17 (0.76 – 1.82)	0.479		
	Farming (vs the rest)	0.62 (0.38 – 0.99)	**0.045**	0.70 (0.43 – 1.15)	0.159
	Civil servant (vs the rest)	1.08 (0.48 – 2.44)	0.846		
	Self-employed (vs the rest)	2.48 (1.09 – 5.61)	**0.030**	2.41 (1.01 – 5.77)	**0.048**
Living with family member	Yes	1.57 (0.74 – 3.33)	0.241		
	No	1			
Source of knowledge	Mass media	1.28 (0.48 – 3.42)	0.627		
	Teacher	1.45 (0.61 – 3.45)	0.397		
	Parents	1.36 (0.54 – 3.44)	0.511		
	Sexual partner	0.71 (0.19 – 2.67)	0.608		
	Others	1			
Ever heard of a disease called HIV	Yes	0.85 (0.40 – 1.82)	0.681		
	No	1			
Takes alcohol	Yes	0.98 (0.56 – 1.72)	0.949		
	No	1			

Ever had sexual intercourse	Yes	1.01 (0.53 – 1.92)	0.978
	No	1	
Ever used drugs, e.g. marijuana, cocaine	Yes	0.86 (0.48 – 1.55)	0.614
	No	1	
Ever injected drugs	Yes	1.41 (0.73 – 2.73)	0.308
	No	1	

ǂ effect of the intervention adjusted for age and family source of income using a multiple logistic regression

Table 9: Assessing factors associated with good attitude after the intervention using a logistic regression

		Un adjusted OR (95% CI)	P
Study group	Intervention	1.46 (0.98 – 2.18)	0.065
	Control	1	
Age category in years	10 – 13	0.71 (0.25 – 2.01)	0.517
	14 – 16	0.92 (0.61 – 1.40)	0.701
	17 – 19	1	
Gender	Female	1.17 (0.77 – 1.76)	0.461
	Male	1	
Religion	Catholic	2.19 (0.23 – 21.28)	0.498
	Others	1	
Village group	Agbada	0.85 (0.33 – 2.15)	0.729
	Amorji	1.24 (0.50 – 3.10)	0.639
	Emudo	1.44 (0.56 – 3.72)	0.449
	Uhueze	1.13 (0.44 – 2.93)	0.800
	Other	1	
Family source of income	Business (vs the rest)	1.10 (0.73 – 1.63)	0.655
	Farming (vs the rest)	0.96 (0.64 – 1.46)	0.858
	Civil servant (vs the rest)	0.71 (0.34 – 1.49)	0.362
	Self-employed (vs the rest)	1.10 (0.48 – 2.50)	0.829
Living with family member	Yes	1.07 (0.51 – 2.23)	0.863
	No	1	
Source of knowledge	Mass media	2.02 (0.78 – 5.28)	0.149
	Teacher	1.41 (0.60 – 3.31)	0.432
	Parents	1.19 (0.48 – 2.96)	0.704
	Sexual partner	0.76 (0.18 – 3.10)	0.697
	Others	1	
Ever heard of a disease called HIV	Yes	0.66 (0.34 – 1.28)	0.222
	No	1	
Takes alcohol	Yes	0.62 (0.36 – 1.06)	0.080
	No	1	

Ever had sexual intercourse	Yes No	0.89 (0.49 – 1.61) 1	0.699
Ever used drugs, e.g. marijuana, cocaine	Yes No	0.74 (0.42 – 1.31) 1	0.303
Ever injected drugs	Yes No	1.40 (0.80 – 2.45) 1	0.245

Table 10: Assessing factors associated with good sexual practices after the intervention using a logistic regression

		Un adjusted OR (95% CI)	**P**
Study group	Intervention Control	1.22 (0.81 – 1.84) 1	0.337
Age category in years	10 – 13 14 – 16 17 – 19	0.62 (0.21 – 1.84) 0.82 (0.54 – 1.26) 1	0.388 0.370
Gender	Female Male	0.86 (0.57 – 1.30) 1	0.478
Religion	Catholic Others	0.20 (0.02 – 1.91) 1	0.161
Village group	Agbada Amorji Emudo Uhueze Other	0.57 (0.22 – 1.43) 0.87 (0.35 – 2.15) 0.64 (0.25 – 1.65) 1.11 (0.43 – 2.84) 1	0.231 0.768 0.353 0.828
Family source of income	Business (vs the rest) Farming (vs the rest) Civil servant (vs the rest) Self-employed (vs the rest)	0.78 (0.52 – 1.17) 0.98 (0.65 – 1.50) 0.89 (0.42 – 1.91) 2.53 (0.93 – 6.88)	0.234 0.943 0.772 0.070

Living with family member	Yes	0.66 (0.32 – 1.36)	0.258
	No	1	
Source of knowledge	Mass media	1.28 (0.47 – 3.44)	0.628
	Teacher	1.37 (0.57 – 3.30)	0.482
	Parents	1.49 (0.59 – 3.77)	0.404
	Sexual partner	1.25 (0.32 – 4.94)	0.750
	Others	1	
Ever heard of a disease called HIV	Yes	1.39 (0.68 – 2.84)	0.360
	No	1	
Takes alcohol	Yes	0.78 (0.46 – 1.33)	0.364
	No	1	
Ever had sexual intercourse	Yes	1.21 (0.67 – 2.18)	0.521
	No	1	
Ever used drugs, e.g. marijuana, cocaine	Yes	1.09 (0.63 – 1.92)	0.751
	No	1	
Ever injected drugs	Yes	1.15 (0.65 – 2.04)	0.635
	No	1	

6.0 DISCUSSION

The major objective for this study was to assess changes in knowledge, attitude and practices about HIV/AIDS among adolescents in rural Nigeria. A summary of findings are as follows. Three months post, there was significant increase (p=0.012) in knowledge about the difference between HIV/AIDS was seen amongst the intervention (67%) group compared to the controls (55%). Fifty nine percent increase amongst those in the intervention group against 41% in control was also observed as significant increase (p= 0.001) in knowledge that HIV is prevented by condom use. There was also a change in perceived practice of HVCT seen with the intervention group (61%) compared to those in the control group (51%) which was significant (p=0,045).

While majority of the participants had knowledge that HIV test should be conducted before marriage, the proportion was more significant in those in the intervention group (92%) compared to controls (84%) (p= 0.020). Twenty three percent of those in the intervention group had never had sex compared to 13% in the control group, this was significant (p= 0.007). And 20% of participants in the intervention group mentioned that they may consider getting tested for HIV before marriage compared to 11% in the control group (P=0.012).

After the intervention significant attitudinal changes were observed with participants' response that a PLWHA who is not sick should not be allowed to work. There was a significant reduction (p= 0.027) between the intervention (38%) and the control (49%).

After the intervention there was significant difference between those in the intervention and control groups in their perceived attitude towards what can result from a sexual encounter. For example getting HIV/AIDS (p=0.014), feeling of regret (p=<0.001) pregnancy (p=0.014). There is also a significant difference between those in the intervention group compared to those in control in their perception of risk in getting pregnant(p=<0.001), making a girl pregnant(p=0.001), getting HIV (p=0.001), getting STIs (p=<0.001), and sexual abuse(p=<0.001).

6.1 Proportions of Independent Variables

The majority in the age group of 14-16 years was because being a village rural setting the age group that would be able to read and respond most appropriately will be those in class junior secondary 2, 3 senior secondary1 and 2. Less student were recruited from senior secondary 3 because they were preparing for their final national exams. This is also the age group most likely to have commenced sexual activities as observed by Wagbastoma and others (6, 7).

6.2 Comparing significant changes in Knowledge by groups after intervention

There was no significant difference in response to ever heard of HIV in both groups. The findings were in line with the national DHS report for those in the age group 15-19 years 89.5%. Although, Enugu state, under which this study was done is reported as 99.5% of knowledge of HIV by all age groups. Mberu, also agrees that though knowledge about HIV/AIDS has improved, the real focus now should be on changing attitude and practices. However, the HIV source of knowledge from this study shows that teachers closely followed by parents are the main source of knowledge for HIV/AIDS. This is different from what was observed by Wagbastoma. Wagbastoma observed that adolescents in the urban areas got sex information from social media, this may be because in urban ares people can afford these gadgets, and since parents are busy making money, the adolescents are left at home unsupervised . So they fall back on television and other social media for information (6, 7, and 14).

After the intervention, significant difference is seen between the control and intervention about the difference between HIV and AIDS after the intervention, there is also significant difference in perceived mode of prevention by increase in condom use amongst intervention 59% than in the controls 41%. There is also the increase in knowledge to get HVCT. Idele in her study observed that comprehensive, accurate knowledge on HIV, condom use and HIV testing and antiretroviral remained low in low income earning nations, from this study we may be able to improve knowledge on HIV amongst this age group (26).

6.3 Comparing significant changes in attitude and practice of adolescents towards HIV/AIDS after intervention

After the intervention, there was a general reduction in negative attitude and practices of adolescents in this survey. However the one of significant was their response towards not allowing a PLWA who is not sick to come to work. Those in the intervention group recorded a significant difference compared to the controls, less participants responded that they will not allow a PLWA not to come to work.

Significant difference was seen between participants in intervention group and controls in their perception of risk to contacting HIV/AIDS, STI, and pregnancy. This implies that with health education of adolescents there may be a possibility of affecting their attitude by increasing their perception to risk and may be this can be a set to influence their sexual choices.

Comparing this findings with that of Jemmott, that with intervention comes increase in knowledge however less favourable attitude towards risky behaviour but after three months of

the intervention, the adolescents showed fewer occasions of coitus, fewer coital partners, and greater use of condoms and lower incidence of heterosexual anal intercourse than the other adolescents. The findings are similar after 3 months (22).

6.3.1 Stigmatisation discrimination and misconception regarding HIV/AIDS

Studies conducted in Uganda and Botswana also reveal adolescents still have misconceptions in their attitude towards PLWA, as observed in this study. However with intervention they may be willing to change (24, 27).

6.3.2 HIV sexual risky behavior practices in adolescents

There was a no significant difference in the number of sexual partner between both groups after intervention. This may be expected due to the short gap given to observe a change (three months) and also 40 minutes for health education. Rather we observe a difference in the intervention groups having increased number of sexual partners. This is the same findings with studies conducted in Sierra Leone and Uganda. Although adolescent are aware of HIV they still continue in sexual behaviors that place them at high risk of contracting the disease. However this may not really reflect the true state. Adolescent may still be secretive that they are engaged in sexual activities, and in the repeat study may have felt more comfortable exposing that information. The participants in this study also believe that sexual activities should commence after marriage (24, 37).

Also with perceived risk of infection comes change in attitude towards HIV testing. For example in this study, after the intervention was an increase in HVCT. A significant difference was seen between participants in the intervention and control groups. The need for adolescent HVCT increases with knowledge. This findings also agrees with Biraro's opinion that knowledge about disease is a prerequisite for change and health related knowledge has power to change behavior in relation to the context (34, 35, 36).

6.4 Assessing Factors associated with good knowledge towards HIV/AIDS

The results from logistic regression are presented in in Tables 8, 9 and 10 showing the effect of the intervention on adolescents' knowledge, attitudes and sexual practices after the sex education, respectively. The results indicate a significant increase in good knowledge towards HIV/AIDS after the intervention. The odds of attaining a good knowledge towards HIV/AIDS among those in the intervention were more than twice those in the control. This association was significant (crude OR: 2.11 (1.35 – 3.30; p=0.001) and (adjusted OR: 2.06 (1.30 – 3.25; p=0.002). Age and family source of income were found to confound the above association and were adjusted for using a multiple logistic regression as shown in Table 9. None of the factors

including the intervention were significantly associated with positive/negative attitude and practices after the intervention. Therefore no adjusted analysis or multiple logistic regression was performed for attitude and practice.

7.0 STRENGTH AND LIMITATIONS OF THE STUDY

7.1 Strengths

1. An Intervention was conducted and 3 months gap given so that changes in attitude can be observed.
2. Same participants were used in the post intervention survey.

7.2 Limitations

1. Time duration of 40 minutes is not enough time to deliberate on all issues of HIV AIDS mode of transmission and prevention. For effective changes to occur longer period of exposure to health education is required. And the possibility of repeated exposure may be necessary.
2. None of the factors was associated with neither attitude nor practice. This may be due to 3 months not being enough to determine change in attitude and change in practice. The researcher also had limitation of time for the conduction of this study.
3. Volunteer participation bias may exist because of the sensitive nature of the topic.

8.0 CONCLUSION AND RECOMMENDATION

8.1 Conclusion

From the findings it may concluded that with health education comes increase in knowledge and increase in perception of risk towards HIV/AIDS, unwanted pregnancy and other negative side effects of unprotected sex with the adolescent age group. However from this study, it is inconclusive that health education interventional packages on adolescents may not bring about changes in attitude and practices because 40 minutes of health education talk may not be enough and a 3 months gap is not enough to observe change in attitude and practice.

Although knowledge alone may not be sufficient to change behaviour, but lack of knowledge may be a major contributing factor to the vulnerability seen in adolescents. As noted from the review one of the millennium developmental goal 6 (MDG 6) is to halt the spread of HIV/AIDS. It has its indicator to be firstly the prevalence of HIV/AIDS amongst 15-24 year olds and secondly it uses the proportion of this age group with comprehensive correct knowledge of HIV/AIDS (5).

The Nigerian demographic health survey for 2013 indicated that the general knowledge across all age groups of HIV/AIDS in Enugu state (where this study was conducted), was about 99%. And in the age group 15-19 years it is said to be 89%. But what is observed in this study is 86-87%. It is possible that this result represent a decline in knowledge, not necessarily a reflection of the rural setting. The implication of this may be the need to keep ongoing health education in schools and amongst adolescents (14).

Those who will need immediate age appropriate sex education will be the early adolescent ages of 10-13, because they are the most vulnerable. It may not be correct to say that only sex education is what is required to improve KAP towards HIV/AIDS as observed in this survey, However it is important to acknowledge previous synergistic efforts that has made adolescent KAP towards HIV/AIDS to where it currently is today. Therefore regular intermittent sex education given in secondary schools, may help to reduce further, poor KAP towards HIV/AIDS observed today among this age group. There are still some unanswered questions why despite knowledge some adolescents will still desire to embrace poor KAP towards HIV/AIDS (18-26).

8.2 Recommendations

To identify more determinants for the changes in attitude and practice of risky sexual behaviour towards HIV/AIDS further survey in this area is required in future that may include majorly sexually active adolescents only as the sample population.

The decision makers and other stakeholders should be more involved in future studies and surveys that embrace this topic.

And ongoing research methodology may be used for more accurate results that will follow-up participants to assess exact causes for changes in attitude and practices towards HIV/AIDS amongst adolescents. This study can commence immediately.

There should also be a centre for adolescents. A safe haven where they can go and get non-judgemental counselling for HIV/AIDS, STIs and reproductive health issues not only in Nenwe but where adolescents are the majority in the population. This place may also serve as indicator and monitoring centre for all related adolescent health issues. Because sexual issues are private issues more so for an adolescent who is still viewed by majority as an innocent child.

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10.0 Appendix:

10.1 Table A1: Assigned scores for knowledge

Question	Score
Have you ever heard of HIV or the disease called AIDS?	
Yes	1
No or No response	0
What is the difference between HIV and AIDS?	
HIV is an infection, AIDS is a disease	1
No difference	0
HIV is a disease, AIDS is an infection	0
Don't know or no response	0
Do you know anyone who is infected with HIV or has AIDS?	
Yes	1
No or don't know or no response	0
Do you know anyone who has died of AIDS?	
Yes	1
No or don't know or no response	0
Do you have a close relative or close friend who is infected with HIV or has died of AIDS?	
Yes	1
No or don't know or no response	0
Can people protect themselves from HIV by using a condom correctly every time they have sex?	
Yes	1
No or don't know or no response	0
Do you know that HIV/AIDS can affect any one?	
Yes	1
No or don't know or no response	0
Can a healthy looking person carry the HIV virus?	
Yes	1
No or don't know or no response	0
Can a pregnant woman infected with HIV or AIDS transmit the virus to her unborn child?	
Yes	1
No or don't know or no response	0
Can HIV be transmitted from one person to another through blood transfusion?	
Yes	0

No or don't know or no response	1
Can a person get HIV by getting injections with a needle that was already used by someone else?	
Yes	1
No or don't know or no response	0
Do you think a person can get infected with the AIDS virus through supernatural means?	
No	1
Yes or don't know or no response	0
Can mosquitoes transfer AIDS from one person to another by biting an infected person and then going to bite an uninfected person?	
No	1
Yes or don't know or no response	0
Can people protect themselves from getting infected with the AIDS virus by having one uninfected sex partner who also has no other partner?	
Yes	1
No or don't know or no response	0
Can people protect themselves from getting infected with the AIDS virus by not having sex at all?	
Yes	1
No or don't know or no response	0
What can a pregnant woman do to reduce the risk of transmission of HIV to her unborn child?	
Take medication, seek medical advice	1
Have abortion, see traditional healer, don't know, no response	0
Can a woman with HIV or AIDS transmit the virus to her new-born child through Breastfeeding?	
Yes	1
No or don't know or no response	0
What sexual behaviour do you think promotes HIV/AIDS?	
Having too many partners	1
Unprotected sex	1
Feeling of regret	1
Anal sex	1
Don't know, no response	0

10.2 Table A2: Assigned scores for attitude

Question	Score
How participant feels about people with HIV/AIDS:	

Sympathize, nothing, helpless	1
They deserve it, they are immoral	0
People with AIDS should be discriminated:	
No	1
Yes	0
A worker with HIV but not sick should be allowed to continue working:	0
No	1
Yes	
Would buy food from a shopkeeper who has HIV/AIDS:	
No	0
Yes	1
Can a person get HIV by sharing a meal with someone infected:	
No	1
Yes	0
Would be willing to share food with the HIV infected person:	
No	0
Yes	1
Would be willing to care for a male relative wo is infected with HIV in the household:	
No	0
Yes	1
Should a student infected with HIV, but not sick be allowed to continue attending school:	
No	0
Yes	1
Would be willing to care for a female relative wo is infected with HIV in the household:	
No	0
Yes	1
Would want it to remain a secret if a family member got HIV:	
No	1
Yes	0

10.3 Table A3: Assigned scores for practices

Question	Score
How can adolescent girls/boys prevent unwanted pregnancies?	
Using condoms, family planning, abstinence	1
Don't know, no response	0
Has your sexual partner ever used a condom?	
Yes	1
No or don't know or no response	0
Do you know where one can get (or buy) condoms?	
Yes	1
No or don't know or no response	0
Do you use condoms for sex?	
Yes	1
No or don't know or no response	0
Why don't you use condoms for sex?	
Not available in community	1
Partner does not like it, reduces satisfaction, it fastens after use, expensive, don't know, no response	0
Do you insist on the use of condoms each time you have sex?	
Yes	1
No or no response	0
Do you consider HIV/AIDS a big threat to youths in your community?	
Yes	1
No or don't know or no response	0
Do you discuss HIV/AIDS and RH issues with your parents/ guardians/ teachers?	
Yes	1
No or no response	0
Do you discuss HIV/AIDS issues with your friends (Peers)?	
Yes	1
No or no response	0
Do you talk to your sexual partner about HIV/AIDS?	

Yes	1
No or no response	0
Are you willing to change your sexual practices in order to avoid HIV/AIDS?	
Yes	1
No or don't know or no response	0
Do you take the necessary care/ prevention when using blades/ knives/ shooting needles?	
Yes	1
No or don't know or no response	0
Do you believe that there is HIV/AIDS in Nenwe?	
Yes	1
No or don't know or no response	0

10.2 Letter of invitation, study information sheet, consent form

10.2.1 Letter of invitation

Department of public Health

Addis Ababa University

Addis Ababa

Name_____

Address_____

Date_____

Dear_____,

Invitation to take part in Research

HIV/AID Knowledge Attitude and practice of Adolescents in a rural community of Nigeria. A before and after study to identify if Sexual health education should be a priority in High schools.

My name is Henrietta Aniobi. I am a postgraduate student (Master of Public Health) in the section of public health at Addis Abba University. As part of my degree I am carrying out a research project on the current Knowledge, attitude and practice of adolescent living in rural areas towards HIV/AIDS. As an Adolescent in this school I am writing to invite you to take part in this study.

Please read the enclosed information sheet which explains exactly what your participation in the study would entail. If you have any further queries feel free to call me on (number) or alternatively you can speak to my supervisors (Dr Firkire Equsellasie) and their telephone and emails Addis Ababa University.

Interviews will take place between (November2014 – January2015) so if you decide to take part please complete the enclosed reply slip and return it to me in the prepaid envelope provided. Please post on or before (Date_____). Thank you for considering this request.

Yours sincerely

Henrietta Aniobi

Reply Slip

My Name is _____

I accept to participate in your research invitation as above. I would be available for (Date and time) _____

School of Public Health

Addis Ababa University.

10.2.2 INFORMATION SHEET

HIV/AID Knowledge Attitude and practice of Adolescents in a rural community of Nigeria. A before and after study to identify if Sexual health education should be a priority in High schools

As your child is an adolescent with the high school I would like to invite your child to take part in the above mentioned study. The following lays out information on why the research is being carried out and what your child's participation will involve.

PURPOSE OF THE STUDY

The result of this study may help to design sex education as a priority area among adolescents in the study site and in Nigeria in general.

WHY HAS MY CHILD BEEN ASKED TO TAKE PART? (Why have I been asked to take part?)

Your child has been invited to take part in the study because he/she is an adolescent and a member of the high school in this rural area. As an a adolescent member of this community his/her knowledge, attitude and practice of HIV/Aids is essential in determining if sexual health education should be a priority in high schools.

DOES MY CHILD HAVE TO TAKE PART IN THIS STUDY?

It is up to you to decide if you wish your child to take part. If you do decide that your child should participate in this study, you will be given this information sheet and will be asked to sign a consent form. You are still free to withdraw at any time without giving a reason.

WHAT WILL PARTICIPATION ENTAIL?

Your child will be asked to take part in a survey/interview with me (Henrietta Aniobi). The interview will last no longer than 60 minutes. The interview will take place at the Children School at a mutually convenient time. The focus of the interview will be on their knowledge attitude and practice of HIV/AIDS. Before starting the interview your child will be given the opportunity to ask any questions they have and they will be asked to sign a consent form to agree to take part and your permission to audio record the interview will be sought.

WHAT ARE THE BENEFITS OF TAKING PART?

You will receive no direct benefit from taking part in this study. The information that is collected will give us a better understanding of adolescents knowledge attitude and practice of HIV/AIDs and help identify relevant issues which might enhance the sexual health education in high school as a priority.

WILL MY TAKING PART REMAIN CONFIDENTIAL?

All information collected will be kept strictly confidential and all data will be anonymised. Direct quotations will be used when writing up the study in a final report but any comments likely to identify an individual will not be used.

WHAT WILL HAPPEN TO THE RESULT OF THE STUDY?

A final research report will be handed over to the section of public Health of Addis Ababa University in June 2015. A summary of the findings will be sent to you if requested. Where appropriate the findings may be developed for publication in a peer reviewed academic journal.

WHO IS ORGANISING AND FUNDING THE RESEARCH?

The research is being organised by Addis Ababa University. The project is not funded but is part a MASTER of Public Health degree.

HAS THE RESEARCH BEEN APPROVED ETHICALLY?

The project has been APPROVED by the Faculty of Medicine, Addis Ababa University research ethics committee

The project has been APPROVED by the College of Health and medical sciences, Addis Ababa university ethics committee.

CONTACTS FOR FURTHER INFORMATION:

If you have any concerns or complaints about the research please contact:

Dr Firkre Equsellasie (Supervisor), email: fikreens @ yahoo.com Tel:

If you wish to discuss the study further or require further information please contact:

Henrietta Aniobi (Researcher), Email: hetti2000ng Tel:

Thank you for taking the time to read this information sheet

10.2.3CONSENT FORM

Centre number:

Study Number:

Subject Identification number for this trial:

HIV/AID Knowledge Attitude and practice of Adolescents in a rural community of Nigeria. A before and after study to identify if Sexual health education should be a priority in High schools.

Name of Researcher: Aniobi Henrietta U

If you consent to participate in this study, please tick the boxes and sign below

1. I confirm that I have read and understand the information sheet for the above study dated December 2014. Version number and have had the opportunity to ask questions.

2. I understand that my participation is voluntary and that I am free to withdraw at any time during the discussion without giving reason, without my legal rights being affected.

3. I agree to take part in the interview session.

4. I agree that the interview session will be in written questionnaire format

5. I understand that any quotes from the interview session which are used in the study report will not be identified to me.

6. I would like to receive a summary report of the research findings.

_____	_____	_____
Name of participant	Date	Signature
_____	_____	_____
Name of Researcher	Date	Signature

10.2.4 ASSET FORM

Centre number:

Study Number:

Subject Identification number for this trial:

HIV/AID Knowledge Attitude and practice of Adolescents in a rural community of Nigeria. A before and after study to identify if Sexual health education should be a priority in High schools.

Name of Researcher: Aniobi Henrietta U

If you consent to participate in this study, please tick the boxes and sign below

1. I confirm that I have read and understand the information sheet for the above study dated December 2014. Version number and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw at any time during the discussion without giving reason, without my legal rights being affected.
3. I agree to take part in the interview session.
4. I agree that the interview session will be in written questionnaire format
5. I understand that any quotes from the interview session which are used in the study report will not be identified to me.
6. I would like to receive a summary report of the research findings.

_____	_____	_____
Name of participant	Date	Signature
_____	_____	_____
Name of Researcher	Date	Signature

10.3 Questionnaire

Adolescents Knowledge attitude and practice of HIV/AIDS Nnewe Jan 2015

THIS SURVEY ONLY INTERVIEWS ADOLESCENTS AGED 10-19 YEARS OLD

SECTION 1: DEMOGRAPHIC CHARACTERISTICS

No	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
Q 01	RECORD SEX OF RESPONDENT	MALE 1 FEMALE 2	
Q 02	In what month and year where you born?	MONTH DON'T KNOW THE MONTH 8 NO RESPONSE 9	
Q 03	How old were you at the last birthday? (Compare and correct Q 02 if needed)	AGE IN COMPLETED YEARS AGE IN YEARS MUST BE BETWEEN 10 AND 19YRS DON'T KNOW 8 NO RESPONSE 9 ESTIMATE BEST ANSWER	
Q 04	What is your current class		
Q 05	What does your family do to earn money? MULTIPLE ANSWERS ARE POSSIBLE.	YES NO BUSINESS 1 2 FARMING 1 2 CIVIL SERVANT 1 2 SELF EMPLOYED 1 2 NO RESPONSE 1 2 OTHER (SPECIFY)…… 15	
Q 06	How long have you lived here in (NAME OF COMMUNITY/TOWN NEIGHBORHOOD/ VILLAGE)?	NUMBER OF YEARS [__|__] RECORD 00 IF LESS THAN 1 YEAR DON'T KNOW 8 NO RESPONSE 9	
Q 07	What religion are you? CIRCLE ONE	CHRISTIAN 1 MUSLIM 2 TRADITIONAL 3 OTHER 4 NO RELIGION 5 DON'T KNOW 8 NO RESPONSE 9	
Q 08	To which Village group do you belong? CIRCLE ONE	AGBADA 1 AMOJI 2 EMUDO 3 UHUEZE 4 NO RESPONSE 9 OTHER …… 15	
Q 09	Do you live:	ALONE 1 WITH FAMILY/ RELATIVES 2 WITH EMPLOYER 3 WITH SEXUAL PARTNER 4	

		WITH FRIENDS/COWORKERS/STUDENTS 5 NO FIXED ABODE /HOME 6 NO RESPONSE 9 OTHER ……..15	
Q 10	During the last 4 weeks how often have you had drinks containing alcohol? Would you say……. CIRCLE ONE	EVERY DAY 1 AT LEAST ONCE A WEEK 2 LESS THAN ONCE A WEEK 3 DOES NOT DRINK 4 DON'T KNOW 8 NO RESPONSE 9	
Q 11	Some people have tried a range of different types of drugs. Which of the following, if any, have you tried? READ LIST	YES NO DK NR MARIJUANA 1 2 8 9 BROWN BROWN 1 2 8 9 COCAINE 1 2 8 9 CRACK 1 2 8 9 CAPSULE 1 2 8 9	
Q 12	Some people have tried injecting drugs using a syringe. Have you injected drugs in the last 12 months? DRUGS INJECTED FOR MEDICAL PURPOSES OR TREATMENT OF AN ILLNESS DO NOT COUNT	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 13	When do you think is the right for you to engage in sexual activities	< 13 YRS 1 15 YRS 2 >18 YRS 3 BEFORE MARRIAGE 4 AFTER MARRIAGE 5 I DON'T KNOW 8 NO RESPONSE 9	

NENWE ADOLESCENT KNOW LEDGE ATTITUDE AND PRACTICE OF HIV/AIDS SURVEY 2014

SECTION 2: SEXUAL HISTORY: NUMBERSAND TYPES OF PARTNER

Now I am going to ask you some personal questions about sex. Remember we are asking these questions to learn more about how young people like yourself feel, in order to help you make your life safer. We know that some young people have had sexual intercourse and some have sexual intercourse with more than one person. Please answer the following questions honestly. Remember, your name is not written on this questionnaire.			
NO	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
Q 14	Have you ever had sexual intercourse? [For the purposes of this survey, "sexual intercourse," is defined as vaginal or anal penetrative sexual intercourse.]	YES 1 NO 2 NO RESPONSE 9	 →Q 20 →Q 20
Q 15	At what age did you first have sexual intercourse? RECORD IN COMPLETED YEARS	AGE IN YEARS [__|__] DON'T' KNOW 8 NO RESPONSE 9	
Q 16	How much older or younger was the person with whom you had your first sexual experience? READ OUT ANSWERS:	MORE THAN 10 YRS OLDER 1 5 - 10 YRS OLDER 2 LESS THAN 5 YRS OLDER 3 YOUNGER 4 DON'T KNOW 8 NO RESPONSE 9	
Q 17	Was a condom used during this first time you had sexual intercourse?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 18	Have you had sexual intercourse in the last 12 months?	YES 1 NO 2 NO RESPONSE 9	 →Q 20
Q 19	How many sexual partners have you had in the last one-month?	ONE 1 TWO 2 THREE 3 MORE THAN THREE 4 DON'T KNOW 8 NO RESPONSE 9	
Q 20	Have you ever heard of diseases that can be transmitted through sexual intercourse?	YES 1 NO 2 NO RESPONSE 9	 →Q30 →Q30
Q 21	Can you describe any symptoms of STIs/STDs? Any others? CIRCLE 1 FOR ALL MENTIONED. CIRCLE 2 FOR ALL NOT	Yes No ABDOMINAL PAIN 1 2 GENITAL DISCHARGE 1 2 FOUL SMELLING DISCHARGE 1 2 BURNING PAIN ON URINATION 1 2	

	MENTIONED. MORE THAN ONE ANSWER IS POSSIBLE.	GENITAL ULCERS/SORES 1 2 SWELLINGS IN GROIN AREA 1 2 ITCHING 1 2 DON'T KNOW 8 NO RESPONSE 9 OTHER _____15	
Q 22	Name two types of sexually Transmitted Infections (STIs) in your community. (CIRCLE ANY TWO)	SYPHILIS 1 GONORRHOEA 2 HERPES 3 CHLAMYDIA 4 TRICHOMONAS 5 HIV/AIDS 6 DON'T KNOW 8 NO REPSONSE 9	
Q 23	Have you contracted any STI/STD?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 24	If you contract a STI what would you do?	GO TO HOSPITAL/ HEALTH CENTRE 1 SELF TREATMENT 2 HERBALIST 3 DON'T KNOW 8 NO RESPONSE 9 OTHER …… 15	

NENWE ADOLESCENT KNOW LEDGE ATTITUDE AND PRACTICE OF HIV/AIDS SURVEY 2014

SECTION 3: STIs/ STDs

NO	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
Q 25	Have you ever heard of diseases that can be transmitted through sexual intercourse?	YES 1 NO 2 NO RESPONSE 9	 →Q30 →Q30
Q 26	Can you describe any symptoms of STIs/STDs? Any others? MORE THAN ONE ANSWER IS POSSIBLE.	Yes No ABDOMINAL PAIN 1 2 GENITAL DISCHARGE 1 2 FOUL SMELLING DISCHARGE 1 2 BURNING PAIN ON URINATION 1 2 GENITAL ULCERS/SORES 1 2 SWELLINGS IN GROIN AREA 1 2 ITCHING 1 2 DON'T KNOW 8 NO RESPONSE 9 OTHER _____15	
Q 27	Name two types of sexually Transmitted Infections (STIs) in your community. (CIRCLE ANY TWO)	SYPHILIS 1 GONORRHOEA 2 HERPES 3 CHLAMYDIA 4 TRICHOMONAS 5 HIV/AIDS 6 DON'T KNOW 8 NO REPSONSE 9	
Q28	Have you contracted any STI/STD?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 29	If you contract a STI what would you do?	GO TO HOSPITAL/ HEALTH CENTRE 1 SELF TREATMENT 2 HERBALIST 3 DON'T KNOW 8 NO RESPONSE 9 OTHER …… 15	

NENWE ADOLESCENT KNOW LEDGE ATTITUDE AND PRACTICE OF HIV/AIDS SURVEY 2014

SECTION 4: KNOWLEDGE

NO	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
Q 30	Have you ever heard of HIV or the disease called AIDS?	YES 1 NO 2 NO RESPONSE	 Q 53
Q 31	From which source did you first hear of, or know about HIV/AIDS?	MASS MEDIA 1 TEACHER 2 PARENTS 3 PEERS 4 SEXUAL PARTNER 5 DON'T KNOW 8 NO RESPONSE 9 OTHER (SPECIFY)…….. 15	
Q 32	What is the difference between HIV and AIDS?	HIV IS THE INFECTION AND 1 AIDS IS THE DISEASE NO DIFFERENCE 2 HIV IS THE DISEASE AND 3 AIDS IS THE INFECTION DON'T KNOW 8 NO RESPONSE 9	
Q 33	Do you know anyone who is infected with HIV or has AIDS?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 34	Do you know anyone who has died of AIDS?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 35	Do you have a close relative or close friend who is infected with HIV or has died of AIDS?	YES, A CLOSE RELATIVE 1 YES, A CLOSE FRIEND 2 NO 3 DON'T KNOW 8 NO RESPONSE 9	
Q 36	Can people protect themselves from HIV, the virus that causes AIDS by using a condom correctly every time they have sex?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 37	Do you know that HIV/AIDS can affect any one?	YES 1 NO 2 DON'T KNOW 8	

		NO RESPONSE 9	
Q 38	Can a healthy looking person carry the HIV virus?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 39	Can a pregnant woman infected with HIV or AIDS transmit the virus to her unborn child?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 40	Can HIV be transmitted from one person to another through blood transfusion?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 41	Can a person get HIV by getting injections with a needle that was already used by someone else?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 42	Do you think a person can get infected with the AIDS virus through supernatural means	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 43	Can mosquitoes transfer AIDS from one person to another by biting an infected person and then going to bite an uninfected person?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 44	Can people protect themselves from getting infected with the AIDS virus by having one uninfected sex partner who also has no other partner?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 45	Can people protect themselves from getting infected with the AIDS virus by not having sex at all?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 46	What can a pregnant woman do to reduce the risk of transmission of HIV to her unborn child?	TAKE MEDICATION 1 HAVE AN ABORTION 2 SEEK MEDICAL ADVICE 3 SEE A TRADITIONAL HEALER 4 DON'T KNOW 8 NO RESPONSE 9 OTHER …….15	
Q 47	Can a woman with HIV or AIDS transmit the virus to her newborn child through breastfeeding?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 48	Is it possible in your community for someone to get a confidential test to find out if they are infected with HIV? By confidential, I mean that no one will know the result if you don't want them to	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	

	know it.		
Q49	I don't want to know the result, but have you ever had an HIV test?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	 →Q 53 →Q 53
Q 50	Did you voluntarily undergo the HIV test, or were you required to have the test?	VOLUNTARY 1 REQUIRED 2 DON'T KNOW 8 NO RESPONSE 9	
Q 51	Please do not tell me the result, but did you find out the result of your test?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 52	When did you have your most recent HIV test?	WITHIN THE PAST 3 MONTHS 1 BETWEEN 3 - 6 MONTHS 2 BETWEEN 6 - 4 MONTHS 3 MORE THAN A YEAR AGO 4 DON'T KNOW 8 NO RESPONSE 9	
Q 53	What sexual behaviour do you think promotes HIV/AIDS?	HAVING TOO MANY PARTNERS 1 UNPROTECTED SEX 2 ANAL SEX 3 DON'T KNOW 8 NO RESPONSE 9	
Q 54	Do you know where one can be tested for HIV infection?	NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 55	Would you like to be tested for HIV infection	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	 →Q 57 →Q 59 →Q 59
Q 56	Why would you like to be tested?	WANTING TO BE TREATED 1 JUST TO KNOW 2 SO I DON'T PASS IT TO OTHERS 3 DON'T KNOW 8 NO RESPONSE 9 OTHER ……15	→Q 58 →Q 58 →Q 58
Q 57	Why would you not want to be tested?	DON'T WANT TO KNOW 1 FEAR OF STIGMATISATION/REJECTION 2 FEAR OF COPING WITH BEING HIV POSITIVE 3 IT DOES NOT HELP (NO CURE) 4 IT DESTROYS RELATIONSHIPS 5 NEVER HAD SEX 6 DON'T KNOW 8 NO RESPONSE 9	
Q 58	Under what conditions would you consider	IF THERE IS COUNSELLING 1	

	getting tested?	IF THERE IS SOME MEDICAL THERAPY 2 IF IT IS CONFIDENTIAL 3 IF IT THERE IS NO NEGATIVE IMPACT ON MY LIFE 4 WHEN GETTING MARRIED 5 BEFORE HAVING SEX WITH PARTNER 6 WHEN PARTNER IS UNFAITHFUL 7 DON'T KNOW 8 NO RESPONSE 9 OTHER……..15	
Q59	Do you think people should be tested for HIV before marriage?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 60	Do you think it will help if an HIV/AIDS counselling and testing service was set up in this area?	YES 1 NO 2 ALREADY THERE 3	
Q61	Do you think it will be important for people to know their HIV status?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 62	Why is it necessary for adolescents to know their HIV status?	SO THEY DO NOT INFECT OTHER PEOPLE 1 SO THEY CAN GET TREATMENT 2 JUST TO KNOW 3 SO THEY CAN MAKE PLANS FOR THEIR FUTURE 4 NO RESPONSE 9 DON'T KNOW 8 OTHER----------15	

NENWE ADOLESCENT KNOW LEDGE ATTITUDE AND PRACTICE OF HIV/AIDS SURVEY 2014

SECTION 5: ATTITUDE

NO	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
Q 63	How do you feel about people with HIV/AIDS?	SYMPATHIZE 1 THEY DESERVE IT 2 NOTHING 3 THEY ARE IMMORAL 4 HELPLESS 5 DON'T KNOW 8 NO RESPONSE 9 OTHER----------15	
Q 64	Should people with AIDS be discriminated against?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 65	If a worker/teacher is HIV infected but not sick should he/she be allowed to continue working?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 67	If a shopkeeper or food seller has HIV or AIDS would you buy food from him/her?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 68	Can a person get HIV by sharing a meal with someone who is infected?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 69	Would you be willing to share a meal with a person you know had HIV or AIDS?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 70	If a male relative of yours became ill with HIV, the virus that causes AIDS, would you be willing to care for him in your household?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 71	If a student has HIV but is not sick, should he/she be allowed to continue attending school?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 72	If a female relative of yours became ill with HIV, the virus that causes AIDS, would	YES 1 NO 2 DON'T KNOW 8	

	you be willing to care for her in your household?	NO RESPONSE 9	
Q 73	If a member of your family became ill with HIV, the virus that causes AIDS, would you want it to remain secret?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 74	What can result from a sexual encounter?	YES NO GETTING A STIs 1 2 GETTING HIVAIDS 1 2 FEELING OF REGRET 1 2 PREGNANCY 1 2 FEELING PROUD 1 2 DON'T KNOW 8 NO RESPONSE 9 OTHER (SPECIFY)---------- 15	
Q 75	How can adolescent girls/boys prevent unwanted pregnancies?	BY USING CONDOMS 1 BY USING FAMILY 2 PLANNING PILLS ABSTAINING FROM SEX 3 DON'T KNOW 8 NO RESPONSE 9 OTHER (SPECIFY)----------15	
Q 76	Do you consider yourself at risk of the following?	YES NO (F) GETTING PREGNANT 1 2 (M) MAKING A GIRL PREGNANT 1 2 GETTING HIV/AIDS 1 2 GETTING STIs 1 2 SEXUAL ABUSE 1 2	
Q 77	Have you ever heard of a condom? (Show sample of one) (I mean a rubber object that a man puts on his penis before sex)	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 78	Has your sexual partner ever used a condom? (Show picture or sample of one.) (I mean a rubber object that a man puts on his penis before sex.)	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 79	Do you know where one can get (or buy) condoms?	YES 1 NO 2 NO RESPONSE 9	

Q 80	Do you use condoms for sex?	YES 1 NO 2 NO RESPONSE 9	→Q 82
Q 81	Why don't you use condoms for sex?	PARTNER DOES NOT LIKE IT 1 REDUCES MY SATISFACTION 2 IT FASTENS AFTER USE 3 NOT AVAILABLE IN COMMUNITY 4 EXPENSIVE 5 DON'T KNOW 8 NO RESPONSE 9 OTHER ……15	
Q 82	Do you insist on the use of condoms each time you have sex?	YES 1 NO 2 NO RESPONSE 9	
Q 83	Do you consider HIV/AIDS a big threat to youths in your community	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 84	Do you discuss HIV/AIDS and RH issues with your parents/guardians/teachers?	YES 1 NO 2 NO RESPONSE 9	
Q 85	Do you discuss HIV/AIDS issues with your friends (Peers)?	YES 1 NO 2 NO RESPONSE 9	
Q 86	Do you talk to your sexual partner about HIV/AIDS?	YES 1 NO 2 NO RESPONSE 9	
Q 87	Are you willing to change your sexual practices in order to avoid HIV/AIDS?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 88	Do you take the necessary care/ prevention when using blades/knives/shooting needles?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	
Q 89	Do you believe that there is HIV/AIDS in Nenwe?	YES 1 NO 2 DON'T KNOW 8 NO RESPONSE 9	

SECTION 6: ACCESS TO MEDIA AND ACCEPTANCE

NO	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
	Which source do you prefer to get information on HIV/AIDS from?	RADIO 1 TELEVISION 2 NEWSPAPER 3 STICKERS 4 THEATRE 5 NO RESPONSE 9 OTHER……15	
	At what time(s) do you listen to radio?	6 - 9 A.M 1 9 - 12 A.M 2 12 - 3 P.M 3 3 - 6 P.M 4 6 - 9 P.M 5 10 P.M ONWARDS 6	
	Do you think that the messages/discussions aired on the radio you listen to are credible?	YES 1 NO 2 NO RESPONSE 9	
	Do you always accept inserted messages on the Videotapes you watch?	YES 1 NO 2 NO RESPONSE 9	
	What is the source of the messages you believe best?	DRAMA GROUP 1 STREET THEATRE 2 PEER GROUP 3 RADIO 4 TELEVISION 5 NEWSPAPER 6 CHURCH/MOSQUE SERMON 7 DON'T KNOW 8 NO RESPONSE 9	

ASSURANCE OF PRINCIPAL INVESTIGATOR

The undersigned agrees to accept responsibility for the scientific ethical and technical Conduct of the research project and for provision of required progress reports as Per terms and conditions of the Research Publications Office in effect at the time of Grant is forwarded as the result of this application.

Name of the student: Henrietta Ufuoma Aniobi

Date._____ Signature _____

Approval of the primary Advisor

Name of the primary advisor: Dr Firkre Enquselassie

Date._____ Signature _____