EFFECT OF EDUCATIONAL INTERVENTIONS ON HIV/AIDS KNOWLEDGE, SEXUAL BEHAVIOR AND PERCEIVED SELF-EFFICACY AMONG FEMALE APPRENTICES IN BENIN-CITY, NIGERIA.

By

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DEDICATION

This research work is dedicated to the Almighty God, the great I am that I am; who proved Himself strong and mighty on my behalf.

ABSTRACT

Globally female youths are disproportionately affected by HIV. They tend to participate in more risky sexual activities especially those in apprenticeship. In Nigeria, interventions addressing the reproductive health needs of female youths are scarce. This study was carried out to compare the relative effectiveness of three interventions: peer education, education by instructors and a combination of the two on HIV prevention and safer sex among female apprentices in Benin-City.

Benin-City was purposively selected as study site. The quasi-experimental study involved systematically selected 804 female apprentices drawn from 200 shops (120 tailoring and 80 hair-dressing saloons). The shops were assigned to three intervention groups and a control. The apprentices' baseline information was obtained using a semi-structured questionnaire consisting of 21-point HIV knowledge, 26-point risky sexual activities and 21-point perceived self–efficacy scales. The intervention groups were shops whose apprentices received Peer Education alone (PE), Education by Apprentices' Instructors alone (EAI); and combination of both (PE+EAI) relating to HIV prevention. The interventions consisted of training of randomly selected 100 apprentices as peer educators on HIV prevention and counselling. They administered the intervention on the apprentices in their shops for six months, completed in March 2010; the control received no intervention. Post-intervention evaluation was conducted at intervals of three and six months. The number of participants at baseline, three and six months were 201, 199 and 200 for PE; 200, 200 and 200 for EAI; 201, 198 and 200 for PE+EAI; and 202, 198 and 198 for the control group. Data were analysed using descriptive statistics, Chi square, t-test and ANOVA at p=0.05.

Mean ages of respondents in PE, EAI, PE+EAI and control were 21.9±3.8, 21.5±2.8, 21.8±2.9 and 22.1±3.6 years respectively. Majority were singles: PE (86.6%), EAI (96.0%), PE+EAI (82.6%) and control (75.7%). Apprentices who completed Senior Secondary School education were PE (38.8%), EAI (58.0%), PE+AEI (27.4%) and control (48.0%). Mean knowledge scores at baseline were 10.8±3.6 (PE); 14.0±2.3 (EAI); 9.6±2.9 (PE+EAI) and 10.2±3.2 (control); these increased to 16.3±1.2, 15.8±1.9, 16.8±0.8 and 15.5±1.5 at three months; to 16.5±1.2; 17.1±0.7; 17.0±0.5 and 14.3±1.5 at six months for PE, EAI, PE+EAI and control respectively; there was significant increase in knowledge among intervention groups. At six months, there were significant reductions in proportions of respondents who had >1 sexual partner from 16.4% to 0.0% (PE), 3.0% to 0.0% (PE+EAI), 22.9% to 4.0% (control) but in EAI it increased from 0.0% to 2.1%. Comparing baseline with post-intervention data, respondents who reported condom use increased from 77.5% to 95.5% (PE), 82.0% to 85.6% (EAI), 49.0% to 76.8% (PE+EAI) and 58% to 60.3% (control) with significant differences only in the experimental groups. Difference between baseline and post-intervention mean score for perceived self-efficacy increased significantly in PE (from 12.1±2.9 to 16.6±3.7) and PE+EAI (10.4±5.0 to 13.6±2.8), but marginal increase in EAI (11.6±3.5 to 13.5±1.7) and control (11.2±2.9 to12.8±3.4).

Combination of education by peers and apprentices' instructors yielded more positive impact in knowledge and use of condom than single approach. It is recommended for use among female apprentices and policies should be formulated to support more interventions among this population.

Keywords: Female apprentices, HIV knowledge, Sexual behavior, Peer Education.
Word Count: 500

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CERTIFICATION

I certify that this study was carried out by Mrs. Adetoke Adesomi Akinbami of the Department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan, Nigeria.

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ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
ASRH	Adolescent Sexuality and Reproductive Health
EAI	Education by Apprentices' Instructors
FGD	Focus Group Discussion
FHI	Family Health International
FLHE	Family Life HIV/AIDS Education
FMOH	Federal Ministry of Health
HIV	Human Immunodeficiency Virus
HSS	HIV-Sero Sentinel Survey
LGA	Local Government Area
MIS	Management Information System
NARHS	National HIV/AIDS and Reproductive Health Survey
NDHS	National Demographic and Health Survey
PE	Peer Educator
RA	Research Assistant
STI	Sexually Transmitted Infections
UBTH	University of Benin Teaching Hospital
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP HDR	United Nations Development Programme, Human Development Report
UNFPA	United Nations Population Fund
UNICEF	United Nations Children Emergency Fund
USAID	United States of America International Development
WHO	World Health Organization
YFC	Youth Friendly Centres

OPERATIONAL DEFINITION OF TERMS

- **Reproductive Health**: It is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters related to the reproductive system and to its functions and processes (ICPD, 1994).
- **AIDS Education:** Knowledge about HIV/AIDS transmission and prevention
- **Self-Efficacy**: A person's perceived ability to carry out a task such as power or capacity negotiating the use of condom
- **Adolescence:** A period of transition between childhood and adulthood. It spans the ages of 10 to 19 years according WHO (1989)
- **Youth:** According to Nigeria National Youth Policy, it comprises of all young males and females aged 18-35 years who are citizens of the Federal Republic of Nigeria.

Young People/Persons: This refers to individuals aged between 10 and 35 years. It should be noted that the period of adolescence and youth fall within the age bracket of young people 10-35 years as it is used in this study.

- **Unwanted/Unintended Pregnancy:** This refers to a pregnancy that occurs at the time that it is not expected or unprepared for.
- **Peer Education:** is a programme where young people are trained as volunteers to provide health information, services such as counseling, distribution of educational materials to their peers.
- **Instructional Intervention:** Educational intervention provided by the master tailors and hairdressers to the apprentices working under their supervision.
- **Workshop:** This is the workplace for the tailors and hairdressers and the apprentices are trained there.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

The Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) have become one of the world's most pressing health threats since the beginning of the epidemic over two decades ago. The Joint United Nations Programme on HIV/AIDS, (UNAIDS, 2010) reported that more than 60 million people have been infected with HIV; approximately 30 million of whom have died of HIV-related causes (Kendall, 2011). As at the end of 2010, there were 34 million people living with the virus, the vast majority of who live in Sub-Saharan Africa (UNAIDS 2012). The sub-Saharan Africa recorded the highest number from 20.3million people in 2001 to 22.5 million in 2009, whereas the Oceania recorded the least number from 29,000 people to 57,000 within the same period (UNAIDS Global Report, 2012).

HIV infection is reported to be a major public health problem in sub-Saharan Africa (UNAIDS 2010), although the rate of new HIV infections appeared to decline in some African countries, the total number of people living with HIV in Africa continues to rise to 68% of the global total. In 2009 the prevalence of HIV within the West and Central regions of Africa was highest in Cameroun (5.8%), Central Africa Republic (5.2%), Nigeria (4.0%) and Cote d'Ivoire (3.9%). The UNAIDS (2011) reported that the vast majority of the people newly infected with HIV in sub-Saharan Africa were infected during unprotected heterosexual intercourse and often times with multiple partners. This sexual behaviour remains the greatest risk factor for the spread of the virus in Africa. Research has shown that the young persons are the most affected (UNAIDS, 2010) with new cases of HIV infection, more commonly reported among young people aged between 15 and 24 years: these accounted for 40% of new HIV infections. Moreso slightly more than half of those living with HIV are women and girls (FMOH, 2010). This observation is similar with studies in different parts of Africa including Zambia Cote d'Ivoire, Ghana and Nigeria. The reason could be due to the economic hardship and unemployment which predispose young people to engage in risky sexual behavior and subsequently expose them to STIs and HIV/AIDS (Wagbatsoma and Okojie, 2006).

In Nigeria as in many countries in sub-Saharan Africa, Sexually Transmitted Infections (STIs) including Human Immunodeficiency Virus (HIV) are major public health problems (Summola, Dipeolu, Babalola and Adebayo, 2003; and Ogunlayi, 2005; Omoigberale, Abiodun and Famodu, 2006). The first case of AIDS in Nigeria was reported in a 13 year old sexually active girl in 1986 (UNICEF 2003). Since then the situation has worsened (Omoigberale et al 2006; Bankole et al, 2007). The HIV prevalence rate has increased from 1.8% in 1991 to 4.5% in 1996, and then 5.8% in

2001. There was a decline in 2003 to 5.0% and a further decline in 2005 to 4.4% (FMOH-National HIV/Syphilis Sero-prevalence survey, 2006), which was followed by a slight increase to 4.6% in 2008, and then a decrease to 4.4% in 2010. Nigeria has been hard hit by the HIV/AIDS epidemic, with an estimated 2.9 million Nigerians living with the virus. In spite of the concerted efforts at halting and reversing the spread of HIV/AIDS epidemic by multiple stakeholders, the country has the second highest number of people living with HIV after South Africa (UNAIDS HIV epidemic update, 2010). UNAIDS (2010) showed that HIV was more prevalent among the 20 - 29 years age group in the urban areas and among persons with low educational background. The impact of the disease has reversed many of the health and developmental gains over the past three decades as reflected by indices of life expectancy at birth (48.4) and infant mortality rate (75/1000 live births) (UNDP HDR, 2010) among others. For example in 1991 the life expectancy at birth was 51 years. This dropped to 46.5 years in 2005. The decline might be partly due to the effects of the HIV/AIDS epidemic on the population. HIV infection has also facilitated the re-emergence of disease conditions such as pulmonary tuberculosis and other opportunistic infections (FMOH, 2010).

Many factors appear to be responsible for the spread of HIV/AIDS and STIs in Nigeria among which are gender issues. Nigeria HIV/AIDS Country Report (2010) states that females (4.0%) were more infected than males (3.2%), and that women aged 20-29 years had the highest age specific prevalence rate of 5.6%. Traditional gender roles such as early marriage, prostitution and polygamy often promote sexual practices that expose women and men to the risk of contracting these infections even in stable relationships. Men more often engage in sex with multiple partners (FMOH-NARHS, 2007). Women, in addition, have limited ability to negotiate safer sex (Olaseha et al, 2004), especially if they have received money or gifts from men in exchange for sex.

Another factor that is responsible for the spread of HIV among young people is the increased rate of sexual activity. There were reports that this population engage in risky sexual behaviours, drug abuse and cultism (UNICEF, 2003; Asowa-Omorodion, 2006). Most sexually active youths have multiple partners and fail to use condoms correctly and consistently even when the knowledge of its protective effect exists in Nigeria and other African countries (Kibombo, Neema and Ahmed, 2007). Studies in Nigeria have shown that the use of condom was low among youths despite the fact that sexual transmission is the predominant mode of HIV spread in the country (NARHS, 2010). However adolescent and youths who have unprotected sex are at risk of STIs and HIV/AIDS. The common STIs that affect these young people include gonorrhea, syphilis, herpes, trichomonas and candidiasis.

Furthermore, young people have limited access to youth friendly services, counselling and family planning services. There are few stand alone STIs prevention programmes in Nigeria and available public health facilities are poorly utilized because the quality of services provided at the health facilities does not encourage patronage particularly by adolescents and women who are prone to or have STIs. In addition, the stigma attached to seeking treatment for STI prevents them from making use of the health facilities (Okonofua, Ogonor, Omorodion, Temin, Coplan, Kaufman and Hggenhougen, 1998).

Okonofua et al (2005) observed that low literacy level among adolescents and youths especially the young ladies in Edo state could be a contributory factor to high prevalence of STIs and HIV/AIDS among out-of- school adolescents. Sexually Transmitted Infections including HIV/AIDS were more prevalent (6.8%) among the 20-29 years age group in the urban areas and among persons with primary and secondary school education (FMOH, 2010). This implies that those that did not go to school at all would be more vulnerable as they cannot benefit from information and services available in the school setting. Furthermore, studies have revealed that many of the adolescents and youths in vocational training are generally more sexually active, and more frequently participate in risky sexual behaviour than their counterparts in schools (Ajuwon et al, 2002; Okonofua et al, 2005; Ogbuji, 2005). A high proportion of these youths are engaged in apprenticeship or other trade in different vocational centres to make an income.

Apprentices in Nigeria are young people with limited formal education who learn a vocation such as tailoring and hairdressing under direct supervision of an instructor operating in the informal sector of Nigerian economy (Fawole, Ajuwon and Osungbade, 2005). They are mobile, active and sexually exposed. They often engaged in premarital unprotected sex, many of them have multiple sexual partners. The low economic status of the female apprentices exposes them to all forms of sexual exploitations. They exchange sex for money, gifts and other basic human needs for survival, and subsequently become vulnerable to HIV and STIs (Ajuwon et al, 2002). Moreover the apprentices represent an underserved population with respect to information, life planning skills and availability of youth friendly-services for the prevention of HIV/AIDS, STIs and other reproductive health problems unlike their counterparts in the formal school setting. In addition there is no comprehensive national youth policy to address the concerns and needs of apprentices. Furthermore young people in Nigeria are never involved in the formulation of national youth policy.

The master tailors and hairdressers (Instructors) are the owners of these vocational centres, they operate in the informal sector of the nation's economy, and engage in small businesses that lack government recognition, registration or support for their enterprises (Ajuwon et al, 2002). Operators in this sector do not have access to commercial sources of credit. They earn low income and do not

have employment security. The apprentices in this study were young ladies aged 15-35 years undergoing skill training on hairdressing and tailoring under the supervision of the instructors.

The study is derived largelyfrom a similar study implemented among apprentices in Ibadan (Ajuwon, McFarland, Hudes, Adedapo, Okikiolu and Lurie, 2002). The investigator built on the findings of this study and other literature reviewed on HIV prevalence and high rate of sexual activities among adolescent and youths. Furthermore, in Benin City the HIV prevalence (5.6) among this population was highest in the state (Sentinel Survey 2010). Sexual networking was widely spread and young ladies than men were recruited for commercial sex work and human trafficking (Asowa-Omorodion, 2006). In addition the National policy on HIV/AIDS encouraged programmers to ensure that prevention programmes are developed and targeted to vulnerable groups such as the apprentices and other youths. The working experience of the investigator with adolescent and youth in areas of HIV/AIDS prevention informed the implementation od the intervention. The study therefore was to address the identified problems affecting young female apprentices in Benin-City which included low level of knowledge of HIV/AIDS/STIs prevention and control, early sexual debut, lack of self-assertiveness skills to resist sexual pressure, exposure to unprotected sex with multiple partners and low condom use. The study therefore aimed at increasing the knowledge on HIV prevention, enhanced the perceived self-efficacy to resist sexual pressure and encourage safer sex behaviour which would ultimately reduce HIV prevalence among this cohort.

This design of the study is unique in nature, being a change study, strategies used in implementing the intervention included Peer Education alone, Instructor led and Combination of these two approaches on the knowledge on HIV prevention and sexual behavior among Apprentices. The effects of the educational intervention were evaluated at two points in time: at three months and at six months, post intervention. The researcher observed that two previous similar studies (Ajuwon, 2000; Adegbenro, 2008) conducted a single evaluation at the end of the project. But this study adopted this design to determine if the short-term (3 months) intervention would just be as effective as the long term (at 6 months) intervention in increasing knowledge on HIV prevention, self-efficacy and safer sexual practices among female apprentices.

1.2 The Statement of the Problem

In recent years, there has been an increase in the number of adolescents and youths engaging in premarital sex in Nigerian communities especially in Edo state (Okonofua, 2003; Wagbatson et al, 2006), where human trafficking is a common phenomenon (Ogbuji, 2006). To compound the problem, reliable information and services that are youth-directed are limited (Okonofua, 2003). Due to the current severe economic hardship, many adolescents and youths, especially young girls

engage in pre-marital unprotected sex with many partners in exchange for money and material gifts as observed by many authors (Okonofua et al, 2005; Wagbatsoma and Okojie, 2006; Omoigbeale et al, 2006; Alubo, 2001; Evelyn and Osafu, 2000). In addition many of these young ladies did not use condoms during sexual intercourse despite being aware of the preventive role of the use of this product against AIDS and STIs.

HIV and AIDS prevalence rate in Edo state was 5.3% in 2010, and Benin-City had the highest prevalence rate of 7.5% in the state (FMOH, 2010). The prevalence among the youth is also high (5.6%) (FMOH, 2010). This situation therefore requires intervention to intensify preventive measures that will influence positive sexual behaviour among the youths with the aim to stem the spread of HIV/AIDS and STIs. Several studies have targeted HIV/AIDS prevention education for adolescents in schools in Edo state (Okoro and Obozokhai, 2005; Omoigbeale et al, 2006; Wagbatsoma et al, 2006). Although the school population is readily available and accessible; a high proportion of adolescents do not attend schools (Ajuwon et al, 2002). The consequence is that AIDS education and reproductive health needs of out-of-school youth population remain largely unmet. In particular, interventions on apprentices which represent an important group of out-of-school youth population are rare. The available information on intervention targeting the out-of-school in Edo state was conducted about a decade ago (Okonofua et al, 1999). One of the main reasons for the neglect of the reproductive health needs of out-of-school adolescents/youths is the fact that this group is hard to reach segment of Nigeria population. They are therefore at a disadvantage to receive information and skills training on reproductive health.

Intervention opportunities in the informal sector are found by many researchers to be very challenging; most importantly the issue of attrition of apprentices is a common barrier to effective implementation and evaluation of programme in informal sector. The attrition could be as a result of marriage, relocation or abandonment of apprenticeship or closure of shops due to low patronage. The high attrition of participants in informal sector may also result in inadequate documentation of the quality and quantity of intervention. In addition, in the informal sector where the Instructor owns the business, she/he may not allow her/his apprentices to participate in the project because of work load and time which is very crucial in self-employment.

Ajuwon et al (2002) recognized the existing structure in which the apprentices operated in the informal sector, they therefore introduced the Peer Education (PE) approach to disseminate HIV/AIDS education. Unfortunately, the study encountered some challenges such as high attrition of apprentices and peer educators due to non completion of apprenticeship or abandonment of the apprenticeship as a result of quarrels with the instructors. It was difficult for the study to effectively

implement and evaluate the peer education programme and the desired result was therefore not achieved (Ajuwon et al 2002).

However this study was built on this approach by strengthening the commitment of Peer Educators. Though PEs are usually volunteers, who were not paid, but in this study PEs were given monetary incentives for transportation to the meeting venues throughout the period of intervention. This was to encourage and motivate them and ensure stability of the group throughout the study period. The incentive was also used to build in sustainability of the intervention activities. It was observed that none of the previous studies had used other approaches such as Education by the apprentices' instructors (Instructional approach) for the out-of-school population. Adegbenro (2008) reports the use of instructional approach in the school settings. Therefore there is need for further intervention using combination of approaches for out-of-school youths.

In addition most of the studies conducted among the adolescents in Edo state were cross sectional surveys and very few tested any Health Promotion and Education intervention in this population; thus the need for this study which was quasi-experimental in design. Moreover research has shown that quasi-experimental design is superior to cross sectional studies as the researcher can manipulate the independent variables which are being studied. The study also evaluated the effect of the intervention at three points (baseline, mid-term and end-line) unlike previous studies (Ajuwon, 1999 and Adegbenro, 2008) which conducted one evaluation post intervention. This study design tested whether a short or long term intervention is more appropriate to yield the desired result.

1.3 Significance of the Study

The study is tropical; it focuses on the importance of decrease in the HIV spread through interventions that will reduce risky sexual behaviors among the apprentices.This study is significant for four reasons: First, the apprentices represent an underserved population with respect to information, life planning skills and provision of Youth-Friendly Services unlike their counterparts in the school setting. Therefore, the study is an attempt to meet this unmet need of the apprentices. It also added value to programmes by conducting a preventive intervention targeted to vulnerable group-apprentices.

Second, the out-of-school youths are very active, mobile and very unstable to mobilize for programme implementation. They constitute the hard to reach segment of Nigeria population, and intervention activities involving them are usually difficult because they are difficult to be reached with public health programmes. As a result many researchers avoid working with this group thereby limiting the research information on them. This however created a dearth of qualitative and quantitative information on the female out-of-school youths. This study attempted to fill the gap.

Third, the findings of the study will add to scientific knowledge by providing recent information on the knowledge of STIs/HIVAIDS prevention and safer sex behaviour of female apprentices and also the impact of multiple interventions. The data generated from the intervention activities could be replicated for other vulnerable hard-to-reach population and can also serve as baseline date for further studies.

Finally, the data obtained can also be used for policy formulation with regards to the provision of standardized Youth-Friendly Services to meet the reproductive health needs of the young apprentices.

1.4 Objectives

1.4.1Broad Objective

To compare the relative effectiveness of each of the three intervention approaches of peer education alone, instructor led intervention and combination of the two on the AIDS knowledge, self- efficacy and sexual behaviour among the female apprentices, thereby reducing HIV prevalence among this population in Benin-City, Edo state, Nigeria.

1.4.2 Specific Objectives

The specific objectives were to:

1. Conduct baseline survey to determine the pre-intervention level of knowledge of AIDS/STI prevention among female apprentice hairdressers and tailors.
2. Determine sexual practices and HIV- risk related behaviour of this population.
3. Determine the self efficacy of female apprentices to resist sexual pressure.
4. Utilize findings from 1-3 above to design and implement interventions consisting:
   Peer education alone; Instructional intervention alone; and a combination of these two among female apprentices.
5. Determine whether the short-term or long-term intervention is just enough to have the specific result.
6. Document the effect of the intervention approaches on the HIV knowledge and sexual behavior of the apprentices.
7. Compare the relative effectiveness of each intervention approach on the knowledge of HIV prevention, and perceived self-efficacy in adapting safer sex behavior.

1.5 Research Questions

The study provided answers to the following research questions-

1. What is the level of knowledge of female apprentice tailors/hairdressers on AIDS/STIs prevention?
2. What is the level of perceived self-efficacy of the female apprentices to resist sexual pressure?
3. What is the pattern of sexual behaviour among the target population?
4. What are the risky sex behaviours of the study group which have potential for increasing their risk of getting HIV/AIDS/STIs?
5. Is it feasible to implement and sustain intervention to influence knowledge, sexual behavior?
6. What are the effects of the intervention approaches on the HIV knowledge and sexual behavior of the study group?
7. What is the relative efficacy of each of the three intervention approaches on the knowledge, self-efficacy and sexual behaviour among the apprentices?

1.6 Study Variables

1.6.1 Independent variable

This is an educational intervention in which the researcher is able to manipulate the variable.The Independent variables in the study were methods used for the intervention programme but they vary in three levels, these are Peer Education, Instructor Approach and a Combination of the two approaches.

1.6.2 Dependent variable

The dependent variable was derived from the conceptual framework. These variables are observed overtime for any changes that may take place as a result of the intervention. These variables are in three levels including the knowledge of HIV as related to transmission and prevention of HIV/AIDS among the female apprentices and the perceived level of self-efficacy in taking preventive actions against risky sexual behavior. These variables were explored at baseline and follow-up surveys, they were also used to formulate the hypotheses. However these dependent variables- Knowledge of HIV prevention, perceived self-efficacy and sexual behaviour are intermediary variables proxy for reduction of HIV prevalence among the apprentices.

1.7 Hypotheses

The following null hypotheses were formulated and tested. There is significant difference between intervention (experimental) and control groups before and after intervention programme in the study area as follows:

1. Apprentices in the experimental groups will have significantly higher knowledge about HIV prevention compared to the apprentices in the control group.
2. The level of perceived self-efficacy will be higher among the experimental groups than that of the control group after intervention
3. The number of sexual partners of the apprentices in the experimental group would reduce significantly compared to control group after intervention.
4. The use of condom will increase significantly among the apprentices in experimental groups compared to control group.
5. Reported condom users who purchased condoms at the Patent Medicine Stores (PMS) will increase among the experimental than in control group.
6. There is significant difference in the relative efficacy of one of the three approaches on the knowledge of HIV among the experimental and control groups.
7. There is significant difference in the relative efficacy of one of the three approaches on the self-efficacy of the experimental and control groups.
8. There is significant difference in the relative efficacy of one of the three approaches on the sexual behaviour of the experimental and control groups.
9. There is significant difference between the impact of intervention at three and six months among the experimental groups.

CHAPTER TWO

LITERATURE REVIEW

2.0 The existing literature related to Adolescent Sexual and Reproductive Health (ASRH) was reviewed with special reference to the HIV and AIDS epidemic situation worldwide, the prevalence among women and young girls. The concept of adolescence and youth and their characteristics were also documented. This is followed by the review of prevalence of sexual activities as regards risky sexual behavior and its consequences which include sexual abuse/coercion, unintended pregnancy; abortion and its attendant complications; sexually transmitted infections; There was also a review of previous intervention approaches that are being used in different parts of the world to address the sexuality and reproductive health needs of young people with emphasis on issue that borders on the prevention of HIV/AIDS among this population. The chapter concludes with the discussion on conceptual frame-works relevant to the design of this study; these included Health Belief Model, Social Learning Theory, Precede Model and summary of theconceptual framework.

2.1.1 The Global Situation of HIV and AIDS Epidemic

HIV/AIDS epidemic has been a global health problem for the past 30 years, UNAIDS (2010) reports that the epidemic reached its peak in 1999 with 15 million people of new infections. But as at the end of 2010, UNAIDS estimated the number of people living with HIV to be 33.3 million from 182 countries of the world. Furthermore, UNAIDS global report (2011) states that slightly more than half of all the people living with the virus are women and young girls especially in sub-Saharan Africa. UNFPA (2005) also reported that young women aged 15-24 years are 3 times more likely than men to be HIV positive. The World Health Organization (WHO, 2011) reported that globally over 7000 new HIV infection occurred in a day in 2010, of which 97% are in low and middle income countries, 6000 cases are adults aged 15 years and above, of whom almost 48% are women and 42% are among young people aged 15- 24 years.

HIV infection is reported to be a major Public Health threat and Sub-Saharan Africa has been the most affected, having the highest share of the global HIV burden (UNAIDS 2010). The African countries that experience the high burden of the epidemic included South Africa, Nigeria, Zambia, Zimbabwe and Ethiopia. WHO (2011) also reports that in sub-Saharan Africa, adults and children living with the virus accounts to 22.9 million, having the newly infected adults and children to be 1.9 million and with a prevalence of 5%. In addition CDC (2012), reports that women accounts for 60% of HIV infection in Africa.

In Nigeria, the first two cases of HIV and AIDS in the country were identified in 1985 and were reported at an International AIDS Conference in 1986 (FMOH, 2010). The epidemic is now common in the general population. Some parts of the country are worse affected than others, but there is no state that is unaffected. All the states of the federation (FMOH, 2010) have general population epidemics of over 1% with some areas having prevalence higher than 10%, for example Benue state. Furthermore the infection cuts across both sexes and all age groups, but youths (age 18 -35 years) are more affected. As at 1991 the first attempt was made to assess Nigeria's AIDS situation, a sentinel survey was conducted and the result showed that 1.8 per cent of the population of Nigeria were infected with HIV. By 1993 the prevalence rose from 3.8% to 4.5% in 1998, further increased to 5.8% in 2001 but declined to 5.0% in 2003. Since then there has been a decline in the national prevalence of the epidemic. As a result of the multi sectoral approach to control and mitigate the impact of the epidemic, the current prevalence is 4.1% (FMOH, 2010) and an estimated number of 3.1 million people are living with the virus. In responding to the epidemic, efforts to control the spread included free HIV testing, provision of antiretroviral drugs, treatment and care for opportunistic infections, prevention of mother-to-child-transmission, education, media and public awareness and condom distribution. In addition, there are strategies for the promotion of safer sex behaviour, prevention through blood and blood products, early diagnosis and treatment of STIs and lastly youth focussed interventions.

2.1.2 Prevalence of HIV/AIDS among Youths

According to the Centers for Disease Control and Prevention (CDC, 2012) publication, reveals that four of every new HIV infections occur in people younger than 30 years. Adolescent and youths are found to become sexually active, having multiple sexual partners thereby increasing their risk of contracting HIV infection. The report further revealed that fifteen per cent of high school students in the United State of America claimed to have been sexually exposed and have had four or more sexual partners. CDC believed that HIV is an infection of the poor people, therefore suggested that tackling the epidemic globally would require broader effort to address problems of poverty, better access to overall health services and fighting stigma. Young people should be encouraged to adopt safer sex practices such as abstinence, use of condom and use of antiretroviral drugs CDC, (2012).

UNFPA (2005) reported that of the over one billion youths aged 15-24 years worldwide, about ten million are living with HIV; everyday an estimated 6,000 youths are infected with the virus. Of this population 63% (6.2 million) live in sub-Saharan Africa, and 76% of whom are female (see Figure 2.1). In the region, heterosexual intercourse is the primary mode of transmission and young women face significantly higher risks than men because the young ladies are vulnerable to coerced and unprotected sex, early marriage and polygamy.

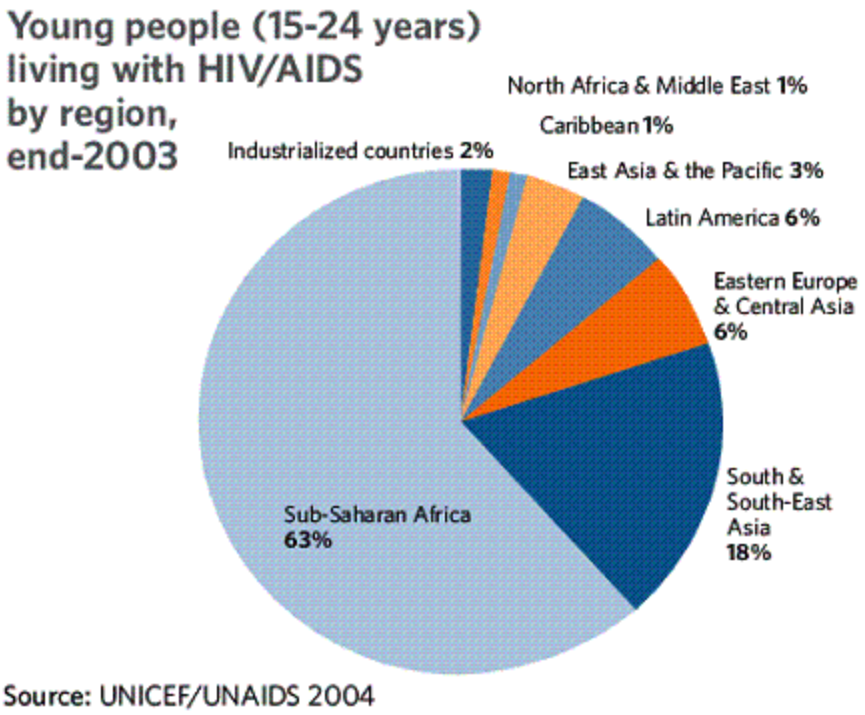


Figure 2.1 The Global Distribution of Young People with HIV/AIDS

In Nigeria, the prevalence of HIV among youth aged 15-24 years was high 6% in 2001 (FMOH, 2010), but declined to 4.3% in 2005, further declined to 4.2% in 2008 and 4.1% in 2010. According to National HIV/AIDS and Reproductive Health Survey (NARHS 2011) the HIV prevalence rate among Nigerian girls aged 15-24 years was higher (4.0%) compared to boys (3.2%) of the same age range. The drivers of the epidemic in Nigeria include high illiteracy, high rates of STIs among vulnerable groups, poverty, and low condom use and general lack of perceived personal risks (National Agency for the Control of AIDS, 2010).

HIV and AIDS prevalence rate in Edo state, Nigeria was 5.9% in 1999, with a marginal decline 5.7% in 2001, and further decline to 4.3% in 2003 (FMOH, 2003). Since 2005, the trend of HIV prevalence in the state has been consistently in upward direction then the rate was 4.6%, and further increased in 2008 to 5.2% and slightly increased in 2010 to 5.3% (Technical Report of National Sentinel Survey, 2008 and 2010) of which about 8,800 were new infections. During this period 6500 patients died from the infection. The same report gave an estimate of 74,000 people suffering from the disease. The overall state HIV prevalence for the age group 15-24years was 4.8: sex segregation of male 4.0 and female 3.0; urban 6.8 while rural was lower 2.2 percent (Sentinel survey 2010).

The HIV prevalence rate in Benin-City recorded 4.3% in 2001, declined to 4.0% in 2005 but there was a sharp increase to 5.7% in 2007. HIV-Sero Sentinel Survey (HSS, 2010) reported a decline 5.4% in 2008, but in 2010, Benin-City had the highest prevalence rate 7.5% in the state. As

a result there is need for more HIV prevention intervention to stem the spread of the epidemic in Benin City in particular and Edo state in general. The spread of HIV/AIDS was associated with several factors (Wagbatsoma and Okojie, 2006). Two major factors have been found in the literature that fuelled the spread of HIV include lack of knowledge about preventive measures for control of HIV/AIDS/STIs and other reproductive health problems (Ogbuji, 2005). Several studies that were conducted in the state found that despite the high level of awareness on AIDS, the overall knowledge among adolescents and youths and general population was still poor (Okonofua et al 2003). Asowa-Omorodion (2006) observed that sex networking is widely spread in this area and in order to beat poverty and help their families, many youths have gone into prostitution as a mean for survival. In Edo state more young ladies than men are recruited for commercial sex work within the country and abroad (Asowa-Omorodion, 2006).

2.2 The Concept of Adolescence and Young Persons

Adolescence is a period of transition from childhood to adulthood within the age bracket 10-19 years (WHO,1989), while young people covers the ages between 10 and 24 years (UNAIDS, 2010). Furthermore people aged 15-24 years are regarded as youths (WHO, 1989; JHU/PCS, 1999 and 2000; McCauley and Salter, 2005; Ajuwon, 2005; Adegbenro, 2008), while the Nigeria National Youth Policy referred to youths as young males and females aged 18-35 years who are citizens of the Federal Republic of Nigeria.

Adolescence age is a period in which the person is no longer considered a child, but then the young person is not yet an adult (Mc Cauley et al, 1995). Since the true adolescence is the transitional period of physical, psychological and social maturity from childhood to adulthood; it may fall any time between 10 and 24 years. It should be noted that adolescent and youth are socially determined concept which vary from one culture to another. In many African societies, becoming accepted as an adult is determined more by the tradition and cultural values, then by age or physical size. In one society, a 15year old person might be considered an adult, while in another setting someone of the same age may be regarded as an adolescent (Adegbenro, 2008). In Nigeria, marriage confers the status of adulthood on individual regardless of age. This period is marked by profound physical, emotional, mental and social developments. The adolescents are known to be very active, and tend to make major life decisions during this period (UNICEF, 2003). WHO (1989) also considers that adolescents at this stage tend to acquire new capacities and are faced with new situations not only opportunities for development but also conditions of vulnerability leading to risks to health and well- being.

2.3 Characteristics of Adolescence

Adolescence is traditionally a time of growth and development when young men and women experience great and rapid changes in their bodies, concerns, relationship and roles in the society. It is also a period when young people seek to stretch beyond protective shelter of the family and begin to create an independent vision and life. Adolescent age can also be grouped into three phases which are early adolescence (11-14 years), middle adolescence (14-17years) and late adolescence (18-20 years) (Ajuwon, 2000). However these age differences are arbitrary, the three phases may occur at different chronological ages for different individuals but they all have distinct characteristics. The early adolescence is characterized by features of puberty, the individual experiences physical, emotional and social development.

The physical growth includes the growth spurt in which the size and shape of the body change markedly and accentuate the differences between boys and girls. There are signs of puberty with the appearance of facial, axiallary and pubic hair, testicular enlargement and deep voice for boys; the growth of axiallary and pubic hair, development of breasts, broadening of hips and later onset of monthly menstrual cycle (menarche) occur in girls (FHI/USAID, 2000). It is a period when the reproductive capacity of the individual is established. However there is great variation in the individual and in gender for the timing of these changes. In normal boys for example, there is roughly a five year range to reach puberty, from about 11 and 16 years; whereas in girls on the average, it usually starts about 2 years earlier and extends over a slightly shorter period. Although girls nowadays enter puberty at younger age of 8 and reach menarche (first menstruation) faster than the previous generations; this is believed to be due to improved health status and nutrition (Ajuwon, 2005; Adegbenro, 2008).

Psychosocial development in adolescence is a period when young people acquire sense of identity. At this time they have feeling and attitude towards themselves, their peers and family members. They also move towards independence from parents and elders and prefer to establish new interests and intense relationships thereby socializing with the environment and taking major life decisions. Because girls mature earlier, they tend to experience romantic interest before the boys and consequently commence sexual activities earlier (McCauley et al, 2005; Sunmola, 2003). In addition the young persons' thinking moves from the concrete to abstract and an orientation toward the future commences.

These developmental changes are evident during the middle adolescent age, characterized by peer orientation with all the stereotypical adolescence preoccupations which include music, culture, appearance, language and behaviour. Late adolescence is a phase characterized by the adolescents taking up roles and responsibilities of adults. As adolescents become adults, they consider sexual

relations, marriage and parenthood as signs of maturity and seek information about sex life from a variety of sources which include parents, teachers, friends, magazines, books and mass media (UNICEF, 2003). A large proportion of these information, though from diverse sources, are unfortunately incorrect, incomplete or misleading. Decision and actions based on this information by adolescents and youths render them vulnerable and at high risk of contracting various diseases such as HIV/AIDS and STIs. Their vulnerability is further compounded by the poor school attendance and economic hardship in the country and their indulgence in violence, drug and alcohol abuse.

Major importance of the adolescents and youths is their sheer size. According to WHO, (1989) one in every five persons of the world is an adolescent. UNFPA, (2005) also states that worldwide adolescents and youths constitute a large percentage of the world population. In Nigeria, they make up to 36.5% (2006 National census; NDHS, 2008) of the total population, and they are the most important group because they are the future of the country (Wagbatson et al, 2006). UNFPA in 2005 pointed out that if there is any change in the behaviour or life styles of this large percentage of the population, the change will have a significant impact on the society where they live. Many authors (Ajuwon, 2000; UNICEF, 2003; UNFPA, 2005; Wagbatson et al, 2006) expressed concern over the rise in unwanted pregnancies, unsafe abortions, STIs and HIV/AIDS among the adolescents and youths. It is of great importance that attention is paid to the health needs of this age group especially on sexual and reproductive health issues thereby preparing them for the challenges of life. However according to JHU/CCP (1999 and 2000), whenever health status or behaviour is considered, youths are often included among adolescent thereby addressing both categories as "Young People". For the purpose of this study, the adolescent, young people and youths will be used interchangeably by the investigator.

2.4 Nature of Risky Sexual Behaviour among Adolescents/Youths

Adolescents have become a focal point of discussion on sexuality and reproductive health matters because they belong to the most active segment of the population; and because of great concern in resolving problems such as unwanted pregnancy and sexually transmitted infections, including HIV/AIDS. Previous studies (Okonofua, 1999; Alubo, 2001; Sunmola et al, 2003) revealed that sexual activities among young people have increased tremendously leading to a world-wide reproductive health concern. The researchers reported that at least 38% of female and 54% of male adolescents reported having had sexual intercourse before reaching age of 20 years. For example a study in Dar-es-Salaam in Tanzania (Soon Nako, 2001) reported that 50% of adolescent females were sexually exposed while Alubo (2001) observed that nearly half of adolescent girls

aged 14 years and 60% of older adolescent girls had engaged in sex. The mean age at sex debut was 13-14 years and that sex debut occurred somewhat later among males than females. Likewise Zlider, (2003) notes that premarital sex was a common practice among young persons in most regions of the world; the practice was found to be higher in sub-Saharan Africa (29%) than in Latin America and the Caribbean (24%). In other African countries such as Uganda, Kenya, Cote D'Ivoire and Zimbabwe, adolescent sexual activity was reported to be as high as 64%. Nigeria's NDHS (2008) reported that the females commenced sexual activity earlier than their male counterparts. The median age for sexual debut among females aged 15-24 was 17.8 years compared with 20.6 years for males. Hence early exposure to sex is a risk factor for infection among young people (Adegbenro, 2008).

In Nigeria, as in other countries of sub-Saharan Africa, sexual activity among unmarried adolescent has assumed an alarming proportion. Ajuwon et al, (2001); Sunmola et al, (2003); Okonta, (2006); Ajuwon et al, (2006) and Omokhodion, Onadeko and Balogun, (2007) reported that a high percentage of their respondents were sexually exposed, and also admitted to having multiple sex partners (see Table 2.1). For example Sunmola et al, (2003) observed that 37% of their respondents were sexually active and half of these had more than one sexual partner. Guella and Merdise, (2007) have similar report in which 44.8% of the adolescents in their study were sexually experienced, of which 25% reported having multiple sexual partners. This observation showed that the young population is potentially at risk of STIs and HIV/AIDS as a result of their poor perception and knowledge of AIDS and risky sexual habits (Babalola et al, 2005; Guiella and Madise, 2007).

Contraceptive use by the sexually active young people was found to be very low world-wide especially in sub-Saharan Africa like Kenya, Togo, Ghana and Tanzania. Soori et al, (2001) reported that in Tanzania, although the in-school adolescents had knowledge of the protective effects of condoms against pregnancy and STIs, condom use remained neglible. Similar reports in Nigeria also show that the utilization of contraceptive methods such as use of condom and family planning services was low among the adolescents, (Olaseha et al, 2004; Omokhodion et al, 2007; Sunmola et al, 2007) (see Table 2.1). Their findings corroborated the earlier report by Ajuwon et al (2006) who observed that only 24% of the sexually active youths in Oyo state used condoms. These youths by this act, therefore experienced the consequences of risky sexual activities which include unintended pregnancy, unsafe abortion, STIs and HIV (Oye-Adeniran, Adewole, Umeh, Iwere and Gbadegesin, 2005). However, some factors were identified to be responsible for low utilization of condom and other effective contraceptive devices among the young people. The most common reason observed by Adegbenro (2008) is that the young people declared that they were not expected to have sexual intercourse, talk less of using contraceptive methods. Lack of adequate information about various

contraceptive methods and services coupled with the society's prejudice against premarital sex, limit the knowledge about these protective methods; also makes the youth feel reluctant to visit and make use of the family planning services. Even if they wished to do so, the negative attitude of family planning providers might be a great barrier. Some providers sometimes refused to extend their services to young people based on the assumption that it would promote promiscuity among them (McCauley and Salter, 1995; Okonofua, 2005).

In addition, many young ladies do not have the communication skills and boldness required to negotiate use of condoms with their partners particularly when they have collected money or gifts from their partners (Ajuwon et al, 2002; Okonofua, 2005). Other factors documented included partners refusal to use condom, discomfort associated with the device, negative attitude towards use among peers, family and the society (Speizer, Hellery and Brieger, 2002; Adegbenro, 2008).

Furthermore, another risky behaviour common among the sexually active adolescents and youths is the attempt to terminate the unplanned pregnancy from a quack. This may result in severe complications including death. Findings from previous researches (Okonta et al, 2007; Omokhodion, 2007 and Ajuwon et al, 2002, documented that there was a wide range of sexual activities among adolescents regardless of sex and activity status and that more apprentices than school students are more sexually experienced with multiple partners.

Some factors associated with risky sexual behaviour among these youths include economic and social changes. Alubo (2001) and Bankole et al (2007) observed that adolescents and young adults are at a disadvantage because they frequently have tendency to experiment new ideas. They are found to be economically dependent on the adult population for sustenance, which compelled many young female adults to engage in sexual activities for material gains. Similarly, other studies (Ajuwon et al, 2001; Ajuwon et al, 2002; Bankole et al, 2007 and Moore et al, 2007) revealed that some out-of-school girls responded to economic crisis in Nigeria by entering occupations in which they are vulnerable to be lured into or forced to have risky sexual relationship with men. Ajuwon et al (2001) reported that a significant proportion (21%) had exchanged sex for money or gifts especially from older men in order to survive; while substantial proportion of adolescent males paid money for sex. Likewise Moore et al (2007) documented that (75%) of their respondents received money in exchange for sex. The exchange of sex for money and gifts is not limited to Nigerian young females but common world-wide. In Tanzania. Soorie et al (2001) reported that sexually active adolescents claimed to have collected gifts and money for sex because they perceived it was a display of partners' love and commitment.

Low level of education of young people is another factor that influences their involvement in risky sexual behaviour. Sunmmola et al (2003) reported that 9 out of 10 males and females out-of-

school in Nigeria were found to be sexually active. They also observed that 67 to 71% of females in the northern part of the country were sexually active, compared to 38-44% of females were sexually active in the southern parts of the country. They also found that females and males without education were more sexually active than their counterparts with secondary school education. Omoigberale et al, (2006) and Kirby et al, (2006) also documented that an adolescent with sound education is likely to adopt and practise safer sex than his/her counterpart outside the school system.

Utilization of health facilities for the treatment of STIs by adolescents and youths was very poor (Wagbatsoma et al, 2006 and Okonofua et al, 2000). Infected youths would not attend formal clinics for STIs treatment, but would prefer to seek care among informal providers such as patent medicine dealers and traditional healers. Okonofua et al, (2000) was of the opinion that this poor health seeking behaviour of adolescents is a major contributor to the large burden of reproductive morbidity among this population in Africa and Nigeria in particular.

Table 2.1 Summary of Previous Studies on Risky Sexual Behaviour among Adolescents and Youths

Serial No	Author	Year	Setting	Study Population	Findings
1	Ajuwon, Olley,Akin-Jimoh and Akintola	2001	Ibadan, Nigeria	1,025 adolecsents	65% of male and 48% of female apprentices were sexually experienced compared to 32% of male and 24% of female students. More males than females reported sex with multiple partners. Females had exchanged sex for money and gifts.
2	Ajuwon, McFarland, Hudes, Adedapo, Okikiolu and Lurie	2002	Ibadan, Nigeria	300 female apprentices	53% had experienced sexual activity out of which 57% reported sexual debut with an instructor. Significant proportion 21% had exchanged sex for money or gifts. Condom use was reported by 27%.
3	Ajuwon, Olaleye, Faromoju and Ladipo	2006	Nigeria	624 students – 52% males, 48% females	More males 19% than females 6% had sexual experience. Only 24% of sexually active used condoms. Rape was reported by 5%.
4	Bankole, Biddlecom, Guiella, Singh, and Zulu	2007	Burkina Fasso Ghana, Uganda	1,282 female adolescents	7.6% were sexually active, 41.9% had friends who had experienced sex. About 28.8% were raped.
5	Babalola, Tambashe and Vondrasek	2005	Cote d'Ivoire	2,681 adolescents- 1,262 were boys while girls were 1,419	Boys 18.8% reported having more than one sexual partner, while girls 4.8% acknowledged same.
6	Fawole, Ajuwon Osungbade	2005	Ibadan, Nigeria	350 female apprentices	About 22.9% complained of sexual harassment, 4.4% were forced to keep date with boss or his friends while 12.6% were raped.
7	Guiella and Madise	2007	Burkini Fasso	1,687 adolescents	About 63.5% were out of school unmarried adolescents, out of which 44.8% had sexual experience. One sexual partner was reported by 75.1% while 25% had multiple sexual partners.
8	Moore, Biddlecom and Zulu	2007	Ghana, Malawi, Uganda	216 female adolescents	75% received money or gifts in exchange for sex.
9	Okoro and Obo zokhai	2005	Benin City, Nigeria	650 out of school youths- boys 293, girls 357	83% of females and 62% of males had experienced sexual harassment. 58% of females and 26% of males had experienced attempts of forced sex, while 19% of females and 6% males were actually raped.
10	Okonta and Oseji	2006	Nsukka, Nigeria	437 in school adolescents	58% had been sexually initiated but only 10% were sexually active. 45.6% of students with poor knowledge of HIV/AIDS used condoms.
11	Okonta, Momoh, Ekwunife, Mbagwu and Abali	2007	Nsukka, Nigeria	250 students	Only 12% believed that HIV/AIDS could kill.
12	Olaseha, Ajuwon and Onyejekwe	2004	Ibadan, Nigeria	316 young ladies	70% of respondents never used contraceptives, while only 29% had used, out of which 80% used condoms.
13	Omokhodion, Onadeko and Balogun	2007	Ibadan, Nigeria	60 apprentices, 295 qualified hairdressers	110 (31 %) were singles, of which 70% had regular sexual partner. 21% had been pregnant, 18% of which had abortion. Of 110 singles, 34% used condoms.
14	Omokhodion, OsungbadeOjanen and Barengo	2007	Lagos, Nigeria	800 singles	87% were sexually active, of which 30% had casual partners and 59% used condoms.
15	Sunmola, Dipeolu, Babalola and Adebayo	2003	Niger state, Nigeria	896 adolescents	33% were sexually active; half of these had more than one sexual partner. Only 12.5% used condoms.

2.5 Sexual Abuse

Many studies have suggested that adolescents (both girls and boys) are vulnerable to all forms of sexual abuse which include sexual coercion, harassment, violence and rape (Youth-Net, 2004). They experience sexual coercion that involves the use of force and at other times economic or psychological manipulations. Sexual abuse may be physical, verbal or emotional. The victims were engaged in sexual activities against their wish and sometimes were lured with money into sexual activity against their desire (Ajuwon et al, 2001, 2002). Sexual coercion is described by Ajuwon et al, (2001) as a continuum of behaviours ranging from unwanted touch of breast, unwanted kiss, verbal intimidation, attempted rape to actual rape. Perpetrators are usually people known to the victims, including their spouses, partners, peers, family members, teachers and adult acquaintances (Ajuwon et al, 2001; Fawole et al, 2002; Youth-Net, 2004). Gender disparity was also observed among the victims with females being more likely to be abused than males. In Ibadan, Oyo state Ajuwon, (2011) reported that the prevalence of rape among young persons ranged from 4% among female apprentices, 4.4% among secondary schools students and 6% among young female hawkers. Similar findings were observed by Okoro et al (2005) in their study in Benin City, Edo state. They reported an increase in incidence of sexual harassment directed at the out-of-school teenagers who were often defenseless. The report also stated that sexual harassment was common on the streets of Benin City to the extent that it was viewed as a norm in the society by the youths. In this study majority of the young females (83%) reported to have experienced one or more forms of sexual harassment.

Ajuwon et al (2001) observed that the commonly reported form of sexual coercion by female apprentice tailors in Ibadan included unwanted touching (42%), attempted rape (18%) and actual rape (4%). They also observed that the informal arrangement of apprenticeship increased the vulnerability of these young women to sexual exploitation (Dada et al, 1998; Ajuwon, 2001).

Rape refers to the sexual violation of a woman or girl by a man involving genital contact without the lady's consent and through the use of force, fraud or intimidation (Omorodion and Olusanya, 1998). Rape as described by Shaau et al, (2004) is the most severe form of sexual coercion and it is a criminal offense in many countries including Nigeria where convicted perpetrators are liable to long jail term. Furthermore, Omorodion and Olusanya (1998) reviewed cases of rape victims in Benin City and categorized rape common in female adolescents into three types- domestic, gang and classical rape perpetrated by unknown assailant. In the same study they reported that out of 330 female victims of alleged rape in Benin City, adolescent aged 13- 19 years were major victims while 48.2% of cases occurred in children below 13 years of age Omorodion et al (1998).

Considering the vulnerability of young females working in the informal sector, Ajuwon, (2011) was of opinion that generally all young females are vulnerable to sexual violence and HIV; and that their counterparts working in the informal sector of Nigerian economy are worse off especially the young female apprentices and hawkers. Training under this unregulated informal sector, fosters economic and sexual exploitation. For example a study among apprentice tailors in Ibadan (Ajuwon et al, 2002) found that majority of the sexually active apprentice tailors reported sexual debut with their instructors. Similarly another study on sexual violence among adolescents aged 15-19 years in Ibadan, Nigeria (Ajuwon et al, 2001) revealed that a higher percentage (19%) of apprentices compared with female students (11%) had experienced forced sex. Fawole et al, (2002) also found that of 345 young female hawkers in six bus stations in south-western Nigeria, (36%) reported to have been raped or sexually harassed.

Coercive sex has been linked with higher risk of contracting HIV infections because physical trauma creates pathway for the virus during sexual intercourse with an HIV-infected person (Ajuwon et al, 2011; Ajuwon et al, 2006; Okoro et al, 2005; Shaahu et al, 2004 and Omorodion et al, 1998). The use of violence therefore has a negative implication on the victim as it limits the woman's ability to negotiate safe sex. Fawole et al (2005) are of the opinion that such victims were likely to engage in risky sexual activities as adults, thereby increasing their risk of contracting STIs including HIV/AIDS.

2.6 Pregnancy and Related Problems

Risky behaviours are evident among both male and female adolescents and youths. Early sexual debut especially among females, casual sex with multiple partners, non usage or irregular usage of condom or contraceptive characterizes unsafe sexual activity among young people. These risky behaviours have placed them at risk of unwanted pregnancy, unsafe abortion and consequently STIs in Kenya (Nzioka, 2001). Report from Kenya revealed that partner and peer pressure, force, money and gifts emerge as powerful forces that predispose adolescents and youths to having sex when they might not be ready. The country's DHS data show that 21% of unmarried females aged 15-19 years reported to have received money or gifts or favour for sex. Nzioka (2001) also observed that when an adolescent has received money or gifts from a partner, the dynamic implicit in such transaction leaves little room to negotiate condom use or to refuse sex, thereby increasing the vulnerability of the recipient to unwanted pregnancy and/or STIs.

In the early 2000s, Westoff and Bankole (2002) reported the proportions of births to adolescent women that were either mistimed or unwanted as 23% in Burkina Faso, 40% in Ghana, 40% in Malawi and 39% in Uganda. Although statistics for Nigeria are not available, Bankole et al (2007)

reported that about 27% of Nigerian women aged 15-49 years were sexually active and able to become pregnant because they (22%) were not using any method of contraception or were using traditional methods (5%), with high failure rates.

Bankole et al (2006) reported that unwanted pregnancy was the cause of induced abortion and that one-quarter of Nigerian women had no consideration for family planning. Unintended pregnancy was also reported by Bankole, Ahmed, Quedraogo and Konyani (2007) as a major reproductive problem among young people in sub Saharan Africa. UNFPA Technical report (2004), highlighted that 15 million young women between ages 15-19 years gave birth every year. Births by teenage mothers accounted for over 10% of all births world-wide. The report further stated that although most sexually active adolescent women and men did not want to have children because they were still in school or apprenticeship, or because they were too young or not married. They are prone to having unplanned pregnancy unless they are using an effective contraceptive method. Concerning the health consequences of teenage pregnancy, complications of early pregnancy and child birth may pose a great threat to the well being of the pregnant mothers and this may lead to increased rate of maternal mortality and morbidity especially among young pregnant mothers (Mayor, 2004). The risk of pregnancy and delivery-induced complications was documented to be higher among female teenagers than women aged 20-24 years or older.

Bankole et al (2006) advocate that more effective initiatives on prevention of unwanted pregnancy are urgently needed through improved access to contraceptive information and services to all women of childbearing age. They further recommended that health professionals involved in reproductive health programmes in Nigeria should introduce educational and service initiatives directed at helping to remove the fear about the dangers and adverse effects of the modern methods of contraceptives. They suggested that there should be provision for a wide range of methods of contraceptives for women of all reproductive ages. In addition, they suggested that adolescents and youths especially those that might want to engage in short term and sporadic relationship and who are sexually active should be encouraged to use condoms.

Furthermore, in addition to logistical approaches such as social marketing on family planning commodities, Bankole et al, (2006), suggested that new policy programme and public education programmes were necessary to promote the concept of Family Planning and to broaden the knowledge, health, societal benefits of family planning services. Advocacy is therefore made to policy makers in the government, religious leaders and local officials to support the campaign on the huge benefits of contraceptive use in preventing unwanted pregnancy especially among the youths. According to them (Bankole et al, 2006) there was need to increase awareness of Family Planning particularly among the youths who were mostly unmarried and who accounted for a large proportion

of the abortions. Thus Bankole et al, (2006) recommended that programmers and health professionals should focus attention more on adolescents and youths contraceptive needs.

2.7 Abortion and Associated Complications

Abortion is the termination of pregnancy before twenty-eight weeks of gestational period; it can occur spontaneously or be induced. In this study the emphasis was on induced abortion particularly among young females aged 15-24 years. Induced abortion among this group of the population can also be classified as being safe or unsafe. The abortion is said to be safe when it is carried out by qualified medical personnel using correct techniques and standard (Adegbenro, 2008). The procedure is regarded as unsafe, if the person carrying out the procedure does not have the required skills, or the technique and the standard are poor. Abortion is one of the outcomes of unwanted pregnancies and is a major public health concern wide-world. Poor prevalence rate of contraceptive use was suggested to have further contributed to the worsening situation of unwanted pregnancy, a major precursor of abortion (Adewole, Sedgh, Bankole, Oy-Adeniran Singh and Hussain, 2006; Otoide et al, 2001). Findings from other studies indicated that though Family Planning services existed, they were not affordable to most people which also discouraged the use of Family Planning facilities (Ndubani and Hojer, 2001, Okonofua, 2004). This reason could in turn expose many ladies particularly school girls, low income single girls, out of school girls and even some married women to the risk of unintended pregnancy and subsequent termination mostly in an unsafe way (Oye-Adeniran et al, 2005). Some unplanned pregnancies were noted to be consequences of rape and sex abuse, therefore in order to cover up the shame especially among the adolescent girls; they opted for termination of the pregnancy.

Each year an estimated 36-56 million abortions are performed world-wide. Out of these about 20 million are considered unsafe and majority take place in developing countries where abortion is prohibited by law (WHO,1994). In another report by WHO (2001) it was revealed that in all parts of the world, an increasing proportion of those having abortions are unmarried adolescents. An estimate of abortions among young ladies aged 20 years ranges between 1 and 11.4 millions a year (McCauley and Salter, 1995; Network, 2000). Similar report was documented by FHI, (2000) and UNFPA, (2004) that about 1.4-2 million unsafe abortions occurred among young women in Africa every year. WHO (2007) also reported that almost two-thirds of all unsafe abortions in sub-Saharan Africa are among young women. Young African females are observed to be disproportionately affected by poor sexual relations and unplanned fertility behaviour than in any other region of the world (Akinyemi and Okpechi, 2011). Globally, evidence has shown that sub-Saharan Africa has the worst indicators of reproductive health and development of youth particularly young women, as

they are faced with the highest threat of unwanted pregnancies and HIV. Warriner and Shah (2006) reported that about 59% of all unsafe abortions in Africa occurred among young women aged 24 years or less, while 26% were carried out among women aged between 15-19 years.

An estimated one in five pregnancies each year in Nigeria (approximately 1.4million) is unplanned and slightly more than half of them (760,000 pregnancies) are terminated. Out of the terminated pregnancies, 25% occur among young ladies and 63% among the unmarried women (Bankole et al, 2006). Unsafe abortion is a major reproductive health problem in Nigeria and indeed in many developing countries with a significant contribution to maternal morbidity and mortality rates. In Nigeria, it accounts for 22.5-40% of maternal mortality rates, (Oye-Adeniran et al, 2005). Bankole et al (2006) reported that a high proportion (20%) of young ladies attempted abortion by taking tablets or injections which were obtained from various sources (mainly chemists). They also observed that about 16% used traditional method by drinking mixture of herbal concoctions prepared by quacks. Some youths drank a mixture of dry gin and aspirin tablets or mixture of potassium and chemical lime dissolved in water while sometimes foreign objects were inserted into the uterus to induce abortion.

Unsafe abortion usually results in complications, many of which are life threatening. Many authors (Wagbatsoms and Okojie, 2006; Omoigberale et al, 2006; Omorodion, 2006 and Oye-Adeniran et al, 2005) have documented complications resulting from unsafe abortions. These included perforation of uterus, cervical laceration, and retained product of conception, hemorrhage, fever, sepsis, pelvic infection, instrumental injury, shock and death.

The spate of abortions among young ladies in Nigeria could be attributed to loss of moral values in the society, as observed by speakers at the Youth submit with the theme “Lets Talk about Abortion” organized by the Wise Women World Wide held in Lagos, Nigeria (2009). The summit report stated that young people at the summit were urged to desist from premarital sex that exposes them to unwanted pregnancy and unsafe abortions which are noted to be the leading causes of death and other health complications among youths.

Parents and guardians were enjoined to be more proactive in the upbringing of their children and wards, so that they could lead a better future. Bankole et al (2006) suggested that National policies should be established to ensure that all post abortion care is safe to reduce complications, and that post abortion services should include mandatory contraceptive counselling for women on how to prevent future unwanted pregnancy. There should be one-on-one counselling emphasizing the relative safety of modern methods of Family Planning, information and possible side effect of each method and where the services can be accessed.

It is therefore suggested that preventing unwanted pregnancy is the key element to prevention of unsafe abortion. This can be achieved through the provision of appropriate sexuality education and information on reproductive health and safer sex as well as supportive services for adolescents and young women (Olukoya, 2004).

2.8 Sexually Transmitted Infections

Sexually Transmitted Infections and other reproductive tract infections are among the most common causes of reproductive health problems world-wide (Table 2.2). UNFPA (2004) reported an estimated annual number of 340 million new cases of curable STIs, and when the incurable STIs (including HIV/AIDS), were included, the number tripled. STIs affect one in twenty young people every year (WHO, 2002). Although most are curable, many unfortunately are left untreated or partially treated (Okonofua, 2003). STI is one of the serious outcomes of unprotected sex. Adolescents and young people are disproportionately affected by STIs and it is a major public health problem in many countries in sub-Saharan Africa. In Zambia available data showed that at least 200,000 people are infected with STIs annually, and 50% of all new STIs (HIV infections inclusive) take place in persons between the ages of 15 and 29 years. Ndubani and Hojer (2001) reported that young people were the most affected by STIs. High risk sexual behaviour was identified as the major risk factor for STIs among young people. Their study involving 126 young females aged between 16 and 26 years in Zambia revealed that 43% of the study population had premarital sex at the time of the interview, 23% reported having suffered from an STI in the past and only 6% said they always used condoms. In Ghana, one out of eight sexually experienced 15-24 years old ladies self-reported the symptoms of STIs in the Ghana Demographic Survey, (2003). This rate represented the highest prevalence recorded among all the age groups surveyed. Despite being sexually active, majority of the adolescents do not always use condom or use it inconsistently. Consequently, the risk of adolescent contracting STI is high. Adedimeji (2005) added that factors responsible for high incidence of STIs among young females included alcohol and drug use before sex, having multiple sexual partners and non-use of condoms.

In Nigeria, Okonofua (1999) observed that the increased rate of sexual activity, coupled with multiple sexual relationships and unprotected sex with inadequate knowledge of reproductive health were responsible for the increasing rate of STIs among Nigerian adolescents and young people. A study carried out by Fawole et al (1999) revealed that adolescents constituted between 3.3% and 4.8% of the total number of patients seen each year with STIs. In their previous study (1996) conducted in Ibadan, out of 141 subjects, 38.3% were aged 19 years, 94.3% were singles and slightly more than half 53.2% were females. Furthermore, 80% of this study group reported to be

sexually active while 8.4% admitted that they had multiple sexual partners. Among the sexually experienced youths, 22% were diagnosed with gonorrhea, but candidiasis was the commonest (34.2%) among the young females. A previous study in Ibadan, (Ekweozor et al, 1995) was to demonstrate the association between STIs and HIV sero-positivity. Out of 581 patients diagnosed to have STIs, 6.4% were confirmed HIV sero-positive and these cases were within the age bracket 21 and 30 years. Another study conducted on those who attended STI clinic at UCH, Ibadan (Kehinde and Lawoyin, 2005) reported that 53.3% of the respondents were females within the age bracket 20-30 years. Among these, 9.5% were diagnosed to have STIs. Out of this 30% were also HIV positive revealing a high STI/HIV co-infection rate thereby indicating that there is need for proper management of STI as a way of reducing the spread of HIV in Nigeria. UNAIDS (2006) report agrees with the findings stated above that 40% of new sexually transmitted infections occur among young people aged between 15 and 21 years.

Okonofua, (2003) and Bankole et al, (2007) reported that Nigerian adolescents have the highest level of Chlamydia infection. Other common STIs affecting sexually active young people are gonorrhea, syphilis, herpes, Chlamydia, Trichomonas vaginalis. Bakare et al (1999) reported that Trichomoniasis was widely distributed all over the world and remained a common infection among female patients attending Sexually Transmitted Infections (STIs) clinics. The main mode of transmission was reported to be through sexual contact. Bakare et al (2002) found that Trichomoniasis was more prevalent among ladies with higher levels of sexual activities and larger numbers of different sexual partners. They reported that one out of five sexually active women would contract Trichomoniasis during her lifetime. Trichomonas Vaginalis has been reported to increase the risk of transmission of HIV and to predispose a pregnant woman to premature rupture of membrane and early labour. Bakare et al (2002) in the same study, highlighted the consequences of early exposure to sexual activities. About 86% of the respondents in the study had various types of STIs: Vaginal Candidiasis was the most commonly diagnosed STI (58.6%), followed by HIV infection (34.3%) and Trichomoniasis (21.9%). The respondents were young women between the age group 20-29 years who were exposed to sex early in life and who engaged in frequent short sexual relationship for money. Economic factor was found to make adolescents vulnerable to early sex.

The vulnerability of adolescent and young person to STIs can be classified into biological, behavioural and socio-cultural factors. Doyal and Patton (1995), described young women to be biologically more prone to STIs than older women because of the vulnerability of the female anatomy. Women's genital physiology makes the efficiency of transmission of infection much higher from man to woman than from a woman to man during sexual intercourse. Biologically,

female adolescent girl is not fully matured. Having sex can be painful and may result in coital tearing or other injuries in the genital area which are then exposed to infectious fluids resulting to symptoms of STIs (MacPhail et al, 2002). In addition, the teenage girls have been discovered to have fewer protective antibodies than older women (McCauley and Salter, 1995).

Concerning behavioural factors, early sexual activities among adolescents put them at the risk of being infected with STIs. McCauley and Salter, (1995); Fawole et al (1999); Bakare et al, (2002); Okonofua, (2003); Bankole et al, (2007) observed that Nigerian adolescents are sexually active, having multiple partners and rarely protect themselves with condom. Atere, Wahab, Ajiboye, Shokoya, Akinwale and Oyenuga, (2010) are of the same view that many Nigerian youths are sexually active but with low level of contraceptive use. The authors believed that the risky sex behavior of youths has been a factor contributing to the increasing spread of Sexually Transmitted Infections including HIV/AIDS.

Series of interventions (Okekearu, 2004; Juarez and LeGrand, 2005) have increased contraceptive knowledge and awareness among young people yet many of them still indulge in unprotected sexual intercourse. An example was the study conducted in a small town in the South-west, Nigeria (Atere et al 2010) in which 80% of the girls under 20 years were found to be sexually active, but only 5% of them reported to have used a contraceptive and 20% of them had HIV infection. Many youths associate the contraceptives use with promiscuity and unfaithfulness to their partners. Guiella et al (2007) revealed that negotiating to use condoms by the youths could be difficult since suggesting the use of condoms itself was seen as a sign of mistrust in a sexual relationship. Furthermore the ability of female adolescents to negotiate the use of condoms was almost impossible if they had received gifts and money. Kehinde et al (2005) stated other reasons for non use of condoms among youths as youth's dislike of condoms, embarrassment and stigma associated with the purchase or asking for condoms from adult providers. Bankole et al (2007) lamented that despite extensive efforts in promoting condom use, rate of usage among young people in sub-Saharan Africa, Nigeria in particular is still very low and many of them prefer to engage in risky sexual behaviour. It was also noted that young people are being forced into sexual relationship while many of them unfortunately lack skills or power to negotiate condom use. Furthermore, STIs spread to young age group because older men increasingly choose younger sex partners. Adegbenro, (2008) observed that many men believe that younger girls are less likely to be infected with STIs and HIV, while some men hold the mistaken belief that having sex with a virgin can cure AIDS.

As for socio-cultural factor, it was observed that girls and young women are in a vulnerable and compromised position of power in sexual relationships; as the ability to be sexually assertive and take bolder positions comes with age and maturity. The social systems make it difficult for young

women to decide to abstain or have protected sex as it is the man who decides, thereby the female adolescents are unable to refuse sexual advances or negotiate condom use with their sexual partner. Fawole et al (1999) found that the earlier age of sexual maturity among the adolescents and youths was as a result of the societal tolerance and permissive attitude towards sex, resulting in increased sexual activities and frequent premarital and extramarital intercourse with multiple partners. This has exposed the youths to various STIs. Of the 141 subjects studied, 79 females were diagnosed to have one STI or the other, candidiasis being the commonest infection among the females. It was also noted that most of the subjects were single and sexually exposed, which suggested that they had been engaged in premarital sex which is not acceptable in the society. Other factors that have been observed to promote the risk of contracting HIV/AIDS/STIs among young females include social factors such as gender norms, double standards, cultural and religious norms with regards to sexuality and fertility (UNFPA, 2004).

Gender factor is an important determinant of behaviours that place young women at risk of various reproductive health problems in many parts of Africa (Okonofua, 2003). Okonofua reiterated that gender identity and self-recognition occur very early in life and that boys are socialized to be aggressive and strong, while girls are socialized to be meek, submissive and humble. The social consequences of reproductive ill health are noted (Nzioka, 2001), to be more severe on girls as compared to boys. In many African societies, female adolescents are more likely to be stigmatized for sexually transmitted infections and HIV. They are more likely to suffer disproportionately for such problems as unsafe abortion and its complications. An example of this gender inequality was the case of a female adolescent who was sentenced to death for adultery under Sharia law in Sokoto, in northern Nigeria, whereas her male counterpart was left free for lack of evidence.

The report from FMOH, (2002) AIDS Control Programme shows similar trend with the incidence in youths being twice more than in the rest of the population. Furthermore, new infections among females outnumbered males by a ratio of 2:1 (Ajuwon et al, 2001; Fawole et al, 2005).Similar reports were obtained from other parts of Africa like Burkina Faso, Uganda and Tanzania (Guiella and Madise, 2007).

It was documented that many infected females sought care from unorthodox sources where they received confidential but inappropriate treatment. When STI is left untreated or partially treated especially among young people, the implication is more grievous than in adults. Young people do not seek treatment due to lack of knowledge about the signs and symptoms of STI, low level of perceived severity and or lack of funds to pay for health services (Aderongbe, 2008). Okonofua,

(2003) also observed that untreated STI can lead to lifelong reproductive health problems such as infertility and increased risk of HIV transmission.

Several studies have reported that comprehensive STIs prevention and care programme can significantly reduce STIs/HIV transmission (UNFPA, 2004; Okonofua et al, 2005; Asowa-Omorodion, 2006; Okonta et al, 2007) in places where STIs services are available. In Edo State as in many other parts of the country, STI clinics are few in number and none is designated to the adolescents (Okonofua et a,l 2005). Reports reveal that the public STI clinics are poorly equipped to diagnose the most common STIs prevalent in the area and that many private and public providers are not familiar with the modern protocols for the management of common STIs. The low standard of practice at the centers is complicated by the negative attitude of providers to clients especially to young ladies who come for treatment. These factors have contributed to under-utilization of STI services. The lack of proper treatment of STIs has contributed to the high rate of infections particularly among adolescents who may not receive treatment or receive inadequate treatment for various STIs (Omoigberale et al, 2006). The report of Kehinde and Lawoyin, (2005) expressed similar concern that in Nigeria STIs are poorly recognized and are not adequately treated. This complicates the case of an untreated STI client who is likely to pass or acquire HIV infection during sex. Okonofua et al (2005) suggested that adolescents should be empowered with specific information on abstinence and use of condoms, STI symptoms counselling and contact tracing. Integration of STIs prevention and care into services rendered at youth friendly centers will offer the youth's access to STI treatment.

However, many authors listed in Table 2.2, have also suggested control measures to reduce the incidence of STIs among young unmarried ladies. Besides having sex with one uninfected partner as the most effective control measure, condom use is recorded as other method that offers protection against HIV/AIDS and some other STIs (Wald, Selke, Ashley and Corey, 2001; Kehinde et al, 2005). Bakare et al (2002) reported that the control of STIs can best be accomplished through public health programmes that are committed to finding the STI transmitters through persistent effort to screen, diagnose, treat and follow up high risk individuals within the communities. Women who exchange sexual activities for money pose a risk to the society; they should be identified and involved in STI prevention and control activities. Sexually active ladies are advised to insist that their partners use condoms consistently and correctly. Fawole et al (2002) observed that since the study subjects were young and single, they might therefore be ashamed to come for consultation at the STI clinic. Hence the researchers suggested that the use of different strategies such as increasing the publicity of STI clinics and Youth Friendly services in the news papers and other social media for example SMS, Cell interviews Facebook, Twitter YouTube and other internet facilities; in

schools and public places through bulletins, board placements and handbills might be required to help bring them to the facilities. Health workers were enjoined to be emphatic with positive attitude towards STI patients, especially the youths. They should assure their clients confidentiality when managing them. For effective preventive and control of STIs/AIDS, it is necessary to encourage adolescents and youths to present their symptoms at the STI clinics.

Table 2.2 Some Previous Studies on Sexually Transmitted Infections including HIV among the Youth

Serial No	Authors	Year	Setting	Study Population	Findings
1	Bakare, Oni, Umar, Kehinde, Alli	2001	Ibadan, Nigeria	151 young women within age 20 &29 years	51.4% tested positive to gonorrhea
2	Bakare, Arowojolu, Oni, Fasiro	2002	Ibadan, Nigeria	70.6% were female youths	50. 8% had Trichomonas Vaginalis
3	Best	2000	Ghana	210 female youths aged 15-24 years	9.5% had STI, out of which 30% were also HIV+. STIs- gonorrhea, candidiasis, trichomonas vaginalis
4	Bakare, Oni, Umar, Adewole	2002	Ibadan, Nigeria	169 CSW, aged 10-29 years	58.6% tested positive to Candidiasis; 34.3% HIV, 21.9% Trichomoniasis
5	Fawole, Ajayi, Babalola, Oni, Asuzu	1999	Ibadan, Nigeria	141: 38.3% aged 19yrs, 94.3% singles, 53.2% females	22% diagnosed with gonorrhea; 34.2% had Candidiasis
6	Ekweozor, Olaleye, Oni Tomori, Saliu, Essien, Bakare	1995	Ibadan	451 aged 21 &30 yrs	63.7% had gonorrhea, 6.4% confirmed HIV sero positive
7	Nzioka	2001	Kenya	184 male and female adolescents	21.5% females had more than one sexual partner, of which 3.1% had STI.
8	Kehinde and Lawoyin	2005	Ibadan	210- 98 males, 112 females.	9.5% had STI, 6.3% had co-infection STI/HIV
9.	Ndubani and Hojer	2001	Zambia	126 young females aged 16-26 yrs	43% had premarital sex, 23% had suffered from an STI, 6% used condom.

2. 9 Nature of Apprenticeship System

Apprenticeship system is a vocational structure where an individual undergoes a training to acquire a skill to start a business. The system can be formal, such as vocational training school governed by the rule of the land (Kaminski, Nauerth, Pfefferle, 2008). It can also be informal, such as an individual operated enterprise which is not guided by government rules and policies. Both structures are common world-wide, but they are more organized in developed than developing countries. In Asia-Pacific, apprenticeship is a non-formal education but it is conceived as an organized and systematic educative activity outside the framework of formal educational system (Education for All –EFA, 2000). The programme seeks to provide selected types of learning experiences to different interest and age groups in the population. These out-of school activities are aimed at raising awareness, developing marketable skills to meet community needs and initiating collective socio-economic and political actions. In Afghanistan (EFA, 2000) for example data available indicate that agencies provide more facilities and varied non-formal programme to cater for need of out-of-school youths and vulnerable groups. The apprenticeship programme helps development of skill through on-the-job training which is provided in a wide range of trades including tailoring, bicycle repairs, soap making, typing etc. The duration of training varies from 6-18 months and adolescents from age 15 years who have dropped out of school are enrolled. The report further stated that girls had access to 62% of such training opportunities, having more females enrolled in the non-formal settings than men (1320 against 1190); thus a large majority of non-formal settings were open to females.

Walther (2011) described skills development in the informal sector as an issue of great importance as it concerns almost all of the economy of sub-Saharan African countries and in many of the sectors, they employ up to 90% of the economically active population. The informal sector was further described as a proportion of household enterprises which are distinguished from co operations, in that they neither keep full sets of accounts nor constitute legal entities distinct from the household upon which they depend. The sector is thus defined as being “all production” units without an administrative regulation number and/or which do not keep formal written set of accounts.

Nwaka (2005) explained the evolvement of informal sector in Nigeria over the last 50 years, in the colonial and early independence period. His report reiterated the sector’s rapid expansion during the oil boom period of the 1970s to the economic crisis and adjustments of the 1980s and 1990s which weakened the employment and law enforcement capacity of the state thereby encouraged a high level of informalization of economic activities. As a result many vulnerable groups are in the

informal sector for survival, but unfortunately they are exploited and subjected to all forms of harms and injuries especially the women, children and apprentices.

As a result of economic decline and lack of employment opportunities many young people especially girls no longer go to school or drop out of school because the family cannot pay school fees. A large proportion of adolescents and youths are found in the informal apprenticeship system learning a skill for a period of 2-3 years in order to start a trade (Fawole et al, 2004). Apprenticeship in Nigeria as in other parts of the world is recognized as a source of acquiring skill in a trade which makes an individual to be economically and psychologically secured (Nwanoruo, 2004). Another example could be cited in a previous report (Dada et al, 1998), on out-of school young female population working in the informal sector in Nigeria. They described an apprentice as someone who enters into an informal agreement to work under a master for the purpose of learning a trade. In agreement with Walther (2011) description of informal sector, Dada et al (1998) referred to the informal sector as the portion of Nigerian economy consisting of citizens working in small businesses which lack government recognition, registration and support. Operators in the sector do not have access to commercial sources of credit. They earn low income, have no employment security and avoid taxes as well as labour regulations concerning their wages. In a recent report, Kaminski et al, (2008) described the adolescent apprentices as a major sub-group in the society which will form the backbone of the future middle class of socio-economic group which is of high significance.

In England for example, anyone above 16 years old and not in full-time education can be in apprenticeship system where he/she will gain job-specific skills, receiving training to work towards nationally recognized qualification (apprenticeship.org.uk 2009-2012). Apprenticeship in the United Kingdom is a well organized and formalized programme; it can take between one and four years to complete depending on the level of apprenticeship, the apprentices' ability and the industry sector. Also the apprentices are paid salary of £2.60 per hour or even more. The entry requirement included an adolescent that is just leaving school, or having been working for years or seeking to start a new career but cannot be taking part in full time education. Unlike unstructured apprenticeship in Nigeria, apprenticeship in U.K involves structured training programme that takes the apprentice through the skills he needs to do a job well. There are targets and checks to make sure that the employer is supporting the apprentice and apprentice himself is making progress (apprenticeship.org.uk, 2009-2012).

Apprenticeship in Australia is similar to U.K. It is an organized programme which encompasses all apprenticeship and traineeship. They combine time at work with training and can be full time, or part time. It is government regulated and it is the best way of combining training and employment

which can lead to a nationally recognized qualification. Australia apprenticeship is available to anyone of working age and does not require any entry qualification. The apprenticeship is available to school leavers, those entering the work force or those wishing to change careers. Australian apprenticeship has a lot of benefits. It is a great way to get a head start in a chosen career. It involves paid work and structured training that can be on-the-job, off-the-job or combination of both. The apprenticeship represents the competency-based training which means the individual can complete their trainings faster when they have reached the required skills level. There is consideration for the existing skills and prior experience and recognition of course credit which will potentially reduce the formal training time (australianapprenticeship.gov.au, 2011).

Furthermore, in West Africa, Benin, Togo and Mali have begun restructuring traditional apprenticeship in the late 1980s basing their reforms on the dual apprenticeship model (Walther, 2008). Dual apprenticeship involves a working partnership and division between a formal vocational training college which is responsible for providing theory training and a craftsman's workshop that permits the acquisition of professional skills on the job. Apprenticeship in these countries is becoming a post-primary vocational training system providing skills training and other qualifications for young people who have either not completed primary education or have not gone to lower secondary school or have started but dropped out of school. But in Senegal, apprenticeship's theory and practical training model has the workshop as the only place where training takes place. The system defines the roles of public/private training colleges as resource centres which provide additional technical and standard based inputs regarding the profession. The system also depends on the request made by the master craftsman or trainer.

However, in Nigeria, Fawole et al (2004) also described apprentices as young people who learn a vocation such as tailoring, hairdressing under the direct supervision of an instructor operating in the informal sector of the Nigerian economy, thus apprenticeship is part of small businesses and is largely informal. While in the training, the apprentices acquire the skills of the trade by serving under an instructor for a number of years during which they observe and put into practice the art of the trade. The number of years an apprentice spends in training depends on the discretion of the instructor, but sometimes also on how fast the apprentice learns the skills of the trade. Fawole et al (2004) further stated that often there is no contract signed before the apprentice commences the training. However, on completion of the training, the apprentice celebrates her "freedom" and she must have purchased the required equipment to start her trade. Fawole et al (2004) observed that though the apprenticeship system provides an economic option for poor women in Nigeria, working conditions under the informal arrangement foster economic dependency and exploitation.

In an earlier report Ajuwon et al (2002) noted that apprentices often run personal errands and carry out domestic chores for their instructors apart from working in the workshop for several hours. They are paid little or nothing thereby leaving them vulnerable to exploitation. The female apprentices sometimes experience sexual harassment by older men especially male masters who take advantage of the lack of regulations in the informal sector to sexually abuse the female apprentices working under them. Because of poor economic status of these young ladies and their relative young ages, they are usually sexually abused by older men who offer them money and gifts in exchange for sex (Dada et al, 1998).

Unfortunately, most of the AIDS educational programmes in Nigeria are conducted in the school settings (Okoro et al, 2005; Omoigberale et al, 2006; Wagbatsoma et al, 2006; Ajuwon et al, 2007). Unlike their counterparts in schools, the apprentices often miss out of the Adolescent Sexual and Reproductive Health (ASRH) programme. Consequently, these apprentices lack knowledge and life-saving skills, thus making them more vulnerable to all forms of sexual exploitation, and at a greater risk of STIs and HIV/AIDS. In addition, the apprentices' sexual behaviour is of great concern. They are sexually active and their contraceptive use is very low (Omokhodion, Onadeko and Balogun, 2007) thus their vulnerability to unwanted pregnancies, unsafe abortions and its complications. This study however is an intervention targeted towards addressing the sexuality and reproductive health needs of young females in apprenticeship in Nigeria and thereby attempt to reduce the spread of STIs and HIV among female apprentices.

2.10 The Concept of Self-Efficacy to Resist Sexual Pressure

Perceived self-efficacy is concerned with people's belief in their ability to exert control over their motivation and behaviour and their social environment. Programmes based on this concept attempt to develop the level of confidence an individual has to perform certain preventive behaviours such as ability to say no to sexual pressure, buy a condom or request a partner to use condom. Efficacy expectations are enhanced through information, encouragement, modeling and guided practice (Bandura,1992).

Self-efficacy makes a difference in how people feel, think and act. A low sense of self-efficacy is associated with depression, anxiety and hopelessness. In terms of thinking, a strong sense of competence facilitates cognitive processes and academic performance. Individuals with high self-efficacy choose to perform more challenging tasks; they set themselves higher goals and stick to them (Locke and Latham, 1990). Actions are preshaped in thought and people anticipate their optimistic or pessimistic scenarios in line with their level of self-efficacy. Once an action has been taken, high self-efficacious persons invest more effort and persist longer than those with low self-

efficacy. When set-backs occur, the former recover more quickly and maintain the commitment to their goals. Self-efficacy also allows people to select challenging settings, explore their environments or create new situations. A sense of competence can be acquired by mastery experience, verbal persuation or physiological feedback (Bandura, 1977). However, self-efficacy can lead to venturesome behaviour that is within the reach of one's capabilities.

Behavioural change is facilitated by a personal sense of control. If people believe that they can take action to solve a problem instrumentally, they become more inclined to do so and feel more committed to this decision. While outcome expectancies refer to the perception of the possible consequences of one's action, perceived self-efficacy pertains to personal action control (Bandura, 1992). A person who believes in being able to cause an event can conduct a more active and self-determined life course. This "can do"-cognition mirrors a sense of control over one's environment. It reflects on the belief of being able to master challenging demands by means of adaptive action.

Perceived self-efficacy has been studied with respect to prevention of unprotected sexual behaviour for example the resistance to peer and sexual pressure anad the use of contraceptives to avoid unwanted pregnancies and STIs/HIV/AIDS (Schwarzer and Fuchs, 1990). Gilchrisst and Schinke (1983) taught that youths through modeling and role-playing how to deal with pressures and ensure the use of contraceptives; this mode of treatment significantly raised their sense of perceived efficacy and protective skills. Sexual risk-taking behaviour such as not using condoms to protect STIs has been studied among female apprentices that are sexually exposed and having multiple sexual partners. Beliefs in one's ability to negotiate safer sex practices emerged as the most important predictor of such behaviours (Basin-Engquist, 1992).

Bandura (1990) also observed that for the self-directed change to be effective, it requires four major components which are information- designed to increase awareness and knowledge of health risks, development of the social and self-regulatory skills which is needed to translate informed concerns into preventive action. Also there is skill enhancement and building resilent self-efficacy through guided practice and corrective feed-back in applying skills in high-risk situations and unprotected casual sex. Finally is the component of social supports for desired personal change which is female apprentices practicing safer sex behaviour.

2.11 Interventions to influence Sexual Behaviours of Adolescents

Several interventions have been conducted to influence the sexual behavior of adolescents. These include the following-

- Behaviour Change Communication (BCC)/ Information Education and Communication

- Condom Promotion and Distribution
- Mass Media
- Family Life Education
- Peer Education Programme
- Promotion of HIV Services.

2.11.1 Behaviour Change Communication (BCC)/Information, Education and Communication (IEC)

Behavioural Change Communication (BCC) is an interactive process for developing messages and approaches using a mix of communication channels in order to encourage and sustain positive and appropriate behaviour. BCC evolved from IEC programmes to promote more tailored messages, greater dialogue and fuller ownership (Alebachew, 2006). BCC is a gradual process consisting of several stages in which an individual gains self-confidence through trying out new behaviour. The process is inspired by communication strategies that are specifically designed to support the decision to change. BCC reinforces the process by helping individuals develop, for example, skills for HIV/AIDS prevention and creating a social climate to support the change in behaviour. The main factor driving HIV transmission is the risky sexual behaviour especially among young people. BCC programmes are therefore aimed to promote formation of positive behaviour and attitude towards the prevention of HIV spread.

In Ethiopia, Alebachew (2006) reported that BCC and IEC interventions are still the main tools to curb the spread of HIV and mitigate its socio-economic impact. Exposure to these interventions especially mass media messages was very high. For example in a study on behavioural surveillance survey conducted in Ethiopia, in-school and out-of-school youths were exposed to HIV/AIDS preventive measures. Results showed that although condoms were readily accessible, only 50% of sexually active in and out-of-school youths had ever used condoms. Consistent condom use with partners in the last 12 months of the survey was 39% for out-of-school and 73.6% for in-school youths. BCC is however the main strategy for changing risky behaviours that expose vulnerable groups to HIV infection and the strategy has been widely adopted by every stakeholder who is involved in HIV/AIDS prevention programmes.

In Uganda, the Uganda Tele Communication Networks was installed in August 2002. Young people were encouraged to use the facility with a toll free help-line which increased the access of young people to ASRH information and services. The facility provided on-line counselling and accurate ASRH information to young people who were not able to access services at the clinic. It is

a unique service which does not require the client to come to the clinic but only call and get the required information and counselling without being charged. Despite the convenience, Naguru, (2012) observed that the service was noticed to be utilized more by male than the female clients.

Furthermore, BCC approach was used by African Youth Alliance (AYA, 2005) in Uganda to reach the out-of-school youths with information and skills needed to protect their sexual health. The strategies reported to have achieved considerable success in improving the sexual and reproductive health of this population. The intervention using the approach helped the participants to develop confidence, knowledge and skills needed to make positive decisions to protect their sexual and reproductive health issues. The AYA (2005) was implemented by a consortium of Programme for Appropriate Technology in Health (PATH), Pathfinder and UNFPA. The project was based on the underlying principle that young people have the right to participate meaningfully in their development and that their involvement in all aspects of programming is essential to promote healthy behaviour. AYA was designed to reduce HIV infection and unwanted pregnancy rates among 10 to 24 years old youths.

The programme has six components which include: creating a supportive environment through policy and advocacy; supporting behavioural change through communication and education programmes; integrating ASRH into existing livelihood skills development programme; providing Youth-Friendly Services (YFS) in multiple settings; building institutional capacity to plan, implement, evaluate and sustain programmes and fostering coordination and information sharing to build on lessons learnt. The AYA identified the out-of-school youths as a priority population for intervention activities because 7% of age 15-19 years and 12% of 20 to 25 years have never been to school, just 17% of young women completed school; less than 1% completed secondary school and 13% of females who left school did so partly because they got married or became pregnant in Uganda.

The BCC strategy used involved tapping into existing youth networks and resources, trusting and building on the skills of young people to design and implement interventions and conveying practical and accurate SRH information in a way that addressed the realities of the young people's lives. Life planning skills curriculum was used to reinforce messages from entertainment, songs, dances and puppet shows. AYA recorded considerable success in using BCC approach to improve the SRH of out-of school youths. It was reported that more than 20,000 out-of-school in 92 project sites in Uganda were reached with information and skills needed to protect their sexual health. It helped the vulnerable population to develop the confidence, knowledge and skills needed to make positive decision to protect their sexual and reproductive health.

In Tanzania, UNFPA-supported programme- Preventing HIV/AIDS among Adolescents through integrated communication programmes, according to UNFPA, (2002) stated that "BCC seeks to give individuals greater insight into their personal situation. It seeks to instill the motivation and skills needed to voluntarily experiment with, adopt, and maintain new behaviour and practices that are likely to improve their condition in society and quality of life".

Furthermore, in Lake Victoria Basin (Mboya, 2010) BCC strategic plan was used to influence the sexual behaviour change among HIV-infected adolescents. One hundred and eleven adolescents with a mean age 18.5 years with a range of 13-24 years old participated in the study. Findings showed that 45% reported to have been sexually active in the previous 6 months, out of which 63% reported to have used condom at the last intercourse. Participants were crossed-classified according to global measure of stages of change for current safer sex behaviour (abstinence, outer-course or condom use). Result showed that 88 adolescents remained in maintenance or progressed towards the action. This group was considered to have achieved a successful outcome. In contrast, 23 participants did not progress to the action stage or relapsed from maintenance of safer sex. This group was considered to have experienced unsuccessful outcome.

BCC is a strategy used for the control and mitigation of HIV/AIDS especially in Nigeria (NACA, 2004). It has proven effective in addressing many target audiences, focusing principally on prevention and recognizing youths as a priority audience. It promotes community-driven initiatives thus providing an enabling environment for change, knowledge and skill acquisition on the causes, transmission and prevention of HIV/AIDS. NACA (2008) reported that BCC recognized that beyond the information desire, confidence and skills to change, individual behaviour is informed by many factors and seeks to address these factors at family, community, health system, work places and within the policy environment as well. NACA (2008) observed that the strategy requires do-able actions and strategic interventions at all levels in order for an individual to make changes in their daily lives thereby involving other sectors working in gender, agriculture, private sector, faith-based organizations and the media. NACA advocated and declared that all sectors have a role to play to prevent further spread of HIV within our communities.

Advocacy, Capacity building and ABC (Abstinence, Be Faithful and Condom Use) of prevention are strategies of BCC which have been used to influence a positive health behaviour among the priority groups. The most relevant intervention to youths especially the out-of-school adolescents and youths is ABC of prevention of AIDS (UNFPA, 2004). However, all stakeholders implementing HIV prevention treatment and care programmes have been working within the policy framework of NACA and BCC is widely used among the vulnerable groups. For example, UNFPA (2008) supported Nigeria with Youth and ASRH most especially on HIV prevention programmes.

UNFPA targeted young people with information, education and services for responsible sexual behaviours which included consistent and correct use of condoms, abstinence and being faithful, youth specific HIV and life skills education, mass media interventions, provision of Youth-Friendly Health Services for the prevention, treatment and care of HIV and AIDS. There was full involvement of young people in the design and implementation of programmes. Health services were provided through strengthening partnerships with other implementing agencies and health institution; building capacity and strengthening BCC strategy. Abstinence is emphasized and sometimes expressed as waiting or delaying sex activity during youth campaigns. Adolescents are encouraged to reduce sexual partner and increase the demand on contraceptive services, emphasizing the use of condoms correctly and consistently to protect them against STIs including HIV/AIDS and unwanted pregnancies. The BCC strategy includes interpersonal education through youth clubs and peer education. This was at the individual level. However, at community level it involved community transformation. BCC was used to address the issue of stigma, harmful cultural practices and gender norms. The activities strengthened the community response for referral and service delivery. At system level there was provision to increase access to quality products and services where clients could reach them easily through the establishments of Youth-Friendly Health Centres in UNFPA programme states. Moreover at the policy maker's level, advocacy was made to address a wide policy environment that determines access to information and services that also protects fundamental rights of young people.

In addition, materials have been used widely to create awareness on the mode of transmission, prevention and control of HIV/AIDS especially among educated adolescents and youths (Chorie, Ismaila and Berhene, 2005). IEC approach is sometimes used in combination with other approaches such as Peer Education, Behavioural Change Communication (BCC) and print media. The combination of IEC with other approaches assist in enriching the quality of messages and the scope by reaching a larger population (UNFPA, 2005). IEC materials can be printed. These include educational materials such as pamphlets, posters and handbills. It can also be in form of activities like role play, drama, or debate, educating the targeted audience with specific information on HIV/AIDS prevention. UNICEF (2003) supported the use of IEC materials because the approach has achieved desired result especially among the educated audience. Many intervention studies have used IEC approach, but their reports are rare. However, role play and drama will be effective means of disseminating sexual health information to out-of-school youths who are less educated than their counterparts in school environment. In addition Youth-Net, (2002) reported that communication with peers and sexual partners about sexuality appeared to have an important positive influence or association with condom use among the youths.

2.11.2 Condom Promotion and Distribution

Several studies have documented that condoms are effective in reducing STI and HIV transmission (Omokhodion et al, 2007; Okonta et al, 2006; UNFPA, 2004). Despite the fact that condom is protective, the demand for condom use is still low especially among out-of-school adolescents who appear to be sexually more active than their counterparts in school (Rich, 2007). Many sexually active young people do not use any method of contraceptives as indicated in the findings of previous studies conducted across the world. This has resulted to several attempts made by researchers to conduct intervention activities to promote condom use and demand for different methods of contraceptives especially among adolescents and youths. For example in New York, Miller, Levin and Whitaker (1998) recruited 372 sexually active adolescents aged 14-17 years old and their mothers for promotion of condom use. Overall 70.6% of the adolescents reported having discussed condom use with their mothers. Male adolescents were found to have discussed condoms with their mothers at a younger age (mean 12.9 years), while females (mean 13.5 years) also did the same. The authors observed that adolescents who talked with their mother about condoms before their first sexual experience were likely to use a condom during the first sexual encounter and those adolescents who used a condom whether they had talked with their mothers about condoms or not would be more likely to use a condom during subsequent sexual encounters.

Moreover, regardless of the occurrence or timing of maternal discussions about condom, condom use at first sexual intercourse is associated with a drastic increase in later condom use. This suggests that early maternal discussions about condoms promote condom use at first intercourse and that condom use at first intercourse promotes subsequent use. This study implies that it is of utmost importance that adolescents receive information about condoms before initiating sexual intercourse.

Likewise in Australia, Viser (2005) carried out a study among 53 young women aged 18-25 years who were sexually active. The study was to determine how best to promote condom use for prevention of STIs and unwanted pregnancy. A multi-component condom promotion intervention involved skill building to reduce risky sexual behaviour and STIs among young women. The intervention emphasized on perception about sexuality, beliefs about STIs and self-efficacy for condom use. The young women were shown a video depicting woman's sexuality in popular media. Information was given on symptoms, prevalence and transmission of STIs so as to increase the respondent's perceived susceptibility to STIs. Another video was shown to alleviate apprehension associated with purchasing condoms. The participants were taught how to properly use condoms; how to be assertive in discussing condom use with their partners and how to deal with partner's resistance to condoms. Through video presentation, role play, discussion and practice; the young

women learnt how to increase their sense of control over their sexual encounters, increased their STI awareness and perceived susceptibility, thereby they were able to increase their self-efficacy for condom use. However the participants supported multi-faceted condom promotion campaigns by using multi channels of communication and a variety of media which suggest that a variety of different approaches are needed to promote condom use for STI prevention.

In sub-Saharan African countries, Adegbenro (2008) reported that the rate of contraceptives use among adolescents in African countries is considerably lower than the rate reported in developed nations of the world. Wieldant, Boldsen and Knudsen (2002) reported that the rate of contraceptive use among sexually active Danish adolescents was 95% whereas in sub-Saharan Africa countries like Zimbabwe, Kenya, Togo and Ghana the rate was very low (about 20-30%); (Speizer et al, 2002). This was similar to the report of Foss and his colleagues (2007) who reviewed the impact of condom use in sub-Saharan African countries. They observed that interventions targeting youths recorded limited increase in condom use.

In Kenya, (Foss et al, 2007) findings revealed that condom use was highest among young women who were more educated, never married and living in urban areas particularly in Nairobi. In promoting condom use, condom is made available and accessible. About nine condoms per sexually active person are distributed annually in Kenya. The largest number of condom-per-person is distributed in Nairobi and Nyanza provinces. Also most health facilities have condoms available for family planning and STI clients; but it was observed that only one-third of the Health facilities provided training to the community health workers in condom promotion and safe sex. However, exposure to the mass media was associated with the increased knowledge of condoms for both men and women.

In Nigeria Okpani and Okpani, (2000) carried out a survey on sexual activity and contraceptive use among 768 single secondary school girls with a mean age 16.32 years. Among this population, 605 admitted to have been sexually exposed; of these, 24 claimed to have had previous deliveries, and 186 induced abortions had been done in 142. They also reported that there was a high level of awareness (72.4%) of the relationship between sexual activity and STIs among the study population. This was encouraging and was attributed to a recent intensive health education activity using the mass media to promote contraceptive use, stating its dual advantage which is prevention of unplanned pregnancy and STI especially among the sexually active youths. Similarly Okonofua et al (2005) carried out a study in Benin among secondary school youths aged 14-20 years to determine the impact of an intervention: right seeking behaviour among Nigerian youth. At pre-intervention they enrolled 1895 and 1858 youths at post intervention. The intervention consisted of communication participation, peer education, public lectures, and formation of health clubs and

training of STI treatment providers. At post intervention, result showed that youths in the intervention schools compared to control group recorded statistically significant improvement in knowledge of STIs, condom use and right seeking behaviour. The prevalence of reported STI symptoms in the past six months was significantly reduced. Knowledge acquired and accurate information given have been associated with the promotion of condom use among the intervention group.

In addition to educational interventions, many development partners have been engaged in procurement, promotion and distribution of condoms in the country. These include GHAIN/FHI/USAID, Society for Family Health and UNFPA (UNFPA, 2005). In order to ensure even distribution of condoms, UNFPA (2004) highlighted four major approaches to condom promotion and distribution. These include:

- Private sector sales through pharmacies and other retail outlets.
- Social marketing which is the promotion and sale of contraceptives at subsidized price and distribution through commercial and informal channels.
- Community based distribution, another approach which involves free distribution of condoms to poor and vulnerable groups including adolescents and women. This approach has recorded a larger distribution volume than social marketing but both seem to complement each other for greater result.
- Public sector distribution: this is usually through health and Family Planning centers. This sector is an important outlet because it is a component of comprehensive STIs and Family Planning Services. UNFPA (2005) argued that the approach is unlikely to be a major condom distribution channel more so that the adolescents especially those out-of-school rarely seek treatment in public health centers. It is advisable to augment this approach with social marketing and community based distribution approaches.

Another report (Bankole et al, 2007) also argued that if condom distribution targets the most sexually and HIV-vulnerable individuals, the spread of HIV infection is likely to be prevented. The report stated further that despite the effort so far in promoting condom use, young people in Nigeria as in other sub Saharan Africa, still engage in casual unprotected sex and condom use remains relatively low. The reasons given by respondents included: negative attitude- perception of young people to use of condoms; doubt about its effectiveness, and expressed concern about condom safety and breakage. Young people believe that condoms have small holes which can permit leakage of sperm. The respondents also condemned the low quality of condoms especially condoms that are free.

Other reasons that were identified as being responsible for low utilization of condoms include: complaints by adolescents that wearing a condom reduces sexual enjoyment, and negotiation for its use signifies infidelity or having a sexually transmitted infection (Rich, 2007). Other reports (Guiella and Madise, 2007) also explained the reasons for non-use of condom among adolescents. These included non affordability, lack of access to purchase condoms, dislikes and embarrassment or stigma associated with the purchase of condom from adult provider due to disapproving attitude of providers to young clients. Negotiation for the use of condom is reported to be difficult particularly by ladies that have received gifts and money for sex.

Lack of information on the correct use of condoms was identified as a barrier to consistent use of condoms by the youths. Rich (2007) suggested formal educational technique such as condom demonstration is likely to improve the knowledge of correct use of condom. Another report (Guiella et al, 2007) found that there is possible association between formal education and use of condoms. Findings revealed that the use of condom increased with years of schooling. The report argued that low use of condoms among out-of-school is unconnected to low educational background. This was similar to Bankole et al (2007) report which suggested that the strongest predictor to the knowledge of correct condom use among adolescents is exposure to a condom use demonstration. This study however included condom demonstration in the agenda of Peer Educators' Training.

A FOCUS Report (FHI- Youth-Net Programme, 2002) suggested Social marketing techniques could be adopted to promote and increase the use of socially beneficial health products such as condoms, to increase access to health services, and to bring about changes in health behaviour and practices. The mass media, an important channel of communication in most social marketing interventions, have a major influence on youth norms and values. Social marketing campaigns utilizing mass media can promote services and products to youths through pharmacies, clinics and other community outlets — as well as make those products more available in those out-lets. The report (Youth-NET, 2002) stated that some programmes had sought to take reproductive health and HIV-related services to young people in the community rather than making youths come to programmes through community outreach. The outreach which may include deploying workers from health facilities, linking with programmes in the community that serve youths, and providing services in non clinical settings. Community outreach is a way to channel information through the myriad influences and stimuli that influence young people, such programme strategy has the potential to reach young people who are out-of-school, unmarried, marginalized, or hard-to-reach for other reasons. These programmes also eliminate distance as a barrier to using services and can better overcome the distrust and alienation felt by many hard-to reach youths.

2.11.3 Interventions through the Mass Media

Mass media are the most accessible way of providing information to various population segments. Their components include audio media such as radio through radio advertisements, radio broadcasting and live broadcast. Others are audio tapes and compact discs, Audio-visual such as Television broadcast, T.V advertisement, speeches made by famous people in the community and T.V shows such as soap operas. In addition there are print media such as magazines, news papers, advertisement articles, posters, leaflets, pamphlets, booklets and flip charts . Print media are known to be the most effective ways of providing information on HIV/AIDS. Pathfinder (2002) observed that print media promote discussions and communication with target population. A combination of words and images is distributed to support interpersonal communication with individuals and groups. Nevertheless radio and television programmes appear to offer an opportunity to reach larger audience and are available to the general population. But they have their limitation in Nigeria and other developing nations where there is no stable supply of electricity (Adegbenro, 2008). Another component of mass media is utility media which comprises of items such as t-shirts, caps, badges, pens and key-rings. These are periodically used to support community media such as education-theatre and community outreach activities. All these materials are developed in local languages and take into account the educational levels of each target audience. For example UNFPA, (2002) funded radio soap opera "Twande na Wakati" in Tazania, which was aired twice daily. The approach provided evidence that one main area in which entertainment education has its impact is by stimulating interpersonal peer communication. UNFPA reported that the behaviour change that occurred was not through the direct exposure to the education entertainment only but coupled with peer discussion of the episodes which was generated among the audience. UNFPA's report (2002) confirmed the importance of the entertainment dimension, indicating that at least one quarter of all those who adopted the use of contraceptive method reported that they did so because of listening to the soap opera. The report further stated that listeners were more likely than non-listeners to discuss contraceptive use with partners. The programme was claimed to have had a positive effect, but this could be determined on the degree which the listeners believed that the programme has influenced their behaviour change and they are capable to control their sexual life.

In Nigeria, similar entertainment education was sponsored by UNFPA (2002) through a 30 minute 52 episodes of family television series "I need to know" programme on adolescent health issues. It was aimed at bridging the communication gap between parent and child, while encouraging open dialogue on adolescent sexual health issues as well as encouraging policy makers to provide adolescents access to information and youth-friendly services. The programme was noted

to have succeeded because its content was detailed enough to encourage a change in reproductive health behavior. It also empowered the parents with adequate information to educate their teenagers.

Mass media approach has recorded great success (UNFPA, 2004) as it helps to promote awareness and knowledge and motivate people to adopt recommended behaviour or social norms that reinforce safe behaviour. The approach is appropriate when it is used for young people as a behavioural change communication which seeks to encourage youths to delay sexual activities or practise safer sex. Bertrand and Anhen, (2006) reported that campaigns through radio and television reach a wide area within the community and can influence HIV-related outcomes among young people. Several reports (UNFPA, 2002; Okekearu, 2004; Juarez et al, 2005) supported the effectiveness of mass media interventions evidenced by increased knowledge of HIV transmission, improved self-efficacy in condom use and increased interpersonal communication. In addition comprehensive mass media have been valuable in programmes that are focused on reproductive health and HIV/AIDS prevention especially among young people and campaigns through television have recorded the strongest evidence based results (UNFPA, 2005; Bertrand et al, 2006). Similar findings were reported by Keating, Meekers and Adewuyi, (2007) that a large number of people can be reached through mass media with information on specific issues. The report suggested that preventive behavioural campaigns can be done using this approach; the health promotion programme can be scaled up or done in conjunction with other interventions targeted towards specific audience such as out-of-school adolescents and youths. The female apprentices are likely to listen to radio or watch television at work place or home as it is observed that mass media are increasingly important in most young people's lives. African Youth Alliance (AYA, 2006) revealed that these influential channels can inform youths and the community at large about sexuality and reproductive health issues and could also influence their attitudes, beliefs and behaviour. The report further explained that mass media are most effective when combined with other complementary activities such as educational materials, entertainment and reproductive health services.

However, mass media interventions could influence adolescents and youth's knowledge and attitude, but there is less evidence that this approach consistently and directly influences sexual behaviour and contraceptive use as many studies on mass media usually reported changes in knowledge but less evidence in behavioural change. UNAIDS (2006) affirmed that information is necessary for positive reproductive health behaviour, but knowledge alone is not sufficient to protect young people against HIV/AIDS. The report recommended the need for an interactive process of teaching and learning that would help young people acquire the knowledge, attitude and skills that would enable them to take responsibility for their lives, resist negative pressures, minimize harmful behaviour and make healthy life choices.

The value of media for health promotion activities among youth has long been recognized and in 1986, the World Health Organization recommended the application of interactive and audiovisual features of modern media besides peer collaborative interaction for conveying health information (Edouard and Edouard, 2012). The recent increased access to Information Communication Technology (ITC), has afforded opportunities for promoting the RH of youth. ICT use in the field of PH is valuable for developing a better understanding of their ability to support health system strengthening, advocacy, training, service delivery and programme evaluation. The social media includes the use of Facbook pages to provide up-to-date information on the events and activities in a way that is easily accessible to users. Twitter provides a platform for organization to offer live update about their activities and status. Therefore the use of social networking platforms is recommended such as Facebook, Twitter, YouTube, Multi Media Messaging Service (MMS) and Summary Messaging Service (SMS). The benefit of these platforms is its low-cost way of enhancing social network. This approach will also reach more youth as they are heavy users of these madia channels. However, there are limited coverage of mobile phones, differential access to technology by age and educational level have been identified as challenges associated with their use.

2.11.4 Family Life HIV/AIDS Education

This is a school-based programme especially for secondary school students (UNICEF, 2003; UNFPA, 2004). It is an instructional programme by teachers, instructors, guidance counsellors and Peer Educators. The programme aims at promoting the acquisition of factual information, formation of positive attitudes and values as well as developing skills to cope with biological, psychological, socio-cultural and spiritual development as human beings (National Educational Research and Development Council, NERDC, 2003) FLHE programme involves counselling the adolescents in school systems and empowering them with life saving skills which are needed to mold them to become responsible adults and prepare them for good parenting. UNFPA (2004) described School AIDS programmes as a special case of institutional approach which has been used to increase knowledge, delay and reduce sexual activity and increase contraceptive use among in-school adolescents. It was documented that countries with strong school AIDS programs had fewer cases of STIs, unplanned pregnancies and abortion. School sex education assisted in delaying sexual activity in many adolescents and was more effective if the programmes started before first sexual activity. It is also argued that school sex and AIDS education which actively involved students in participatory learning through discussion, practical exercises about gender issues, social relationships and real-life skills were more successful (UNICEF, 2003). In a recent report of Adeniyi, Oyewumi and Fakolade, (2010) whose study involved 76 participants with age range between 16 and 20 years all in the

secondary schools located in the south-western and North-central parts of Nigeria, FLHE related-knowledge attitude and decision making among adolescents with hearing impairment was explored. Results showed that the female adolescents recorded high mean scores than their male counterparts. The implication is that the female adolescents with hearing impairment responded more positively to information about HIV/AIDS as a result of FLHE programme; and that the male gender bothered less about the consequences of risky sexual behaviour. The females seemed to have developed positive attitude and right decision which in turn reduce adolescent vulnerability to HIV/AIDS infection.

The Federal government of Nigeria through the Federal Ministry of Education and National Council on Education introduced FLHE into school curriculum at all educational levels (ARFH, 2009) starting from primary to secondary school. The curriculum (NERDC, 2003) is structured in such a way that it provides a framework for the acquisition of knowledge of self and family living from childhood to adulthood. It also reflects a comprehensive approach to HIV prevention education to tertiary levels of education. The curriculum is organized around six themes which include Human development, Personal skills, Sexual health, Relationship, Sexual behaviour, Society and culture. Each theme covers knowledge attitude and the necessary skills that are age-appropriate. The programme being a school based, aimed at providing young people with knowledge, positive attitude and skills to foster behavioural change and thus reduce their vulnerability to HV/AIDS and other reproductive health complications. In this programme the school teachers were selected and trained to be able to deliver factual FLHE information to school adolescents using the curricular based approach and the use of Minimum Prevention Package Intervention (MPPI). There is also involvement of National Youth Service Corps (NYSC) in creating awareness on HIV. NYSC members' activities on the National Reproductive Health and HIV/AIDS programme were supported through the training of volunteer corps members as Peer Educator Trainers (PETs) during the NYSC orientation programme in NYSC camps in the 36 states and FCT with the Global Fund Support. The corpers train and mentor forty secondary school students each as peer educators who in turn are expected to reach their peers with factual information on ASRH and HIV issues. In order to reinforce the information being provided by PETs and foster behavioural change and sustenance among in-school adolescents, various IEC materials (T-Shirts, Fez Caps, Handbills and Posters) were produced and provided to corps members for distribution to youths in the schools. The use of multifaceted approach was in agreement to Ajuwon, (2000) and Adegbenro's, (2008) reports that combination of messages with two or more different intervention approaches in educating young people about their reproductive health and other concerns will be more effective than using one approach. The reason is that each of these methods and interventions has been found to have certain

peculiar limitations; hence using one method may not produce the desired result which is behavioural change.

The study by Ajuwon and Brieger (2007) is another example of using multiple approaches in reaching out to young people on reproductive health education programme. The study used three educational intervention approaches which included teacher instructions, peer education and a combination of these two on the knowledge, attitude, perceived self-efficacy and sexual practices among secondary school students in south-western part of Nigeria. The participating students were randomized into three intervention groups and a control group. Assessment was carried out at baseline and at follow-up (six months after intervention). The outcome at follow up showed that all the three intervention groups had significant knowledge gains while the control group's mean score increased slightly. In addition, the participants in the intervention groups showed a significant positive shift in attitude towards the use of contraceptives. The scores for perceived self-efficacy for safer sex also were much higher than their counterparts in control group. The intervention also had positive effect on the attitude of the experimental group towards contraceptives; it helped the adolescents to freely discuss reproductive health issues and self–efficacy for safer sex. The study affirmed the fact that multiple intervention approaches have greater potential for improving reproductive health of the young people.

Similarly, Kirby, Obasi and Laris, (2006) revealed that sex education and HIV prevention interventions in schools had significant effects on the sexual life of adolescents. The study reported that the gains of the intervention included delayed onset of sexual debut, reduced frequency of sexual activity, decreased number of sexual partners but increased use of condoms thus there was decrease incidence of unprotected sex. This report suggested that school based intervention could reduce risky sexual behaviour among the adolescents. However, adolescents that are not in school cannot benefit from such institutional based programme except for few intervention studies which are conducted to fill the gap for out-of-school youths. These interventions had recognized the out-of-school youths as a priority population though educating them could be very demanding because they are difficult to reach, highly mobile and usually engage in risky sex behaviour. The interventions for the out-of school (Ajuwon, et al, 2002,) usually involve acquisition of knowledge, positive attitudinal change which is conducive to safer sexuality and reproductive health practices. These include information on life planning skills to abstain or delay sexual debut among the youths; increase access (availability and affordability) to safer sex products such as condoms and services in an enabling environment for positive reproductive health behavioural change.

Furthermore, many researchers (Ajuwon 2000; ARFH 2004; FMOH 2003) recommended sexuality and AIDS education for the out-of-school youths like their counterparts in school. This is

because data reported that the rate of HIV infection among out-of-school may be increasing faster than the rate among the general adolescent and youth population. They seemed to be at greater peril of AIDS, because they are more likely to engage in high risky sexual activities than their counterparts in schools. This group is seen to be more troubled, has less adult support and is less accessible to programme interventions; as many of these group members indulge in prostitution. They therefore serve as a possible conduit of HIV infection among the vulnerable groups. Also there are evidences of unmet need of the youths. This was reflected in research that confirmed that some young people have poor understanding of the reproductive process, others harbour misconceptions such as the belief that pregnancy cannot occur during first sexual episode, and that use of contraceptives can cause infertility (Amazigo et al, 1998; Ajuwon, 2000; ARFH, 2004; FMOH, 2003).

Research also confirmed that many young persons participate in risky sexual activities including early debut in sexual activities, sex with many partners, low and inconsistent use of condoms (Olaseha and Alao, 1991; Amazigo et al, 1998; Iwuagwu, 1999). The data from the National HIV/AIDS and Reproductive Health Survey (NARHS, 2010) revealed that among the sexually active 15 to 19 year olds only 34.4% used condoms at most recent sexual encounter (FMOH, 2007). One of the consequences of the involvement of young persons in risky sexual activities is that this group is disproportionately affected by reproductive morbidity including STI/HIV, unwanted pregnancies and their complications. Rosen, Murray and Moreland, (2004) supported sexuality education for the youths. Their study reported that sexuality education was effective in improving key youth reproduction health behaviour as evidenced by the reduction in the number of sexual partners and increased use of condoms among youths who were sexually active. Furthermore their study offered opportunity for the youths to be actively involved in the programme thereby they were able to develop the required skills for disseminating information on sexuality and reproductive health to their peers.

Ajuwon (2005) documented the benefits of sexuality education among the youths which include - Improvement in the reproductive health status of the young persons who participated in the educational programmes. Evidence of this improvement was stated using some key indicators one of which is Comfort in discussing sexuality issues. Survey confirms that participation in sexuality education programme increases persons' comfort level to discuss sexuality related issues. It offers opportunity to discuss the issues openly and helps many young people to clarify doubts, misconceptions that they have about sexuality.

On knowledge of reproductive health- previous studies on sexuality education documented increased knowledge and understanding of reproductive health issues among participants (Ajuwon

2000, Ajuwon et al 2003, and Oladepo et al 2004). However, the acquisition of knowledge is usually the first stage in the process of behavioural change.

On perceived self-efficacy (PSE) to adopt safer sex behaviour, Bandura's (1969) theory defined PSE as the person's perception to have ability or confidence to adopt safer sex behaviour such as abstinence, demand or purchase of condom, distribution of condoms and use of condoms. According to this theory, the higher a person's PSE to adopt safer sex behaviour, the higher the probability that she or he will actually put such behaviour into practice.

Another significant benefit of sexuality education is its positive effects on sexual behaviour of young persons. Some of the positive behaviours attributable to sexuality education included reduction in number of sexual partners and increase in use of condoms (Oladepo et al, 2003; Ajuwon, 2000; Fawole et al, 1999). Out of school youths who participated in a community-based sexuality education programme in Oyo state reported significant increase in use of condom from 14% at baseline to 25% at follow-up (Oladepo et al, 2003). Students who received sexuality education implemented by both peer educators and teachers reported significant increase in the use of condoms (from 20.8% to 53.1%) (Ajuwon, 2003).

2.11.5 Peer Education Programmes (PE)

Peer Education is the sharing of health information, values and behaviours among people of similar age or status (Sciacca, 1987). It is a popular but voluntary method by which people can learn about reproductive health. It is based on the premise that people learn and unlearn a number of behaviours and practices from other age mates, of the same sex, level of education, social and economic status. UNICEF (2003) reported that PE approach involves the selection, training and supporting of members of a given target group to effect changes among members of the same group on the groups' knowledge, attitude, beliefs and behaviour at the individual, group and community levels through the modification of norms and stimulation of collective action that contributes to changes, policies and communities. It is also used to generate demand for services and products like VCT, condoms, STIs and PMTCT services. UNFPA (2004) also describes Peer education a programme where young people are trained as volunteers to provide information, services such as counselling, distribution of educational materials (Ajuwon, 2008). Peer educators are trained to counsel, refer peers to service centers and sometimes distribute non prescriptive contraceptives which include condoms and spermicidal to other young people of similar age with the view to influencing a positive sex and social behaviour (UNICEF, 2003). Peer educators are selected on basis of interest, maturity and ability to relate to others as good model, approachable and capable to counsel and communicate with individuals and groups without being judgmental (Ajuwon et al,

2008). It is an important way of reaching out-of-school youths who are expected to consider changes and adopt the changes through personal influence of close and trusted friends who have changed and who, as examples, encourage change in other people. Ajuwon (2000) observed that health discussions facilitated by peer educators are likely to promote better understanding of health information and appeared to lead to behavioural change. In earlier report, WHO (1993) documented that peer education approach has become a major part of HIV/AIDS prevention programme around the world for targeting various groups including men who have sex with men, injecting drug users, commercial sex workers, adults in the work place and youths in the community. Many youth-focused organizations use peer approach as an essential strategy to reach young people.

In Nigeria, Ajuwon (2000) and other earlier researchers documented that PE programme has been used in a variety of settings including schools, universities, bus and truck stations and motor packs; and its effectiveness has been equally stated (ARFH, 1998, Ajuwon et al, 1998). Several factors have been found to responsible for the popularity of PE International Center on Adolescent Fertility (ICAF, 1991). First, there is an inherent merit in the approach. For example, young people know better than adults on how to talk to their colleagues and motivate them on sensitive issues such as sexuality which is highly affected by peer pressure. Secondly, peer educators can reach their colleagues whenever and wherever the topic comes up, be it in the school compound, at home, at street corner and bus and truck stations. Lastly, young people who participate in the programme actually benefit from it in the sense that it gives a sense of belonging and support that build relationship skills (ICAF, 1991). Recent studies also support the importance of PE approach (ARFH, 2002; UNICEF, 2003; UNFPA, 2004; Ajuwon et al, 2005 and Adegbenro, 2008). An example of research that used PE approach successfully is that of Adegbenro (2008) in which 50 PEs were selected from five secondary schools and trained to carry out educational activities which included counselling, distribution of relevant IEC materials, role playing and drama sketches. The PEs, according to the report reached 940 students in the study sites. The study reported increased knowledge gain on sexuality and reproductive health issues, the level of self-efficacy mean score increased compared with that of baseline, and lastly the frequency of sexual activities was noticed to have drastically reduced in all the experimental schools.

Regardless of many good reasons advanced in support of peer education approach, it has some limitations (ARFH, 1998; Millburn, 1995; Adolescent and Health Development, 2001). It requires extensive training and supervision of the programme. It records a high rate of turn-over (attrition) creating serious problems of sustainability for the project. This is because by their nature, young people are very active and mobile, but this is a common feature of programmes that incorporate volunteers in community health work. Therefore Milburn (1995) cautioned programme planners and

implementers on the use of PE strategy without question. She noted that the appeal of peer sex education has always existed based on often-untested assumptions about the role of social influences on human behaviour. She however recommended the development of a stronger theoretical framework for PE that addresses the existing social and cultural influences, a greater understanding of the process involved in implementing PE interventions, and a more rigorous evaluation of PE programmes.

Family Health International/ Youth-Net, (2004) reported Peer Education programme used for recruitment and training of core group of youths to serve as role models to provide information, referrals and distribution of contraceptives to their peers. This approach enhances the involvement of young people in programmes that are designed for them. This programme takes advantage of the fact that many young people prefer to interact with others with whom they have similar characteristics and commonly identify their peers as their primary sources of reproductive health information. Peer Education programming usually shows positive results among in and out-of-school youths but it has not been proved to be sustainable, cost-effective or able to overcome selection bias. Youth-Net (2004) also observed that the primary impact of the programme may be more evident on the peer educators themselves and less on their peer contacts. Another concern was that peer may tend to contact mainly youths with similar characteristics like themselves. This means that different types of youths need to be recruited to reach a wide range of groups. Nevertheless, the Peer Education programme is still relevant in youth focused activity because it offers opportunity for direct youth participation. As a result the peer educators develop sense of belonging, support and ownership of the programme. The approach also helps to build their communication and leadership skills (Ajuwon, 2000). The approach has recorded positive effect (UNICEF, 2003), especially at the community level, in implementing preventive initiatives among the youths and sex workers. This approach was used in this study and its efficacy was determined and documented.

2.11.6 Promotion of HIV Counselling and Testing (HCT)

Voluntary Counselling and Testing (VCT) for HIV infection is a process of providing young people with an HIV test whereby an individual or couple undergoes counselling to enable him or her to make an informed choice about being tested for HIV. It is a vital point of entry to other HIV/AIDS services including prevention and clinical management of HIV-related illnesses, Tuberculosis control, psychological and legal support and PMTCT (Boswell and Baggaley, 2002). VCT consists of pretest counselling about whether to take an HIV test and what one's personal risks are for HIV infection (MacCauley, 2004). If the client takes the test, result of the test is given during a post test counselling session. The client works with the counsellor during post test counselling to

develop life plans for behaviours that protect him/her and others from HIV transmission. Referrals are also given for needed services. UNICEF (2003) described HIV Counselling and Testing as an intervention that offers every individual the opportunity to ascertain his/her sero status. Access to high quality voluntary HIV counselling and testing has been reported (UNFPA, 2004) as an effective HIV prevention approach. Unfortunately many people are not willing to do the test. Reasons attributed to this negative health seeking behaviour include stigma, fear of the unknown, rejection by families and friends if tested positive and fear of death (UNICEF, 2003). As an intervention strategy, HCT is a vital service which is integrated into Youth-Friendly Services to ensure the young adults have opportunity to be tested for HIV infection. In order to ensure maximum utilization of Youth-Friendly Services, FHI/USAID, (2000) suggested that the programme should be offered in places where adolescents congregate such as youth centers, sporting events or work place. The visiting time for services should include adolescents only hours, short waiting time, ensure privacy and confidentiality especially during counselling sessions.

HCT has strongly been promoted as essential in reaching universal access to HIV prevention, care, support and treatment and services have been scaled up in many developing countries. However, access and uptake is still considered very low. This fact is corroborated by Mutale, Michelo, Jargenlen and Fylkansnes (2010) who observed that even where HCT is readily available, demands have often been surprisingly low. In an attempt to promote the uptake of HCT services, in Zambia for example, HCT was offered at home and counselling was conducted in the participants' homes (Mutale et al, 2010). Results showed an increase in the proportion of HIV tested from 18% before provision of home-based HCT to 38% after. The highest increase from 14% to 42% was recorded in rural areas among young rural women aged 15-24 years compared to 17% to 37% among urban women. Thus a high uptake was achieved by delivering HCT at home. Highest uptake was found among the rural, young people and those with low education attainment resulting in substantial reductions in existing inequalities in accessing HCT services.

In Nigeria, some studies have reported that the increase in uptake of HCT services is likely to reduce risky sexual behaviour (FHI, 2006; Wusu and Okoukonf, 2011). Some positive changes in the sexual behaviouur of participants owing to the uptake of HCT as indicated in these studies included abstinence from sexual activities, adoption of condom during sexual intercourse, reduction in the number of new sexual partners and opting for monogamous marriage. Wusu et al (2011) conducted a study which involved 625 undergraduates in one of Nigerian universities to determine the association between participation in HCT and the actual undergoing of HIV test. The participants comprised of 48% males and 52% females with an average age of 24 years for males and 23 years for females. Result indicated that 26.1%males and 28.9% females participated in HCT.

The findings also revealed that the average number of heterosexual partners kept by the respondents before participating in HCT declined among males and females from 3.17 and 2.36 respectively to 2.27 and 1.6 after they had participated in HCT. There was also reduction in engaging in frequent sex from 35.8% before to 24.1% after (for males) and 25% before to 24.7% after participating in HCT among females. This means that there is an association between participation in HCT and undergoing HIV test among young people. Participation in HCT is likely to promote undergoing HIV/AIDS test. Wusu et al (2011) however advocated for promotion of HCT services especially among young people as they have found that participation in HCT is likely to reduce the prevalence of risky sexual behaviour among undergraduates.

Barnell et al's (2006) observation was consistent with findings stated above: they documented that the uptake of HCT possesses the capacity to reduce risky behaviour and promote safer sex practices among young people and adults. They therefore suggested that HCT could be considered as a veritable tool for promoting prevention messages that can reduce the prevalence of HIV infection.

Several efforts have been made to provide quality youth friendly services by the government, and public/private partnership. For example, Association of Reproductive and Family Health (ARFH) in 2009 reported that Youth Friendly Clinics (YFC) had been integrated with Primary Health Care (PHC) and other government health facilities. This has succeeded in addressing the promotion of youth-friendly services to a large extent. ARFH, with the support of National Primary Care Development Agency (NPHCDA), has trained a total of 69 participants drawn from all the states of the federation for Trainer of Trainer workshop in 2007 on Adolescent Youth-Friendly Service provision. It was an attempt to empower the service providers with required knowledge and skills to ensure functional effective youth-friendly clinics and utilization.

Furthermore, in response to the request from NACA, the government has established youth-friendly clinics in some Nigerian Universities as a means of fighting HIV/AIDS pandemic; the project is still on-going with NACA working in partnership with ECO Bank Plc to accomplish it in most Nigerian Universities. In places where it has been established such as University of Ibadan and University of Port Harcourt (Ezirim, 2011), the YFC was involved in the HIV pre and post-test counselling and testing of about 2,370 students during the pre-registration exercise of 2011/12 academic session. Other services provided in the clinics include HIV testing, care and support of HIV positive cases in collaboration with other stakeholders' prevention of sexual violence, crimes and unwanted pregnancies. There is also provision for livelihood skill acquisition package, conflict resolution skills, nutrition and exercise advice and provision of IEC materials through a resource library section. It also included provision of recreational activities such as Chess, Ludo, Monpoly

and Scrabble. There is also community service to secondary schools in the environment as part of social responsibilities.

In Lagos state, Nigeria, Hello Lagos Club was established as an Adolescent and Youth Sexual and Reproductive Health unit under the Lagos State Ministry of Health. It was established in 2002 to provide a safe and confidential health centre for young people for provision of information and services as related to adolescent and youth sexual and reproductive health, HCT for HIV testing inclusive (Lagos state MoH 2012).

However in places where the demand for HCT is still very low, Obemeyer and Osborn (2007) advocated for innovative ways of offering HCT services. They were of the opinion that several alternative service designs for HCT had been explored such as work-place HCT, mobile HCT and home-based HCT which had substantially recorded increase in acceptability compared to regular clinic-based HCT. Moreover there has been a strong movement within the international AIDS community to shift from voluntary to routine testing (Obemeyer and Osborn, 2007). Their report declared that routine testing is now recommended for all individuals attending any health facility in countries with generalized epidemics; evidence of increase in the proportion ever tested has been documented using this strategy. UNFPA (2005) reported that in promoting HCT services to adolescent population, the services are now available in many health facilities and YFCs and that the test is free, but despite the opportunity many Nigerian adolescents still do not fully utilize the services (Adewole and Lawoyin, 2004) and these fall within the group that usually engages in risky sexual practices such as unprotected sex with multiple partners and for whom HCT services would be of great benefit.

The reports of UNFPA (2004) also revealed that having done HCT, the test usually reflects individual sexual practices and the outcome of the result which may be negative or positive tends to reduce risky sexual behaviour. Boswell and Bagalley, (2002) observed that high quality HCT services enable and encourage people with HIV to access appropriate care. They serve as effective HIV prevention strategy and can also be used as effective behaviour change intervention. It is therefore important to promote increased demand for HCT among the in and out-of-school youths thereby reducing their vulnerability to STI/HIV/AIDS. Peer Educators as change agents can provide information about the benefits of HCT to their peers and therefore inspire more youths to do the test. Peer Educators have recorded good results in the school setting where it is easy to mobilize adolescents (Ajuwon et al, 2008) but much success has not been recorded among the out-of-school because they are hard to reach and difficult to mobilize.

Furthermore, NACA (2008), in collaboration with development agencies has agreed to provide enabling and reinforcing factors for access to services by increasing attention to quality service

provision, ensuring influx of funding to service delivery and recruiting large core of different cadres of service providers at all levels. In addition, Boswell and Bagalley (2002) suggested strategies for promoting HCT services to young people. These include HCT communication messages "promoting hope for the future" must be designed with particular audience in mind for example for young people. Other suggested strategies are to conduct social marketing campaigns and provision of social products such as condoms, increase accessibility and acceptability of HCT and make the counselling and follow-up a higher priority for the young people. Provision and access to factual information, skills building, support and referral agencies; others are provision of youth-friendly services to meet young people's needs for family planning STI and HIV care and strengthen their linkages. Create innovative ways to reach the marginalized young people (out-of-school) and give adequate support to the initiatives led by youths that are tested positive and negative to HIV test.

2.12 Conceptual Framework

Three conceptual frameworks relevant to the design of this study are selected for review. These are the Health Belief Model (HBM), Social Learning Theory (SLT) and PRECEDE framework.

2.11.1 Health Belief Model

The model was developed by Rosentock and Hochbaum in 1950s in the United State of America and was reviewed in 1974 and 1988 by Rosentock and his colleagues. It is a psychological model that attempts to explain and predict health behaviours. The model is adapted to explore a variety of long and short-term health behaviours, including risky sexual behaviours and the transmission of HIV/AIDS. The Health Belief Model (HBM) is based on the understanding that a person will take a health related action if that person:

1. Feels that a negative health condition can be avoided e.g HIV;
2. Has a positive expectation that by taking a recommended action, he/she will avoid a negative health condition e.g. using condoms will be effective in preventing HIV;
3. Can successfully take a recommended health action e.g using condoms comfortably and with confidence.

The perceptions of an individual of the degree of seriousness that a negative health condition such as HIV/AIDS, STIs can occur and the feeling of becoming susceptible to the disease are known as "disease threat". The understanding of the threat of the disease can predict the person's willingness to take recommended action.

Perceived benefit The youth's perception of taking the recommended advice or action such as the use of condom correctly and consistently, or having STIs screening and treatment will protect

him/her or reduce the severity of the condition if the adolescent/youth is infected or even preventing the spread of infection to others.

Perceived barrier This refers to the barriers to taking the recommended action such as use of condoms or condom negotiation with partners include the financial cost, stigma associated with young people buying or seeking contraceptive services from an elderly married provider. Influence of elders (e.g instructors), poor knowledge about contraceptive and low educational background can also be barriers for taking recommended action. These are barriers to the use of condoms while use of condoms for prevention of STI and unplanned pregnancy is a perceived benefit which can positively predict future intentions.

Cues to action These activate the readiness and stimulate appropriate overt behaviour. These cues remind the youth to take action and can come from several sources such as messages from peers, media, IEC materials or experience of others. The nature of cue suggests that the behaviour is directly related to the perceived susceptibility and severity of the problem along with perceived benefit of acting. Peer educators programme in this study has influenced the apprentices' knowledge and practices of safer sex.

Self efficacy This is individual perceived self-confidence to take recommended action. In this study, youths were empowered through educational intervention to confidently use condom correctly and consistently. Likewise the trained Peer Educators were able to positively influence their peers through dissemination of correct information about STI/HIV/AIDS prevention and role model safer sex behaviour and thereby reduce the vulnerability of apprentices to HIV/AIDS/STIs. The model is spelt out in terms of:

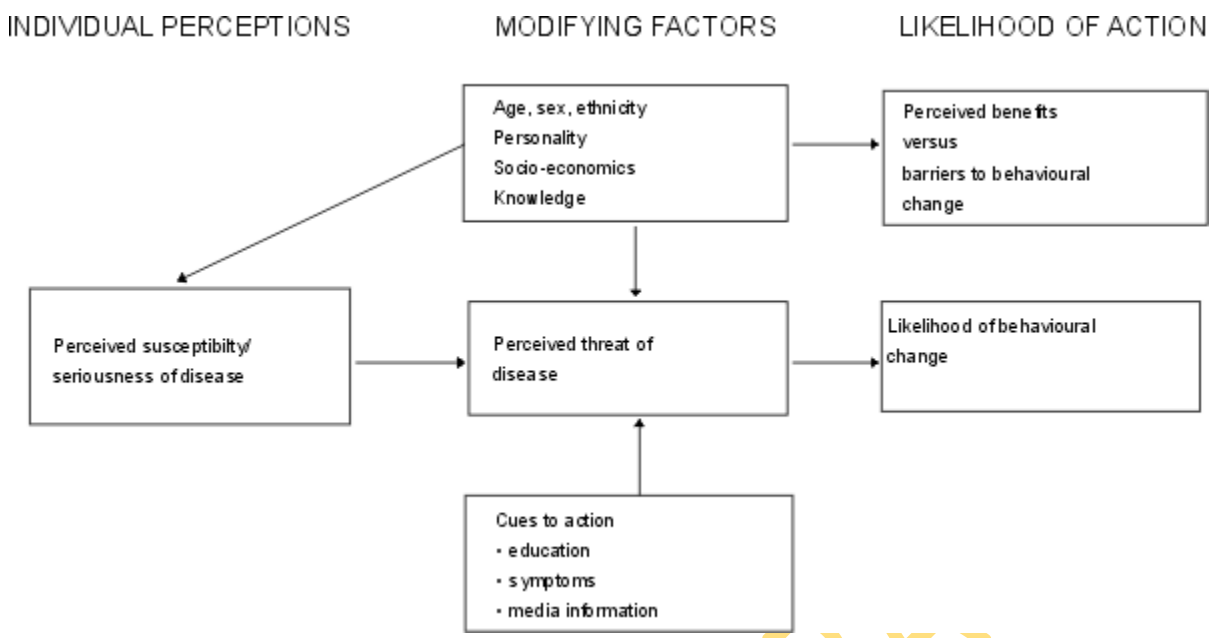
Perceived susceptibility - one's opinion of getting a condition such as STI/HIV/AIDS

Perceived severity - one's opinion of the seriousness of a condition and consequences of the risk and the condition

Perceived benefits- one's belief in the efficacy of the advised action to reduce risk or seriousness of impact

Perceived barriers- one's opinion of the tangible and psychological costs of the advised action.

These four concepts give account for people's readiness to act, while Cues to action activate the readiness and stimulate overt behaviour; Self efficacy however, depicts one's confidence in the ability to successfully perform an action.



Source: http://www.etr.org/recapp/theories/hbm/Resources.htm

Figure 2.2 Application of Health Belief Model-Conceptual Model

The application of this model is stated on Table 2.3. The individual's perceptions that is, the perceived susceptibility and perceived severity would determine the possibility of getting a condition such as STI/HIV and level of seriousness and consequences. But there are some modifying factors that influence the chance that the individual will be motivated to take recommended behaviour. These factors are demographic variables such as age, sex, socio-economic, ethnicity, personality traits, other factors are peer influence, knowledge of threat, benefits and barriers to the recommended health behaviour. For example knowledge about the consequence of unprotected sex, prior experience of the consequences and other considerations will inevitably influence an individual's perception of threat.

However, the likelihood of behaviour change or the likelihood of action is enhanced when the benefits of acting is realised as it was with the study population. The youths believed that the recommended action of using condom would protect them from getting pregnant. Barriers also exist that prevent the individual from initiating the action. The likelihood of positive action is thus estimated in terms of the perceived benefits of the action minus the barriers that prevent it from occurring. For example, in a study carried out among 53 sexually active adolescent girls in the Republic of Benin, Houton et al, (2005) based the study on skill building of the participants to be able to reduce risky sexual behaviour and STI. The intervention empowered the participants to

understand their vulnerability to STI because of risky sexual behaviour and severity of STI symptoms. The intervention assisted the respondents to increase their level of self-efficacy to condom use, consequently increased condom demand and use (cues to action). Their perceived barrier was how they could purchase condoms especially from older service provider. To remove this barrier, the intervention also included educational component by watching video, participating in role plays that would alleviate apprehension which is associated with purchasing condoms. The example in Table 2.3 describes the six concepts of HBM, the definition and application of each concept as related to condom use and STI screening or HIV testing- this is an example from two sexual health actions.

Table 2.3 Describing HBM Concepts and Application on Condom Use and STI/HIV Testing

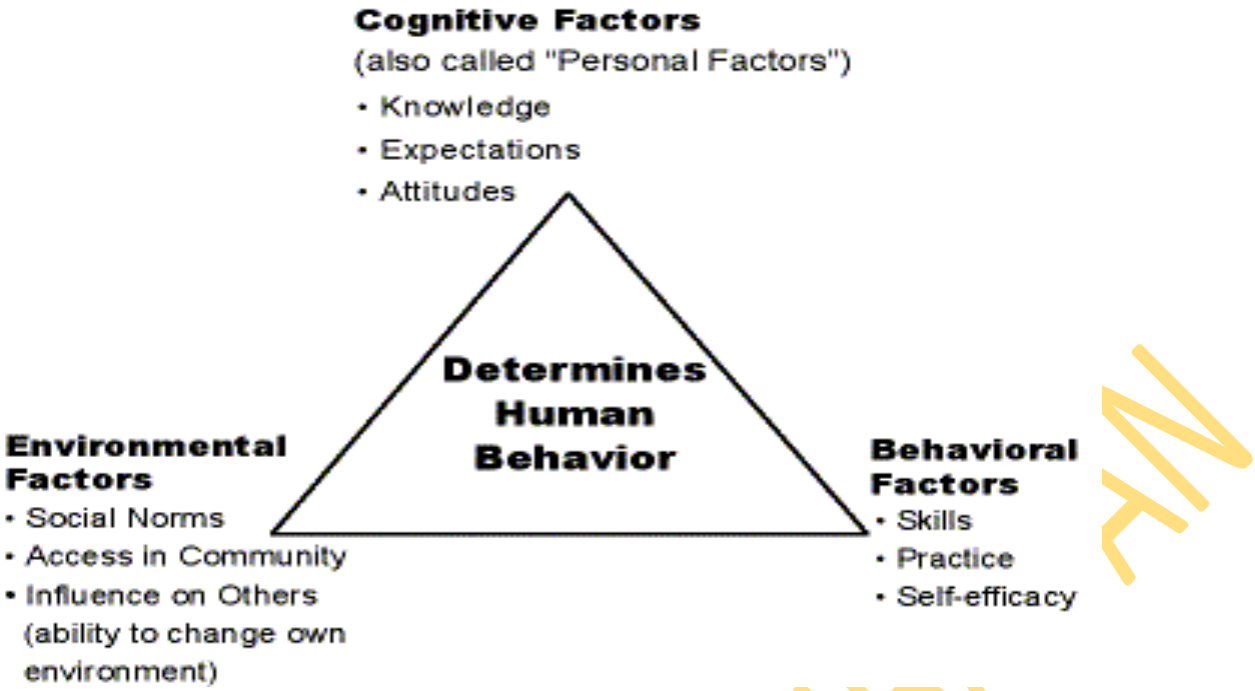
Concept	Condom Use Education Example	STI Screening or HIV Testing
1. Perceived Susceptibility	Youth believe they can get STIs or HIV or create a pregnancy.	Youth believe they may have been exposed to STIs or HIV.
2. Perceived Severity	Youth believe that the consequences of getting STIs or HIV or creating a pregnancy are significant enough to try to avoid.	Youth believe the consequences of having STIs or HIV without knowledge or treatment is significant enough to try to avoid.
3. Perceived Benefits	Youth believe that the recommended action of using condoms would protect them from getting STIs or HIV or creating a pregnancy.	Youth believe that the recommended action of getting tested for STIs and HIV would benefit them — possibly by allowing them to get early treatment or preventing them from infecting others.
4. Perceived Barriers	Youth identify their personal barriers to using condoms (i.e., condoms limit the feeling or they are too embarrassed to talk to their partner about it) and explore ways to eliminate or reduce these barriers (i.e., teach them to put lubricant inside the condom to increase sensation for the male and have them practice condom communication skills to decrease their embarrassment level).	Youth identify their personal barriers to getting tested (i.e. getting to the clinic or being seen at the clinic by someone they know) and explore ways to eliminate or reduce these barriers (i.e., brainstorm, transportation and disguise options).
5. Cues to Action	Youth receive reminder cues for action in the form of incentives (such as pencils with the printed message "no glove, no love") or reminder messages (such as messages in the school newsletter).	Youth receive reminder cues for action in the form of incentives (such as a key chain that says, "Got sex? Get tested!") or reminder messages (such as posters that say, "25% of sexually active teens contract an STI. Are you one of them? Find out now").
6. Self-Efficacy	Youth confident in using a condom correctly in all circumstances.	Youth receive guidance (such as information on where to get tested) or training (such as practice in making an appointment).

Source: http://www.etr.org/recapp/theories/hbm/Resources.htm

2.12.2 Social Learning Theory

The Social Learning Theory (SLT) was formulated by Bandura (1969). The theory examines reciprocal relationship between human being and his environment. Youths especially learn behaviour by observing and imitating others taking cues from other source of information in their environment. These sources include parents, friends and media. The environment plays major role in shaping the behaviour of young persons such as social norms for sexual activities; the family structure which could be monogamy or polygamy; gender roles and opportunities, and availability of ASRH services. Hence Figure 2.3 depicts that the interaction between the cognitive factors (Personal factors-knowledge, expectation and attitude); environmental factors (social norms, access in the community and influence on others) and behavioural factors (skills, practices and self-efficacy) determine individual human behviour.

The theory suggests that self directed change can be achieved through provision of adequate information (Cognitive factor) on safer sex behaviour. But this change has to be supported with resources, skills (Behavioural factor), cultural norms and intervention programme that will empower the young people to resist risky sex behaviour. The concept is employed to explore the sexual behaviour of apprentices in Benin-City, Edo state. It also utilizes resources available in the environment (Environmental factors) to provide information and services in order to influence safer sex practices among the apprentices through transfer of knowledge and relevant skills. These goals were achieved through the educational intervention carried out by the trained instructors and peer educators among the out-of-school apprentices for a period of six months. Specific changes were recorded in the increased knowledge on the prevention and transmission of HIV infection and reduction of sexual partners among those who reported to have had more than one sexual partner at the beginning of the study. In addition, the use of condoms against HIV/AIDS/STIs and unplanned pregnancy increased significantly. The Perceived Self-Efficacy of the apprentices was enhanced to protect them against sexual pressure, unprotected sex and other risky sex behaviours. They were empowered to utilize the available Youth-Friendly Centers and Public Health facilities for their reproductive needs. For example the theory in Table 2.4 below was applied using the six concepts to deliver sexuality education through the Peer Education approach to other peer with the concept of abstinence education for those that had not commenced sexual debut and condom education for those that were already sexually exposed.



Adapted from www.southalabama.edu/oll/mobile theory_workbook/social learning theory.htm

Figure 2.3. Social Learning Theory (SLT)

In the application of SLT, the learner is encouraged to:

- observe and imitate the behaviours of PEs
- see positive behaviours modeled and practised,
- increase their own capability and confidence to implement new skills,
- gain positive attitudes about implementing new skills, and
- experience support from their environment in order to use their new skills.

SLT is a valuable and effective tool for health educators who want to assist their students (trainees) in gaining new health supporting skills. SLT can help educators determine why certain learning activities work, and why other activities are not very effective.

Table 2.4. The Application of SLT

Concept	Definition	Application
Concept	**Abstinence Education Example**	**Correct Condom Use Education Example**
1. Expectations	Youth believe that using the refusal method will work without upsetting their partners.	Youth believe that using condoms will protect them from pregnancy and/or sexually transmitted infections.
2. Observational Learning	Youth observe modeling of the refusal method (saying "no" to sexual activity) to their partners.	Youth observe modeling of how to effectively put on a condom.
3. Behavioural Capability	Youth gain information about abstinence and the refusal method as well as practice using the refusal method.	Youth gain information about condom use and practice how to effectively put on a condom.
4. Self-Efficacy	Youth feel confident they can use the refusal model correctly.	Youth feel confident they can use condoms correctly.
5. Reciprocal Determinism	Youth place an advertisement in the local paper promoting teen abstinence.	Youth survey condom availability in community stores and request identified stores to carry specific brands.
6. Reinforcement	Youth receive praise for proper practice of the refusal model. Youth have positive associations with abstaining from sex such as, "abstaining keeps me healthy," and "abstaining allows me to focus on my business" that will self-reward their abstinence in the future.	Youth receive praise for proper condom demonstration. Youth have positive associations connected with condom use such as, "It will keep me healthy," and "I can relax and enjoy myself more" that will self-reward their condom use in the future.

Source: www.southalabama.edu/oll/mobile theory_workbook/social learning theory.htm

2.12.3 The PRECEDE Framework:

The framework was developed by Lawrence Green (1980) for problem-solving and the facilitation of health education programme planning. The acronym PRECEDE stands for Predisposing, Reinforcing and Enabling factors in Education Diagnosis and Evaluation. The model consists of a series of sequential steps for diagnosing the causes of a problem and consequently selecting the most appropriate health intervention for solving the identified problem. The model is a standard scientific approach to planning programmes in health education. It involves identifying behavioural and non-behavioural causes of a problem, although much emphasis is laid on the behavioural aspect of the model. A comprehensive format is designed that serves as a guide from which a planner can effectively choose an appropriate intervention for an identified health problem.

The model comprises of seven phases which include:

Phase1 – Social diagnosis deals with Quality of life

Phase 2 – Epidemiological diagnosis- deals with specific health problems

Phase 3 – Behavioral and Environmental diagnosis- deals with special health-related problems and the influence of environmental factors.

Phase 4 – Educational and Organizational diagnosis talks about the predisposing, enabling and reinforcing factors that can influence the behavioural intentions.

Phase 5 – Administrative and policy diagnosis deals with health educational intervention by the authority concerned.

Phase 6 – It is the implementation of the policy and intervention plans.

Phase 7 – Evaluation deals with evaluation processes from one stage to the other of the implementation of health policy.

For the purpose of this study, the application of the theory is summarized below.

Phases 1and 2 Epidemiological and social diagnoses deal with quality of life and specific health problem. The study site is known as epicenter for human prostitution, the youths sexual morals have been influenced with the social life and environmental factors. This has been associated with increased rate of STIs and HIV among the Adolescents and Youths in Benin-City, Edo state.

Phase 3 This phase consists of the behavioural diagnosis of the model. It recognizes that the identified health problems are influenced by behavioural and non-behavioural causes. However, the model focuses more on health related behaviours that have negative impact on health and on which a health education intervention is necessary in order to elicit a positive effect on the quality of life. HIV/AIDS prevalence among the youths was 5.6% (National Sentinel Survey 2010). The high prevalence is suggestive of the sexual activities of the adolescents and youths of the study area.

Many youths are reported to engage in premarital unprotected sex with multiple partners. These behaviours can fuel the wide spread of sexually transmitted diseases including HIV/AIDS.

Phases 4 and 5 These phases present the educational diagnosis, which includes behavioural antecedents of the Precede model. These are predisposing, enabling and reinforcing factors. The Predisposing factor includes the knowledge of HIV prevention and other Adolescent Sexual and Reproductive Health issues. Identification of health services that are youth-oriented and friendly available in their community, thereby creating an enabling environment that meets the reproductive health needs of this population. Lastly the role of trained Peer Educators and support from the trained Instructors reinforce the desirable sexual behaviour among the target population that is the tailor and hairdresser apprentices.

Phase 6 It comprises the administrative diagnosis phase during which the health education intervention or strategy that would influence behaviour is identified. The intervention is directed at the three dependent variables that were studied which included the AIDS knowledge, safer sex behaviour and perceived self-efficacy to prevent HIV, using three approaches-Peer Education, Instructor-led and combination of the two approaches that can elicit a positive change in behaviour, giving the consideration to available resources. The policy makers need to support and commit resources to the provision of youth-friendly Sexual and Reproductive Health Services and intervention research that addresses the sexuality health needs of out-of-school population.

Phase 7 Evaluation of the study intervention reveals that Peer Education approach had the positive impact better than instructor-led, but a combination of approaches had greater and proved more effective among the apprentices. This is evidenced by the result obtained at three months and six months of intervention which revealed that the apprentices were able to practice safer sex and confidently use condoms or negotiate the use of condoms with partners thereby reducing the spread of STIs/HIV/AIDS.

The application of PRECEDE Model provides an assessment of the social and epidemiology factors and an investigation of the behavioural causes of the outcomes as identified by the community. The model for health promotion programme proposes three types of influence on health behavior. These are Predisposing, Enabling and Reinforcing factors. This model was used by Deren et al (2003) to examine a range of influences on risky behaviour among 618 adolescents and youths. From the analysis an educational plan (Figure 2.4) was formulated by assessing factors such as knowledge, attitude and values which are predisposing to the behavior. The factors that facilitate positive behavior include skills, availability of resources, accessibility and referrals. For example, a sexually active teenager who has been taught (knowledge) about the importance of contraceptive

(Birth control) is at risk of pregnancy if birth control commodity is not available. However, the factors that predispose behavior are antecedent; enabling factors are the things that enhance the cues of likely taking preventive measures such as availability and affordability of contraceptive commodity. Reinforcing factors relate to things that will increase the occurrence or strengthen the behavior. These are the influence of instructors and positive peer group support.

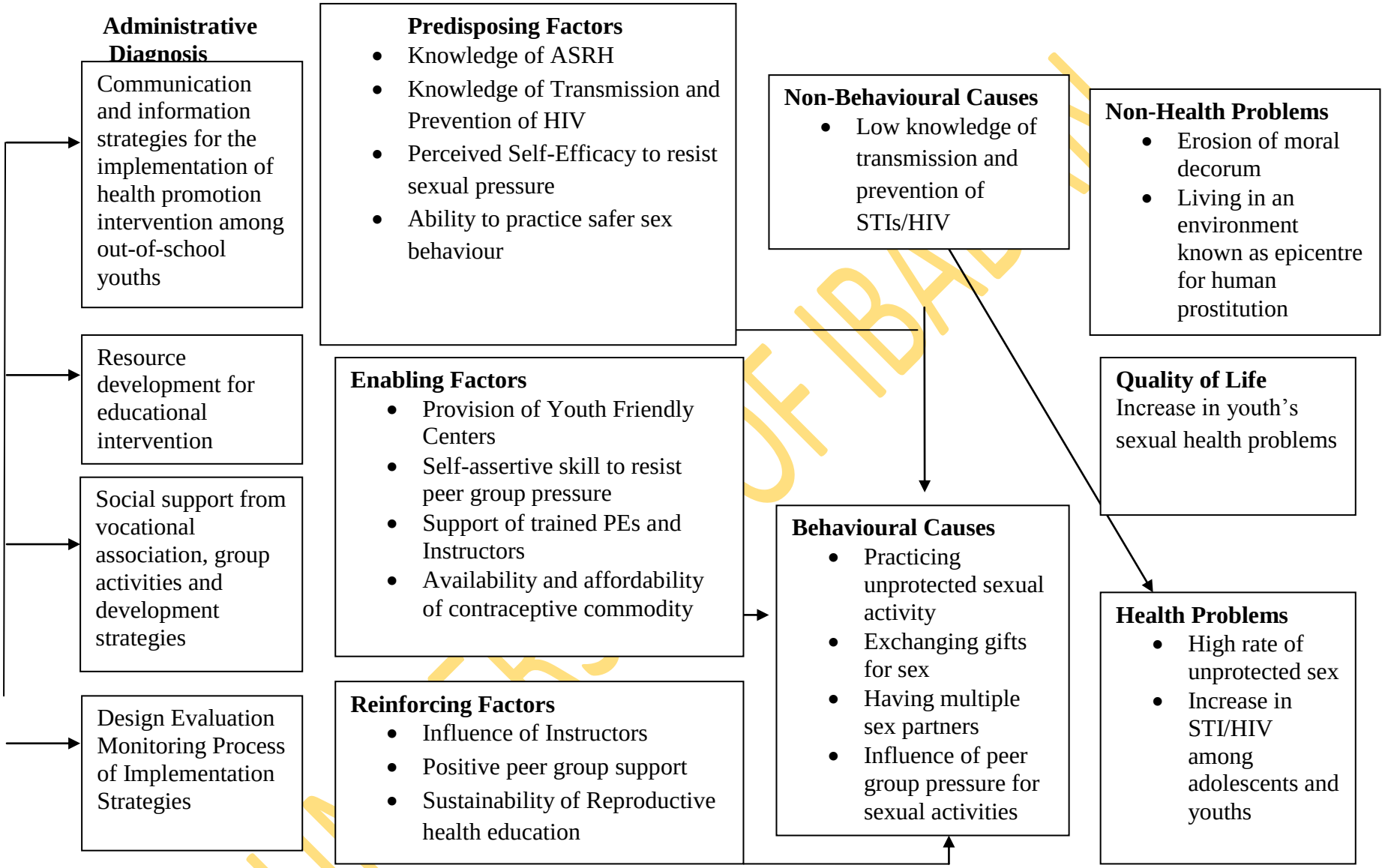


Figure 2.4: APPLICATION OF PRECEED MODEL

2. 12.4. **Summary of the Conceptual Framework**

The three theories are individually focused on behavioural intervention theories, addressing how cognitive processes contribute to behaviours such as abstinence and condom use. These theories are grounded in psychological understanding of human behaviour. HBM and STL are commomly used cognitive –behavioural theories applied in HIV-risk reduction interventions They focuss attention on identifying gaps in knowledge e.g endorsement of myths, misinformation or absence of knowledge, attitude that detract from the desired behaviour e.g apprencices believing that they are not at risk of HIV/STIs ; that multiple partners are necessary; pregnancy cannot occur at first and single sexual intercourse and that use of condoms inhibits pleasure. Interventions are therefore designed to specifically address these concerns to reinforce knowledge and attitude that contribute to the desired behaviour.

Health Belief Model (HBM) is the oldest of the models and posits that individual will change her behaviour if she perceives herself to be susceptible or at risk of acquiring HIV or STIs; that HIV is a serious and deadly disease; that it can be prevented through specific behaviours; that there are definite benefits and few barriers to engaging these behaviours.

Social Leaarning Theory (STL), on the other hand provides a framework for understanding what needs to be done to establish or change behaviours. Consistent with this view, STL sees individuals as active agents in their learning, and that behavioural change intervention requires active participation of individuals e.g practice of life-saving skills. Behaviours are changed, based on self –efficacy or personal conviction that one is able to act in a particular way on having or acquiring the skills required for a particular action. In this study, safer sex behaviour is recommended to prevent the spread of HIV infection among apprentices. However, on seeing or knowing respected Peer Educators (close associates) who are succeful in the desired sexual behaviour, thereby imitate the person.

STL is commonly used on its own or in combination with one of the other cognitive theories in designing HIV prevention interventions. In this study however, STL is used in combination of related theories which include HBM and PRECEDE Models so that one can complement the impact of the other.

The PRECEDE model provided opportunity to diagnose the health related problem among the apprentices and identified a gap in the knowledge of transmission and prevention of HIV; proferred solution using the existing structures in the community to provide educational intervention. This was possible through the support of the administration through policy thereby creating an enabling environment to implement the intervention. The activities of the peer educators and their instructors transferred required self-assertive skills to the apprencices which empowered them to be able to

resist peer group pressure against risky sexual behaviour. Finally, the reinforcing factors gave support through the influence of instructors, positive peer group modeling and sustainability of RH education through various SRH and HIV prevention programmes that are on-going in the community.

Although the three models used in this study have similar components to illustrate the process of positive sexual behavioural change in the apprentices: these included cognitive- perception domain, self-efficacy, bahavioural and the role of environment in influencing a change in behaviour, STL illustrates the concept clearer than the other two (HBM and PROCEDE) as it has been illustrated in their application. (see page 54-64). In addition, STL has explained the study better than the other for the following reasons:

- observe and imitate the behaviours of PEs
- see positive behaviours modeled and practised,
- increase their own capability and confidence to implement new skills,
- gain positive attitudes about implementing new skills, and
- experience support from their environment in order to use their new skills.

CHAPTER THREE

METHODOLOGY

3.0 The chapter covers issues relating to research design and scope, study location, study population and sampling methods. Other areas covered are development, pretest, administration, validity and reliability of the instruments used for the study. It also describes the procedure and materials used for data collection and its analysis, the implementation of the intervention, limitation of the study and Ethical considerations.

3.1 Research Design and Scope

The study was conducted using a quasi-experimental design which involved four groups of study population with similar characteristics. Three out of the four groups (experimental) were randomly assigned as intervention groups while the fourth was the control group. The experimental groups were exposed to intervention activities while the control was not. The intervention groups were apprentices from the shops from the three LGAs in Benin–City, the study area; while the control group was made of apprentices in Orhionmwon. The outline of the intervention design is shown on Table 3.1. Relevant information with regards to HIV knowledge, self-efficacy and sexual behavior of apprentices was obtained at baseline, mid-term (3months) and end-line (6months) after the intervention. This design was adopted to determine the efficacy of short and long-term intervention and document the impact. This was to determine whether a short-term intervention was just enough or a long term intervention would have greater impact. The quasi design allows the investigator to manipulate the independent variables-these are the peer educators and instructors. Educational intervention was given to the three experimental groups, but the control group was not exposed to intervention. The investigator was able to observe the changes that occur over time with dependent variables e.g increased condom use, reduction in number of sexual partner. The design was also used, to control the extraneous variable through randomization; one LGA was used for each study group to reduce contamination and diffusion of information among target population.

Table 3.1 Summary of Intervention Design

Group	Baseline	Intervention	Follow-up	
			3 months	6 months
PE Alone	O_1	X_1	O_2	O_3
Instructional (EAI)	O_1	X_2	O_2	O_3
Combination PE+EAI	O_1	X_3	O_2	O_3
Control	O_1	-	O_2	O_3

The scope of the study was limited to female apprentice tailors and hairdressers in selected shops in the three LGAs located in Benin-City, Edo state. Egor, Oredo and Ikpoba Okha LGAs were selected for the intervention groups while workshops of tailors and hairdressers in Orhionmwon LGA were selected for the control. Pre-test and post-test were conducted to measure the outcome of intervention rendered by peer educators, instructors and combination of the two on knowledge of HIV prevention, perceived self-efficacy to resist sexual pressure and safe sex behaviour, at three and six months post intervention.

3.2 Description of Study Area

The study was conducted in four LGAs of Edo state namely Egor, Oredo, IkpobaOkha and Orhionmwon. Edo state which is one of the thirty-six states of the Republic of Nigeria is in the south-south geo-political region of Nigeria. On August 27th 1991, Edo state was carved out from the former Bendel State. It has an area of about 19,794 kilometers and lies roughly between longitude 05º 04 E and 06º 43'E and latitude 05º 44'N and 07º 34' N. The state has a record of high level of socio-economic activities similar to other states such as Lagos, Port-Harcourt and Calabar (Edo state Publication, 2008). It is a tropical state with climate characterized by two distinct seasons – the wet and dry. The wet season occurs between April and October with a break in August. It has an average rainfall of about 150cm in the extreme north of the state to 250cm in the south. The dry season is between November and April and has a cold harmattan wind between December and January. The average temperature is 25ºC in the raining season and 28ºC in the dry season. The climate is also humid in the south and sub humid in the north.

Benin City being the seat of the state government is bounded on the north by Ovia North East LGA, west by Ovia South West LGA, south by Delta State and on the east by Rhionmwon and

Uhunm Wode LGAs. The city is just like any other cosmopolitan cities in Nigeria, it has experienced the challenges of high risk behavior among the female youths. For this reason the city is purposively selected as the site for the study.

***3.2.1** Administration*

The Machinery of the Government consists of the Executive, Legislature and the Judiciary. The Edo State Executive Council is the highest Governing body in the state. Its membership consists of the Executive Governor as Chairman, the Deputy Governor and Commissioners. The seat of the Government is in Benin City, the state capital which is made up of three LGAs including Egor, IkpobaOkha, and Oredo; all in the south senatorial district of Edo state. The state has 18 LGAs of which four LGAs (Egor, Oredo, IkpobaOkha and Orhionmwon) were field sites for the study.

***3.2.2** Population*

The total population of Benin city is 1,086,882: of which 542545 (49.9%) are males and 544,337 (50.1%) are females (National Population Commission 2006). The record further showed that 248,173 (22.8%) of the population are youths within 15-24 years of age and they constituted the interest age group of the study. There are slightly more female youths 127,205 (51.2%) than male youths 120,968 (49.0%). The dominant ethnic group in the city is the Benins.

***3.2.3** Economy*

The people are primarily farmers and traders of small, medium or large scale businesses. With state creation in 1991, the territory of Benin City and Edo state in general became marginalized in petroleum production, contributing only about 7.6 per cent to the national output. Production is hoped to increase with the exploration of the Ologbo fields, supplementing quantities from Orhiomwon and Ovia LGAs all in the southern part of the state. Benin City is a major food production town, with cassava flour, rice and plantain being its major food crops into national market. Fruits such as pineapples, coconuts and citruses grow in abundance in Benin.

***3.2.4** Education*

There are about 300 Public Primary Schools and 250 Public Secondary Schools in Benin-City (Ministry of Education, Edo State, 2009). It also accommodates a federal university- University of Benin, Benin City. According to 2006 Population census (National Census 2006), Benin City had 248,173 young adults aged 15-24 years which accounted for (22.8%) of its population; comprising 120,968 (48.7%) males 127,205 (51.3%) females. From this population 11,175 (4.5%), 5,515 males and 5,661 females never attended school; 2,818 (1.1%) were in the primary school (1,066 males and 1,080 females); 23,064 (9.3%) comprising of 12,033 males and 11,031 females were in Junior Secondary School while 58,488 (23.6%) which comprised of 29,049 males and 29,439 females were

in Senior Secondary School. Less than a quarter of this age bracket 53,197 (21.4%) were in the tertiary institutions, comprising 23,671 males and 25,165 females (National Census Commission, 2006).

***3.2.5** Health Facilities*

Government-owned health facilities (Federal, State and Local) exist in the city. The University of Benin Teaching Hospital is a tertiary institution. The state owned health facilities comprised of Central Hospital, Benin, and one comprehensive hospital in each of the three LGAs. As of 2010 there were 672 Primary Health Care Centers in all the LGAs of Edo state.

***3.2.6** Transportation*

The greatest road traffic congestion is around Benin City. There are heavy lines of vehicular traffic between Benin and Sapele/Warri port of Delta State. A major federal trunk road runs east-west through Benin City, connecting Lagos and western states to the eastern states and incorporating the Benin-Shagamu expressway. Public transport services are by buses, taxi and motor cycles which are provided mainly by the private sector but supplemented by the state government owned of Edo Transport Service and Edo Line that operates on national routes. Flights operate from the Benin Airport to major destinations in the country such as Lagos and Abuja.

3.3 The Study Population

The study population comprised of young ladies aged between 15 and 35 years who were undergoing skill training on hairdressing and tailoring under the direct supervision of Master Tailors or Hairdressers (Instructors) operating in informal sector of the economy. Respondents were selected through random sampling technique in each of the three LGAs. It was ensured that married and single ladies were selected to reflect the range of age of participants. These young ladies were called “Apprentices”. The apprentices acquire the skills of the trade by serving under an instructor for a number of years during which they observe and put into practice the art of the trade. The number of years an apprentice spends in training varies, depending on the discretion of the instructor, but sometimes it depends on how fast the apprentice learns the skills of the trade. Usually there is no contract signed before the commencement of the training. However on the completion of the training, the apprentice celebrates her “freedom” during which she must have purchased a sewing machine or head dryers and other items accompanied by celebrations.

Furthermore the instructors were the master tailors and hairdressers. They were the owners of the workshops and the apprentices underwent the training under their supervision. They also participated in the study using the instructional approach to disseminate the AIDS education, provided counselling and important role models to their apprentices.

3.4 Sample Size Calculation

The sample size was calculated with reference to previous study on HIV Education among female apprentices. Ajuwon et al, (2002) noted that only 24% of apprentice tailors were able to answer correctly question on knowledge of HIV transmission. The formula (Bamgboye, 2002) is as follows:

$$n = \frac{(Z_{1-\alpha/2} + Z_{2\beta})^2 \; p(1-p)}{D^2}$$

Where,

n= minimum sample size required

α= level of significance = 5%

β = type II error = 10%

$Z_{1-\alpha/2} = 1.96$

$Z_{2\beta} = 1.28$

P = level of knowledge = 0.24

1-p = 0.76

D = margin of error tolerable = 0.05

Therefore,

$$n = \frac{(1.96 + 1.28)^2 \text{ X } 0.24 \text{ X } 0.76}{0.05^2}$$

$$= 766$$

A minimum of 766 apprentices were required for the study. However, considering the need for follow up and subsequent evaluation of the intervention, about 5% attrition rate was added giving a sample size of **805** apprentices.

The intervention part of this study involved all consenting eligible apprentices who completed the initial baseline survey. The study participants were grouped into four arms as follow:

Group 1 - Experimental group -E1 (Apprentices + Peer Educators)

Group 2 – Experimental group –E2 (Apprentices +Instructors)

Group 3 – Experimental group- E3 (Apprentices +Peer Educators and Instructors)

Group 4 – the Control group.

3.5 Sampling Procedure

A multi-stage sampling technique involving four stages was used in selecting respondents for the study.

First stage, the investigator listed the vocations in the study sites out of which two of them that met the criteria of having the largest number of young ladies in apprenticeship were purposively selected. This is followed by the mapping of the Haidressers and Tailors workshops in the 4 LGAs, the shops for tailoring and hairdressing were enumerated. Three hundred (300) workshops were enlisted with each workshop having between 2-15 apprentices.

The second stage involved the systematic selection of the participating workshops, 200 workshops were randomly selected from the list for the four LGAs (50 workshops randomly selected for each LGA that represented the study group). Simple random sampling was used to distribute these workshops into four study groups (three experimental groups and control group).

Third stage involved the selection of the apprentices; based on inclusion and exclusion criteria minimum of one apprentice was selected by balloting from each workshop; targetting at least 200 participants from each study site.

Finally, at the end of this exercise 808 female apprentices were recruited, out of these, using simple random sampling the apprentices were grouped into the following:
Experimental group 1, 2 and 3, each having 202 apprentices (606 were for the three experimental groups) while the remaining 202 participants represented the control group.

Furthermore, in addition to the female apprentice tailors and hairdressers that participated in the study, their instructors (100) were also selected through balloting and were trained to facilitate counselling and preventive activities among the apprentices. The quasi-experimental study involved three intervention approaches: Peer Education (PE), Education by Apprentices' Instructors (EAI), and combination of PE+EAI; and a control group.

3.6 Method and Instruments of Data Collection

Both qualitative and quantitative methods were used for data collection; these were Focus Group Discussion (FGD)) guide and a pre-tested semi-structured questionnaire to ensure that weaknesses of one are counter-balanced by the strength of the other.

Four female research assistants (RAs) in their twenties were recruited and trained to collect data. The four young ladies were students of College of Education, Ekiadalor, Benin-City, Edo state. The investigator conducted a-three day training for them on the details of the study which included the goal and objectives; the participants, the importance of collecting accurate data and the use of the instruments for the study, time frame, study sites, their responsilities and renumeration. Each instrument was discussed and explained thoroughly to ensure adequate understanding and that the RAs develop capacity to obtain correct responses from the participants.

3.6 Qualitative Method

3.6.1 Focus Group Discussion

This is a method of qualitative method that emanates from group dynamics, there is a belief that people tend to supply information on an issue of interest freely especially when they found themselves among people of similar identity and are encouraged to participate. FGDs are helpful in answering questions of why, how and in what similar way people behave the way they do so.

However, this method was used by the investigator to explore information on HIV prevention, sex behaviour, perception of seriousness and vulnerability to STIs and its attendant and socio-economic problems among apprentices. Therefore the investigator developed a discussion guide for the Focus Group Discussion (FGD) (see Appendix C).

3.7 Quantitative Method

3.7.1 Development ofSemi-Structured Questionnaire

The investigator used the findings from FGD to develop a semi-structured questionnaire (see Appendix D). Question items were also drawn from literature reviewed and previous projects relating to HIV education and Reproductive Health Education Programme among the youths. The purpose of using a questionnaire was to collect data that would be used for testing the set of hypotheses. The findings also enabled the investigator to compare the quantitative data at baseline and follow-up.

The questionnaire consisted of 70 open and closed ended items, divided into four sections:

Demographic Characteristics - The first section was used to document the demographic characteristics of the Respondents (Apprentices & Instructors). These included the age, sex, religion, marital status and type of apprenticeship.

Knowledge of HIV Prevention - The second section contained questions relating to knowledge about various modes of transmission and prevention of HIV/AIDS. Knowledge about HIV prevention was assessed on a twenty-one item questionnaire. The first 11 questions were based on transmission of HIV/AIDS from one person to the other. The remaining 10 questions were on the prevention of HIV/AIDS. Each question was in form of multiple choice and the respondents were requested to select one correct answer from the three multiple choice options viz True, False or I don't know. Also each correct answer had a score of one point, leading to a total of 21-point knowledge scale (see Appendix D).

Perceived Self-Efficacy - The third section was used to assess the apprentices' self-efficacy; this was obtained through the responses to issues concerning perceived ability to resist sexual pressure from peers. In assessing the Apprentices' self-efficacy to resist sexual intercourse, seven self-

efficacy questions were included to determine the respondents' level of confidence in resisting sexual pressure. These questions included confidence to (i) resist sexual pressure; (ii) refuse gifts in exchange for sex; (iii) convince partner to postpone sex; (iv) ask your partner to use condom whenever you want to have sex; (v) encourage friend to use condom regularly; (vi) go to a medicine store to buy condom and (vii) go to the health facility to request for a condom.

Reported Sexual Behavior – This was determined by probing the sexual behaviour and use of contraceptives in the three and six months preceeding intervention. Data for safer sex behaviour were computed using a twenty-six-points scale: scores 0-1 were assigned to each question. For example, question on "Have you ever had sex with someone?" A zero point was given to every safer sex behavior while one point was given to risky sexual behaviour. The sum total of the scores revealed that the higher the scores, the higher the risky behaviour of the respondents and consequently the greater the vulnerability of the apprentice to STIs (see Appendix D: Section C). Unlike the perceived self-efficacy scores in which the high score translates to high level of self-confidence to resist sexual pressure and connotes safer sex behaviour; but the high scores in sexual behaviour conotes risky sexual behaviour. Furthermore comparison of scores for each variable was computed for the experimental and control groups. The last section covered information relating to the respondents' sexual practice, STI management and use of VCT centers.

3.8 Validity and Reliability of Instruments

3.8.1 Validity of the Instruments

The content validity of the instruments was verified both from published literatures and consultation with the supervisor of the study. Questions were also drawn from previous project which focused on school based Reproductive Health Education Programme (FLHE) and Effects of Peer Education on the use of VCT services among young persons in Ibadan, Nigeria (Ajuwon et al, 2008). This questionnaire had been earlier field tested among young people. The investigator also used the FGD findings to develop the questionnaire, (see Appendixes D). During the pre-testing of the instruments, corrections and options suggested by the respondents were integrated. This modification enhanced the content validity of the instruments. The internal consistency was ensured as the age of the participants was within the range of adolescent and youth which was stated at the operational definition.

Furthermore, the investigator could have used an existing scale from previous study to compare the scores of the participant thereby establishing the internal consistency of the instrument. In the absence of an existing scale, the face validity was also defined by using the mean score of the

participants for each variable. For the knowlwdge score, the mean score at baseline was 11.4 (±3.4). The investigator categorized the participants that scored above the mean to have had good knowledge of HIV prevention and transmission, but those that scored below the mean had poor knowledge. The mean score for perceived self efficacy was 11.3 (±3.7); the apprentices that scored higher than the mean had high level of self efficacy whereas those that scored below the mean had low level of self efficacy. The mean score for sex behaviour at baseline was 5.8 (±2.6); all the apprentices that scored above the mean were categorized to have scored high and were vulnerable to risky sexual behaviour, while those that scored below the mean had high potential for safer sex behaviour.

3.8.2 Reliability of the Instruments

The reliability of the instruments was tested by taking the following actions. The instruments both the qualitative (FGD) and quantitative (Questionnaire) were pre-tested in December 2008 and test retest was done in January 2009, before they were used for baseline survey. The questionnaire was administered on 80 apprentices and 20 instructors, representing 10% of the study population (800 Apprentices and 200 Instructors). The questionnaire was administered by four trained Research Assistants, and the pretesting was carried out in Esan West LGA of Edo state, about 50 kilometers to Benin-City, but with similar characteristics with the study areas. The result obtained from the pre-testing highlighted some of the problems that could have been encountered during the final administration of the questionnaire. Also it helped the researcher to assess the duration of questionnaire administration. The corrections and options suggested by the respondents were incorporated in the questionnaire.

A test-re-test of the questionnaire was administered to the 80 apprentices and 20 instructors that participated in the first pre-test after four weeks interval. When the two sets of the result of the questionnaire administered at different occasions were analyzed using Cronbach's Alpha Based Reliability test, it gave an alpha value of 0.660 that is 66.0%; this translated that there was no significant difference between the pre-test and re-test results and that the instrument was reliable and would yield the desired result. In addition the alpha value for knowledge was 0.741, self-efficacy was 0.739 and sex behaviour was 0.577.

3.9. Data Collection

The methods of data collection used were FGD and semi-structure questionnaire.

3.9.1 Conduct of FGD for Baseline

The FGD guide was pretested at Esan West of Edo state. Since there were four groups participating in the study, a total of eight sessions of FGD were conducted, consisting of two FGD sessions for apprentices in each experimental and control groups. Each group was homogenous and had between 8 and 10 participants at each session. Four field assistants that were trained were assigned to be moderators, note takers and observers. The moderators had similar characteristics with the FGD participants; they were within the same age range to ensure free flow of discussion. The investigator was present at each session to coordinate the process. Adequate provision was made for successful sessions by making the environment conducive and refreshment was served during sessions.

The sessions started with general introduction of members and discussion about the needs of young ladies learning a trade. The FGD guide explored the health problems that were common with female apprentices in the area and how these problems were resolved. The discussion also explored the level of knowledge on HIV prevention and STIs, mode of transmission and prevention; risks involved in engaging in premarital sex, having multiple sexual partners and how these risks could be prevented. The discussion further sought suggestions from the participants on how adolescents and young ladies could be encouraged to practice safer sex. Each session lasted for one to one and half hours. At the end of each session the investigator thanked the participants for their support and cooperation for successful discussion.

The information gathered from the FGD was used to develop the survey questionnaire which was administered at baseline and follow-up surveys. The information was also used to develop the content of the health promotion intervention.

3.9.2 The Questionnaire Administration for Baseline Survey

After the pre-testing of the questionnaire, the revised version was administered to the apprentices in the four study groups to obtain the baseline information, the exercise commenced in July 2009 and it lasted for two weeks. Using the four trained Research Assistants (RA), one RA was assigned to each study group. She went from one shop to the other to administer the questionnaire using face-to-face interview. The questions were read out to respondents, explanations were given whenever it was necessary, and sometimes the question was rephrased in Pidgin English for proper understanding. This was done to ensure that correct responses were obtained from the Instructors and Apprentices. On the average each RA administered between eight and ten questionnaires daily. The RAs were supervised by the investigator who was going from one LGA to the other to monitor the work.

3.10. Analysis of Baseline Survey

All the information collected through the use of all the instruments described above was collated and analyzed using computer software. The result showed the different levels of HIV knowledge, perceived self-efficacy and pattern of sex behviour of the apprentices. The areas of concern were used to develop the curriculum and also to plan for the educational intervention.

3.11 The Design of Intervention

The project was implemented in three phases: Baseline, Intervention and Follow-up.

Baseline Phase

Baseline activities involved mapping out the workshops and enumeration of the apprentices and instructors. Findings from FGD were used to develop the questionnaire for quantitative data, details were discussed earlier.

Description of the Intervention Activities

This section describes the actual intervention activities that were conducted in the three experimental groups to explain the post intervention findings. After obtaining the approval of Instructors and the consent of the Apprentices, the selection of those to be trained as Peer Educators (PE) was done using participatory method. This phase consisted of training of randomly selected 100 apprentices on HIV prevention and counselling. In addition, 100 instructors were selected and trained. The selection and training of both Peer Educators and their instructors covered a month. Immediately after training they were instructed to carry out these activities with other apprentices in their workshops for a period of six months. The design adopted for the study implementation as discussed earlier in the introductory section of this thesis was the use of three approaches namely the Peer Educator alone (PE), the instructor alone (EAI) and the combination of these two approaches (PE+EAI). Therefore the participants used these methods to carry out intervention activities in the three experimental groups.

Table 3.2 Distribution of PEs and Instructors

Groups	Educators	
	PE	Instructors
E1	50	0
E2	0	50
E3	50	50
Total	100	100

3.11.1 Development of Training Curriculum

The curriculum was developed using the findings from baseline FGD, survey and relevant portions from the Curriculum for Out-of–School Youths. Findings from FGD included common health problems affecting apprentices in the area and their coping strategies. There was misconception about the spread of HIV from one person to another. Findings from the baseline survey showed that majority (60%) of the apprentices believed one could contract HIV by eating and using the same toilet with someone living with HIV/AIDS. Some apprentices thought pregnancy could not occur at the first sexual intercourse. The Curriculum for Training Out-of-School Youth PEs designed by Action Health Incorporated (2006) was adapted and modified, used for the training of PEs. The topics adopted from the training manual are listed below; they were included in the developed curriculum by the investigator.

The content areas covered during the training are listed below:

1. Values and Value clarification
2. Overview of ASRH: Anatomy and Physiology; Body Image
3. STIs, HIV/AIDS
4. Sexual Abuse/ Violence/ Harassment
5. Relationship: Family, Friendship/ Courtship, Love making, Marriage and Parenting
6. Concept of Peer Educators: Roles and Responsibilities of a PE Qualities of a good PE
7. Life skills – Leadership, Negotiation and Assertiveness, Self Esteem, Decision Making
8. Prevention of unwanted pregnancy, Abortion
9. Contraceptive use- Condom Programming, Demonstration and return Demonstration
10. Communication
11. Counselling

12. Design of work plan for Follow up activities
13. Introduction to the use of Management Information System (MIS) forms.

The curriculum was thereafter compared with previous studies such as Ajuwon, (2000) and Adegbenro, (2008) to ensure the curriculum covered all the pertinent areas and measured up with previous curricula for similar studies.

3.11.2 Selection of Peer Educators- Experimental Group 1

The selection was done by the investigator, RA, an instructor and 2 apprentices in each shop. Having secured permission from the instructors of the participating workshops, the researcher met with the instructors and apprentices in their respective shops. The investigator discussed the key findings from the baseline survey. Also the rationale for using peer education to address the concerns was explained to them and their inputs were sought in selecting the PEs. The apprentices were asked to identify what they perceived to be qualities of a good PE. Some mentioned patience, punctuality, tolerance, commitment to work, and effective communication skills. Three criteria were added by the investigator for the selection of the PEs. These included demonstration of interest, stability and seriousness at work (this was determined by the Instructor and Apprentices); and having at least one or more years to spend on their apprenticeship training. This would ensure that the trained PE would be available throughout the life span of the study. In order to ensure an equal opportunity and even distribution of PEs to be trained, a minimum of one apprentice was taken from each shop. At the end of the exercise, fifty eligible apprentices gave their consent to be trained as PEs in each experimental group E1 and E2 (see Table 3.2).

3.11.3 Inclusion Criteria for the Selection of Peer Educators

The following criteria were used to select the participants to be trained as peer educators:

- Apprentices selected by the instructors and apprentices in each shop and they that have met the criteria.
- Apprentices that are interested in the study and wished to be trained as peer educator.
- Apprentices working in the participating shops.
- Stability at work according to the recommendation of the instructor and apprentices.
- Apprentices with one or more years to complete the apprenticeship.

3.11.4 The Exclusion Criteria

- Apprentices who did not indicate their interest in the study and the the training.
- Apprentices with less than one year to complete apprenticeship.

3.11.5 Planning the Training Activities

Participatory approach was used to constitute a training committee in which the stakeholders were involved. A six-person training committee was formed for each group comprising the investigator, two resource persons, one research assistant and two volunteered apprentices or instructors as the case might be. The committee held two pre training meetings at each study area to plan the programme activities. The meetings gave opportunity to the intending participants to suggest ideas that ensured that the training needs were met. The instructors and apprentices advocated for a three day training instead of five days (investigator planned five days for the training) because the nature of their job would not allow them to be out of the shops for a long period. The participants in the committee mobilized their colleagues for the training. The agenda was jointly drawn and responsibilities were shared. These included securing and setting of the venue, identification of caterers and types of food to be served; and also time to commence and finish the training.

3.11.6 Selection of Trainers

The investigator and three well informed Master Trainers on out-of-school Youth PEs [Trainer of Trainers (TOT)] were hired as resource persons to facilitate the training. They had been trained by Action Health International with support of UNFPA. These trainers were selected because they were based in Benin-City and they had considerable experience conducting PEs training for vulnerable population including sex workers in the state.

3.11.7 Training of the Peer Educators (Apprentices)

Public halls were used as venue and trainings were held from Monday – Wednesday, 9.00 am-3.30 pm every day (see appendix F-training agenda). The training was conducted in English and Pidgin for easy understanding as this was the language that was widely spoken in the state. The training sessions were interactive using Participatory Learning Approach (PLA) which included brainstorming, lectures, songs, role play, group work and sharing of experiences (see Figures 3.1, 3.2, 3.3 and 3.4). Question and answer sessions were held. Each trainee was provided with writing materials such as exercise book, pen, pencil, eraser and sharpener. Also relevant training aides such as flip charts, markers, training manual, posters, charts and models for demonstration were used.

Training of Peer Educators in Experimental Group 1

Fifty female apprentices were recruited for the training, grouped into two batches for training. Each batch was made of 25 participants and training was conducted in each study site for easy movement of the participants. But in this study group forty six started the training and only 40 (80%) completed the 3-day training on HIV Prevention and Adolescent Sexual and Reproductive Health. Their age ranged from 15-25 years with a mean age of 21.9 years. A 20-point Pre-test was administered (see Appendix G) on the PEs, at the beginning of the training to ascertain the level of knowledge of participants on Reproductive Health issues and HIV Prevention. The pre-test consisted 20 questions, divided into 3 sections: first section assessed the participants' pre training knowledge on HIV/AIDS prevention and transmission; second section was on apprentices' self efficacy to resist sexual pressure, while the third section assessed qualities of a good PE and Counsellor. After training a post-test was conducted using the same questionnaire that was used for pre-test. The Pre-Test result showed that the trainees had a mean score of 8.7 and at Post-Test, there was an improvement as the mean score increased to 12.4. The difference of 3.7 indicated that there was acquisition of knowledge at the training. The role and responsibilities of PEs were discussed during training. These included counselling, identification of those who needed medical treatment or otherwise help and referrals to the public hospitals, Youth Friendly Centers or to the instructors as appropriate.

Training of Peer Educators in Experimental Group 3

At this study site, two series of training were conducted, first with the Apprentices and secondly with the Instructors in July 2009. Forty-two Apprentices completed the training with 84% attendance. Their age ranged from 16-28 years with a mean age of 21.9 years. The pre test and post test were administered to them. At pretest, the Apprentices had a mean score of 11.0, which increased to 15.3 at post test. The difference of 4.3 mean score between both tests is significant and confirmed that there was acquisition of knowledge at the training programme which lasted for three days.

Figure 3.1 A Lecture Session during the Peer Educators' Training

Figure 3.2 A Role Play on friendship during Peer Educators' Training

Figure 3.3 A Group Discussion on Communication among the Peer Educators

Figure 3.4 A Group Photograph of a sub-set of Peer Educators during Training

3.11.8 Selection of Instructors

One hundred Instructors from enumerated shops in Experimental groups 2 and 3 (E2 and E3) were recruited (see Table 3.2) and consent obtained from them to be trained as counselors and change-agents for the apprentices undergoing training with them. They were the owners of the 100 workshops participating from E2 and E3 (50 Instructors from each intervention group). Their roles as important source of information and role models for the apprentices were stressed; they were to complement the apprentices' activities in their various shops.

3.11.9 Inclusion Criteria for Selecting the Instructors

- The instructors who are the owner of the shops in Experimental groups 2 and 3
- The instructors who were interested in the study and the training.

3.11.10 Exclusion Criteria

- Instructors who are the owners of the shops in the Experimental group 1
- Owners of the shops who did not indicate their interest in the study and the training.

3.11.11 Training of the Instructors

Training of the Instructors in Experimental Group 2

A total of forty-two master Tailors and Hairdressers (Tailors-27 and Hairdressers 15) participated in the training and they represented the Experimental Group 2. Three-day training was conducted in this study site, the same topics, resource persons and training manual, training contents and methodologies used for the training of apprentices were used. The pretest recorded a mean score of 15.6 while there was a slight increase at post test to 17.5. They were given incentives in form of writing materials and transport fare.

Training of the Instructors in Experimental Group 3

The training for the instructors at this site was conducted simultaneously with the apprentices in the same site but at different venue. A total of fifty master tailors and hairdressers (Tailor 25 and Hairdressers 25) were recruited for the training, out of which forty commenced the training but only thirty five (25 Tailors and 10 Hairdressers) completed the training. The same training agenda, materials and methods used for the Apprentices were used for them for three days. The Instructors were trained as Potential Change Agents and to complement the Peer Educators activities on the Apprentices in their various workshops. Pretest of 20 point questions was administered and the

mean score was 13.9. At Post test, there was an increase of the mean score to 16.1. The difference of 4.1 between the mean scores was significant indicating that there was knowledge gained at the training.

3.11.12 Control Group

Intervention activities were not carried out on this group.

3.12.1 Educational Activities of Peer Educators in Intervention Shops (E1).

The trained PEs assumed their role as PEs immediately in their various shops where they carried out several educational activities including counselling other apprentices in their shops. The PEs used the topics that were thoroughly discussed at the training to educate and counsel their peers. The agenda used at the training was adopted as a guide to discuss the topics one after the other. The counseling session was carried out when the PEs and fellow apprentices in the shops were less busy; for example among the tailors, peer educators conducted the session once a week either on Wednesday or Saturday between 12 mid-day and 1 pm for one hour. The timing for the discussion was agreed upon with the permission of the instructors- owners of the shop. The PEs claimed there was no pressure of work on these days and time. But the hairdressers conducted the session on Monday or Thursday between 10 am and 12 mid-day before their customers arrived (they claimed the flow of clients is usually at the peak from Friday through the week-end). The PEs documented their educational activities on the Management Information System (MIS) forms provided by the investigator (see Appendix H). These forms were collected at the monthly supervisory meetings. The information generated on the forms was collated and analyzed, Table 3.4 showed discussion and counselling conducted by the trained PEs among other apprentices in the first three months of Intervention- August – October, 2009.

The investigator held monthly meetings with PEs to identify issues, concerns and problem that had arisen during the previous month. The investigator offered suggestions for solving identified problems. In addition, each PE made a presentation on a topic to refresh knowledge on the topic. This strategy ensured that adequate and correct information was given to other apprentices. Everyone had opportunity to contribute to the discussion, clarification of ideas and answers to relevant questions were given. Each PE was given one MIS form per month to record their activities; these forms were collected every month, checked for completeness and correct responses, more forms were also distributed for documentation of the on-coming activities. The investigator commended their effort and disbursed the monetary incentive for transportation fare. The analysis of the PEs MIS forms showed that at the first three months of intervention (August –October, 2009) the trained PEs conducted 152 educational sessions and counseled 1038 apprentices. Table 4.6)

showed that Prevention of HIV/AIDS/STI was the most common issue discussed (17.1%), followed by Relationship (16.4%), Friendship (9.2%) and Marriage (7.9%). Other topics discussed were Prevention of Unwanted pregnancy (7.9%), Management of Abortion (7.2%), Sexual Abuse (4.0%) and Condom use (2.6%).

Table 3.3 Topics Discussed at 3 months of Intervention by PEs in E1

S/N	Topics Discussed	No of Sessions	Percent	Number of People Reached
1.	HIV/AIDS and STI Prevention	26	17.1	172
2.	Relationship: Family and Parenting	25	16.4	172
3.	Value Clarification/Self Esteem and Leadership	18	11.8	115
4.	Friendship/Courtship and Dating	14	9.2	85
5	Communication	13	8.5	89
6.	Marriage	12	7.9	76
7.	Prevention and management of unwanted pregnancy	12	7.9	109
8.	Abortion	11	7.2	99
9.	Rape	6	4.0	58
10	Sexual harassment/Abuse	6	4.0	23
11	Sexual Intercourse	5	3.3	25
12	Contraceptives and condom use	4	2.6	41
	Total	152	100.0	1038

3.12.2 Educational Activities of Instructors (E2) Group.

They assumed counselling activities immediately after the training. The instructors reported to have carried the sessions towards the close of the business on Thursday or Friday when they were not busy with clients there was no out-of-shop engagement such as association meetings. The claimed the session lasted for forty –five minutes to one hour weekly. Likewise, follow-up meetings were held every month for six months, at the zonal meeting venue; these sessions were held shortly after the Association's Zonal meetings. Challenges encountered while counselling the apprentices were discussed and solutions proffered. Although instructor-educators were provided with MIS Forms to record their activities, instructor-educators did not complete this. As a result, the investigator is not able to document the specific topics that instructor-educators actually discussed with the apprentices in their shops.

3.12.3 Educational Activities of PEs in Combined Intervention Group (E 3).

Immediately after the training, the PEs commenced the educational activities with other apprentices in respective workshops. The apprentices reported that their counselling sessions were done on Tuesday or Thursday every week either at mid-day or towards the close of the day when their clients had gone. The PEs at this site conducted the session under the supervision of their instructors. Topics were taken from the training agenda to guide the discussion; they claimed the sessions were interactive involving all the apprentices in the shop. They reported that sometimes when they had customers, their clients showed interest in the discussion especially with the contribution from their instructors. The apprentices recorded their activities on the MIS forms given to them. Also a monthly supervisory meeting was held with each group for a period of six months following the training.

The analysis of their MIS forms showed that during the first three months (August- October, 2009), following the training the PEs conducted 243 educational sessions and counselled 1564 Apprentices. Topics that were discussed are listed on Table 3.5. Just like their counterparts in Experimental group1, the most common issue discussed was HIV/AIDS and STI Prevention conducted in 33 sessions (13.6%), followed by communication 12.3%. Other topics were Relationship: Family and Parenting 11.5%, Friendship, Courting and Dating, 9.9%, Abortion 8.6%, Values Clarification, Self Esteem and Leadership 7.1%, Prevention and Management of unwanted Pregnancy 6.8%, Sexual Harassment and Abuse 6.6%, Contraceptives and Condom use 6.2% and Rape 5.0%.

Table 3.4 Topics Discussed by PEs at 3 Months of Intervention in E3

S/N	Topics Discussed	No of Session	**Percent**	No of People Reached
1	HIV/AIDS and STD Prevention	33	13.6	258
2	Communication	30	12.3	228
3	Relationship: Family and Parenting	28	11.5	182
4	Friendship/Courtship and Dating	24	9.9	132
5	Abortion	21	8.6	150
6	Value Clarification/Self Esteem/Leadership	17	7.1	99
7	Sexual harassment/Abuse	16	6.6	100
8	Prevention and management of unwanted pregnancy	15	6.8	140
9	Contraceptives and condom use	15	6.2	87
10	Rape	12	5.0	106
11	Marriage	8	3.3	49
12	Sexual Intercourse	3	1.2	33
	Total	243	100.0	1564

3.12.4 Educational Activities of the Instructors in the Combined Intervention (E3).

The instructors also commenced counselling sessions immediately after the training. They claimed to have conducted the counselling activities with their apprentices, but they did not fill the MIS forms given to them; neither did they return these forms to the investigator. Following persuasion and pleading two completed forms were submitted. They pleaded that they carried out the activities but they were too busy to fill the MIS forms.

Monthly meeting was held with them for a period of six months at their zonal meeting venue. The meeting was held immediately after the association's zonal meeting to ensure good attendance and reduce cost of transportation to attend the follow-up meetings.

At six months intervention, (the last three months of intervention) the PEs activities held between November 2009 and January, 2010 were recorded on the MIS forms. During this period the PEs in E1 carried out 309 counselling sessions and reached 2,540 Apprentices. The topic that was mostly discussed was Relationship, Family and Parenting (14.9%), followed by Friendship, Courting and Dating (13.6%) and HIV/AIDS/STI Prevention 13.2% while sexual intercourse was least discussed (2.9%). The analysis is presented in Table 3.6

Table 3.5 Topics Discussed by PEs at the last Three Months of Intervention (E1)

S/N	Topics Discussed	No of Sessions	Percent	Number of People Reached
1.	Relationship: Family and Parenting	46	14.9	399
2.	Friendship/Courtship and Dating	42	13.6	322
3	HIV/AIDS and STD Prevention	41	13.3	287
4.	Values Clarification/Self Esteem/Leadership	36	11.3	287
5.	Prevention and management of unwanted pregnancy	24	7.8	204
6.	Contraceptives and condom use	22	7.1	189
7.	Marriage	21	6.8	168
8.	Sexual harassment/Abuse	21	6.8	191
9.	Communication	19	6.1	165
10	Abortion	16	5.2	145
11.	Rape	13	4.2	114
12	Sexual Intercourse	9	2.9	69
	Total	309	100.0	2540

Table 3.6 Topics Discussed by PEs at the last Three Months of Intervention at E3

S/N	Topics Discussed	No of Sessions	Percentage	Number of People Reached
1	Relationship: Family and Parenting	23	15.0	192
2	HIV/AIDS and STD Prevention	22	14.3	212
3	Friendship/Courtship and Dating	20	13.1	171
4	Communication	17	11.0	145
5	Sexual harassment/Abuse	15	9.7	143
6	Values Clarification/Self Esteem/Leadership	14	9.1	118
7	Rape	12	7.8	97
8	Marriage	11	7.1	93
9	Contraceptives and condom use	10	6.5	105
10	Abortion	6	3.9	40
11	Prevention and management of unwanted pregnancy	3	2.0	14
12	Sexual Intercourse	1	0.65	10
	Total	154	100.0	1340

Likewise the Peer Educators in E3 submitted the filled MIS forms which showed that PEs conducted 154 counseling sessions and reached 1340 Apprentices (see Table 3.7). The most common topic discussed was Relationship as related to Parenting and Family (15.0%), followed by HIV/AIDS/STI Prevention (14.3%), Friendship/Courtship/Dating (13.1%). Other issues discussed included Sexual Harassment/Abuse (9.7%), Value Clarification/Self Esteem/Leadership (9.1%), Rape (7.8%), Contraceptives and Condom Use (6.5%), Abortion (3.9%) and the least discussed was Sexual Intercourse (0.65%).

3.13 Monitoring the Intervention Activities

The Instructors and PEs commenced the implementation of intervention activities immediately after the training in their respectful shops at the three intervention arms (E1, E2 and E3) for a period of 6 months. The roles and responsibilities of Instructors and Apprentices had been discussed during the training which included counselling, identification of needs of other apprentices and referral to Youth Friendly Centers or Public Health facilities such as University of Benin Teaching Hospital (UBTH) and Central Hospital, Benin for HIV test and STIs management. Management Information System (MIS) forms were given to all trained Instructors and Apprentices to document their activities (see Appendix H). The forms contained the name of the participant, date, study site, topic of counselling, number of people reached and remarks.

The PEs were grouped into three sub-groups in Experimental groups 2 and 3 to facilitate adequate coordination of monthly follow-up activities. Each sub-group had a Group Leader and Assistant who organized the monthly meetings. The overall supervision was done by the investigator. In addition a Research Assistant who had been participating in the training and mobilization was hired to assist in coordinating the monthly meeting with the investigator. The date and venue were suggested by the participants. The records of members of each sub-group, venue, date and time of meeting were kept by the investigator, coordinator and group leaders of sub-groups for effective coordination.

For supervisory purposes, the investigator paid weekly visits to the shops regularly. This was done to monitor the activities of PEs and instructors and ensure that every participant carried out her activities well. The researcher also arranged six monthly rounds of meetings with each team in the intervention groups. In order to ensure continuity of activities and commitment of PEs the investigator gave a monetary incentive of N100 monthly to each PEs who attended meetings and showed evidence of the work done during the course of the month by submitting the MIS forms. This approach was adopted to encourage them and ensure stability of the group throughout the study period and also build in sustainability of the intervention activities. It was an attempt to sustain their interest throughout and reduce attrition from the study as reported by Ajuwon et al (2002).

The Instructors had their meetings immediately after their associations' monthly zonal meetings. This arrangement was used to safe time and cost of transportation for the monthly meeting scheduled for the review of instructors' activities on this study. Although they were not given financial incentives, they were encouraged with the knowledge and skills impacted on them at the training, this opportunity would have enriched them as a mother, guardian and instructor to be a model to emulate and of course empowered to be a change agent. However certificate of participation was awarded to them at the completion of the training.

The investigator arranged an update discussion at every meeting date; making use of topics which were taken from the training agenda. This was done to refresh their memory and enrich the quality of health information that would be discussed among the apprentices. This supportive supervision was carried out for a period of six months. A total of 54 monthly meetings was held with the trained PEs of the 3 intervention groups. The data collected by the trained PEs and Instructors during their follow-up activities were collated and summarized. The problems and constraints encountered during the follow up activities were resolved while suggestions and best practices were also documented. The monthly supervisory meetings also evaluated the progress of interventions.

3.14 Controlling for Effect of Confounder

The confounder that was controlled for in the study was prevention of free flow of information and contamination from one intervention group to the other; and from any of the intervention group to the control group. The different location of each study group in an LGA in Benin and the control group in an LGA outside Benin-City for the study did not allow free flow of information from intervention groups to the control group which might affect the validity of the result. Although there was also geographical distance between the experimental groups, there was no evidence that there is 100 per cent guarantee of non-diffusion of information from one intervention site to the other.

Follow-up Activities

Follow-up assessments were conducted at intervals of three months (mid-term) and six months (end-line) after training, the most effective approach to deliver a positive change on the dependent variables was documented.

3.15 Post-Intervention Data Collection Using Questionnaire

The same methodology of questionnaire administration that was used during baseline survey was employed at post-intervention follow-up. The same set of apprentices at baseline was contacted. However some questions which sought information from the apprentices about health information received from Instructors and PEs were added to the baseline questionnaire for follow-up survey. A comparison of the three approaches was done to determine the most effective intervention that was able to deliver specific results. The same questionnaire administered on the experimental groups was also administered on the control group to determine if the educational intervention had significant impact on the experimental groups.

3.16 The Evaluation of Intervention Activities

The researcher carried out both process and outcome evaluation during the period of the study. Process evaluation involved the pre and post tests conducted during the training activities and the monitoring carried out after the training. In addition the weekly supervisory and monthly meetings were conducted during the implementation of intervention activities. The baseline and intervention activities were implemented for thirteen months from January 2009 to February 2010.

The evaluation was conducted at two points: at three months - a mid-term evaluation (November, 2009) and at six months post intervention (February, 2010)- a final evaluation. The evaluation involved the assessment of the effects of peer education and instructional approaches compa red with the use of combined approach on the apprentices' knowledge on HIV prevention, perceived self-efficacy to resist sexual pressure and sexual behaviour. The design was used to determine if the short term intervention could be as effective as long term intervention.

3.17 Data Analysis

The findings of the FGDs were transcribed and a report of each session was written. These reports were then subjected to thematic analysis. As much as possible quotations which typified discussants' views were presented (as shown in chapter 4). The FGD findings were integrated with quantitative data.

The completed questionnaire was collected collated and checked for completeness while on the field, and the following actions were adopted for the analysis of the variables. Responses from each questionnaire were hand-coded using a coding guide developed after researcher had carefully reviewed them. Questionnaires were labelled with identification code with the first letter of the study area and serially numbered 1- 204. Data were entered into the computer and statistical analysis was done using Statistical Package for Social Sciences (SPSS) computer software. Analysis was done using descriptive statistics: chi square, analysis of variance (ANOVA) and t-test. The data was organized into tables and figures and charts to give a clearer pictorial view of the relationship between the variables.

3.17.1 Scoring of Knowledge of HIV

Knowledge about HIV prevention was assessed on a twenty-one item questionnaire. The first 11 questions were based on transmission of HIV/AIDS from one person to the other. The remaining 10 questions were on the prevention of HIV/AIDS. Each question was in form of multiple choice and the respondents were requested to select one correct answer from the three multiple choice options viz True, False or I don't know. Also each correct answer had a score of one point, leading to a total of 21-point knowledge scale (see Appendix D).

3.17.2 Scoring of Perceived Self-Efficacy

The level of confidence was rated on a scale of 1-3 point. For example, an apprentice being very confident at doing any of the seven activities that resist sexual pressure, scored 3 points, little confidence was awarded 2 points and no confidence at all, had 1 point with a total obtainable score of 21 points. The apprentices were requested to rate their level of confidence to carry out the behaviours (see Appendix D: questions 28 a-g.

3.17.3 Scoring of Sex Behaviour

Data for safer sex behaviour were computed using a twenty-six-points scale: scores 0-1 were assigned to each question. For example, question on "Have you ever had sex with someone?" A zero point was given to every safer sex behavior while one point was given to risky sexual behaviour. The sum total of the scores revealed that the higher the scores, the higher the risky behaviour of the

respondents and consequently the greater the vulnerability of the apprentice to STIs (see Appendix D: Section C). Unlike the perceived self-efficacy scores in which the high score translates to high level of self-confidence to resist sexual pressure and connotes safer sex behaviour; but the high scores in sexual behaviour conotes risky sexual behaviour. Furthermore comparison of scores for each variable was computed for the experimental and control groups.

3.18. Limitations of the Study

1. The trained instructors did not submit the MIS forms which were to be the records of their activities; therefore written feedback of their activities was not available. The instructors gave verbal report of the activities carried out among the apprentices, claiming that they were very busy and there was no time to fill the MIS forms.
2. The data about sexual behaviour were self-reported due to nature of the study. Issues of sexuality are sensitive and sometimes survey may not always report young person's sexual behaviour accurately (Ajuwon et al, 2006). As a result under-reporting of sexual activities might have occurred among the study population. However, to ensure the apprentices provided reliable information about their sexual activities, the questionnaire was designed to be anonymous.
3. The non-inclusion of Voluntary HIV test in the questionnaire used for baseline survey created a gap as it was impossible to determine the influence of the intervention on the apprentices going for voluntary HCT and consequences on the HIV prevalence among female youths in Benin-City.
4. Scarce financial resource was a limitation; it was not possible to scale-up the study to the control group and other LGAs of Edo state.
5. The social media approach such as internet technology, mobile phones and new media-Twitter, Yoou-tube, Facebook etc could be accessed for a variety of information including sexuality and reproductive health information and services. However, the investigator did not use internet and new media because the participants in this study might experience difficulties and barriers in using these methods. Evaluation may be problematic because of cost of service, accessibility to the network by the participants. The use of mobile phone was not done as this was not suggested by the participants.

3.19 Ethical Considerations

In order to comply with the research ethics requirements, the following steps were taken.

Fist, approval was obtained from the Ethics Committee of the State Ministry of Health, Edo state (See Appendix B). The leaders of the tailor and hairdresser associations were contacted; purpose of the study was explained to them. The detailed information about the project which include the nature of the study, purpose, risks and benefits and also the expected outcome of the intervention were explained to all the participants at their Association meetings and in the individual shops during the investigator's visits prior to the commencement of the study. Comprehensive and clear information regarding their participation in the study was giving in verbal form. Questions for clarity were entertained and satisfactory answers were given. The three approaches adopted for the implementation of intervention were also discussed and the reason for using these methods was explained fully to them. Both the apprentices and their instructors were adults and barely literate, informed verbal consent was obtained from each apprentice and instructor. Permission to carry out the study was obtained from the leaders of the association.

Secondly, informed verbal consent was obtained from each apprentice and instructor before an apprentice or instructor was involved in the study.

Thirdly, participation was voluntary; the right of privacy was respected. Information they provided were kept confidential. This was done by keeping all information in privacy without revealing the identity of the informant; names and other forms of identifiers were not required on the questionnaire. Information from FGD was kept in a save place and there was no access to it by any unauthorized persons. Data collected from the surveys had coded numbers assigned to each respondent and only these were entered into the computers during data entry. Participants were informed that they have the right to withdraw from the study at anytime.

In addition referral link was provided to University of Benin Teaching Hospital and Central Hospital, both in Benin-City. This afforded the apprentices to access medical care for STI-related symptoms. Furthermore, the investigator explained to the control group that they would be on waiting list, if the educational intervention that would be conducted among the experimental groups have a significant impact on the apprentices' knowledge, and sexual behavior, then the intervention might be replicated on the control group.

CHAPTER F OUR

RESULTS

4.0 This chapter presents the results collected at the baseline and follow up surveys. The results are presented based on the specific objectives of the study and grouped in three sections:

Section 1 presents the findings of FGD and the baseline survey in both the experimental and control groups.

In section 2, a comparison of the changes found at follow-up surveys (3 and 6 months) on the main (dependent) variables of interest which were the Knowledge of HIV Prevention, Self Efficacy and Sexual Behavior of Apprentices is presented thus: These are changes that occurred as a result of intervention activities on the experimental groups and control group which was not exposed to any intervention were also presented. Also discussed are changes found with each group before and after intervention including the result of the hypotheses.

The third and last section described the results of the relative effectiveness of each intervention approach.This section was concluded with analysis of Logistic Regression and Evaluaton of Intervention.

4.1 Section one

4.1. Findings from the Focus Group Discussion (FGD)

4.1.1 Reported Common Health Problems Affecting Apprentices

Participants at the FGD sessions were all young ladies of a mean age of 21.7 years, equal number of apprentices represented the vocations that is hairdressing and tailoring. Nearly all the discussants across the groups gave similar responses. Several health problems were identified, including unwanted pregnancy, which topped the list because many young ladies reportedly dropped out of school and within a short time became pregnant. This was the concensus in the the three experimental and control groups.Other common health problems affecting young ladies mentioned by the respondents were body itching at the vagina, problems with the flow of menstruation, lower abdominal pain, headache, fever and cold. For example an apprentice in E1 said *"Some apprentices talked about body itching, most of the time on the vagina while some complained of menstrual pain".*

Another apprentice in E3 added "*Young ladies complained of low abdominal pain when they have sexual intercourse with their boyfriends."* Other health problems mentioned by apprentices in the four sites included vaginal discharge and abortion. The apprentices claimed that these health challenges were resolved as some young ladies usually patronized the patent medicine/chemist

stores to purchase drugs to treat their ailments or use traditional herbs. An apprentice in E2 also added "*Only few would go to the hospital for treatment, many people preferred chemist shop because a quick and cheap treatment is available."*

Average young people claimed to prefer treatment from the chemist shops because of easy access to purchase medication off the shelves without a prescription from medical practitioner (self-medication) that has been the norm. The ladies claimed the treatment at these shops is regarded to be quick, nearly all of the discussants claimed that providers at the chemist shops are more approachable and reliable to obtain emergency drugs and treatment from them.

4.1.2 Knowledge /Information about HIV/AIDS

Almost all the participants had heard about HIV/AIDS. Some of them described it as a serious disease that can kill. The consensus from E1 and 3 was that their source of information included the television, radio, news- papers and from peers, while apprentices from E2 and control, their source was mainly friends, campaigns and radio. They were able to list some of the modes of transmission: For example responding to how one can contact HIV:

An apprentice in E3 said *"someone can get HIV/AIDS through sexual intercourse";*

Another mentioned *"by sharing sharp objects with other people";*

The consensus from E1 and control groups added that *"one can get HIV through blood transfusion"; "blood exchange during oath taking (cultism)""It can be spread by having many boy-friends and having sex with them"*

However, there was no one from the four groups that mentioned that it can spread through Mother to Child Transmission. There was misconception and disagreement about the spread of the disease. In E3, few apprentices thought HIV can be transmitted through mosquito bites, kissing or using the same feeding utensils with infected persons.

From the three Experimental groups; many of the participants were able to mention several signs and symptoms that could be used to identify people with AIDS. They mentioned symptoms like troublesome cough, appearance of body rashes, recurrent sickness, complaint about abdominal pain, diarrhoea, loss of much weight, falling off of hair and the person looking very sick. One of the apprentices from E1 said "*someone can know his/her HIV status by going to the hospital to do blood test"*

In protecting oneself from contracting HIV/AIDS: several suggestions were given:

In E2, an apprentice said *"I believe abstinence from sexual intercourse until one is married is the best protection";*

Another apprentice from E3 said "*refusing to go out with different men and having self-control would protect young ladies from contracting the disease*". The conscnsus from the most of the participants was that they can be protected by not sharing sharp objects with other people or engaging in bad practices that involved exchange of blood. Another apprentice suggested a precaution that "*blood should be screened for HIV before transfusion to the sick people"*

The participants from E1 suggested "*one can protect one-self from contracting HIV/AIDS by using condoms at sexual intercourse".*

4.1.3 Risks associated with premarital and unprotected sex

Many of the Apprentices admitted that they had been exposed to pre-marital sex and they were aware of the risks involved and their response was similar. From the experimental and control groups, they mentioned unwanted pregnancy as one of the risks and the consequences that are likely to occur which include disgrace, drop out from school, the parents may disown the lady or even the man that impregnated the lady may deny responsibility and refuse to claim the child; and most likely lead to terminating the unplanned pregnancy (abortion).

An apprentice said *"This can lead to single parenting or the lady can throw the child away (abandonment)".*

Another apprentice said *"Risks resulting from premarital sex include getting some infections such as Sexually Transmitted Infections, Gonorrhea, Candidiasis, and HIV/AIDS".*

The risks mentioned above were discussed extensively, almost all the participants mentioned ways to prevent these risks among young ladies. The participants in group E2 suggested-

"*Young unmarried ladies should stay away from sexual intercourse and wait till when they get married".* "*The young ladies should develop to maturity before marriage".*

In E1 most of the participants condemned the practice of ladies staying out late with men, and indecent dressings by young ladies which might render them prone to sexual harassment and rape. The participants also suggested that young ladies should guide against the influence of bad friends and peer pressure.

E2 participants also added that "*The female apprentices should be advised against going out with men (sugar daddies) and should not accept gifts for exchange of sex".*

Furthermore, the participants from control group identified poverty, inadequate care by the parents and peer pressure influence as the major factors that exposed the female youths to premarital sex. They therefore suggested the counselling of young ladies about self-control and dignity;

"Young ladies should be bold to tell their boyfriends to postpone sexual intercourse"

In addition, the E3 participants collectively encouraged their peers to practice safer sex-

"*Otherwise if they should accept to have sex, they should protect themselves by using condoms."*

The Apprentices form E1 were of the opinion that the influence of friends and pressure from parents were major problems the apprentices have in preventing premarital sex. Some of their friends would call them names such as "unsocial girl", "bush girl", "village girl", "Jesus woman", "He no sabi", "she is not wise". Boys may even gang up to rape these innocent girls. They stressed that mates of innocent girl may despise her and be unwilling to associate with her. An apprentice said: *"the young ladies that engage in premarital sex feel there is fun derived in having sex with their boy-friends."*

A consensus response from the four groups reported that cohabitation with boyfriends was very common among out-of-school females because of poverty and lack of care by the parents.

"Young girls indulged in living with boy-friends and have sex because they are hungry and are looking for security that is why they sell their bodies for exchange of money." "They want to have a means to meet their basic needs, collect money from men to pay for their vocational training, buy clothes, shoes and bags and plait hair";

These reasons were given by apprentices why many young ladies engage in premarital sex. They frowned at parents that indulge their daughters to go into prostitution. Some of their comments were:

- *"It was also observed that some mothers encouraged their daughters to ask their friends how to source for money and some of the friends would oblige to introduce the one in need to someone (Sugar daddy) that can provide money to meet the lady's needs*."
- *"Parents should be encouraged to provide for the needs of their daughters."*
- *"Parents should be more responsible to educate their children on good morals and provide the basic needs for these young ladies."*

The Apprentices in E3 however suggested that if parents could provide for their daughter's needs there would be no need to go out with men and engage in casual sex in exchange for money.

However, in discussing ways to help young ladies to resist premarital sex: Majority of the participants believed that the parents should be responsible and provide for their children.

"Parents should not ask their daughters to go and copy friends' life styles".

They suggested that young ladies should be counselled about the consequences of premarital sex which included as STIs- Gonorrhea, Candidacies, HIV/AIDS, unwanted pregnancy, abortion are grievous and at times can be fatal. Some of them pleaded with the young ladies to resist the influence of peer pressure, stay away from sex, and refuse gifts from men in exchange for sex. Some of them were excited that female condoms are available and if they cannot postpone sexual activity

they should engage in safer sex behavior. Few of them therefore requested for demonstration on use condom.

Furthermore, apprentices in E1 sought for additional information about HIV/AIDS: the participants wanted more knowledge on how to counsel their friends in order to protect them from contracting HIV/AIDS and knowledge about the cure for AIDS. Some wanted to know if it was true that India has a cure for AIDS. Many would like to know about other causes of the disease. Also they would like to know how to take good care of their health and more explanation about safer sex behavior. Appropriate responses were provided for their questions.

Section Two Survey Findings: Baseline

4.2 Demographic Characteristics of Apprentices

4.2.1 Age:

The mean age of the apprentices both in the experimental and control groups is presented in Table 4.1. Their age ranged from 11-35 years with a mean age of 21.8 ±3.3. The apprentices in the control group seemed to be older with a mean age of 22.1 compared with the other three experimental groups; E1 21.9, E2 21.4 and E3 21.8. The difference in the age of the apprentices across the zones was however not statistically significant ($p>0.05$), using one way ANOVA: F=28.3; P-value 0.128.

4.2.2 Religion

Table 4.1 shows that majority 96.1% of the apprentices were Christians while only 3.2% were Muslims and 0.6% traditional worshippers respectively. In all the groups Christians constituted the majority: 98.5% in E3 and Control and the few Muslims were found in E1. Three of the five who practiced traditional religion were in group E3, Chi square analysis used as stated in Table 4.1.

4.2.3 Marital Status

A high percentage (85.2%) of the apprentices was unmarried. The proportion of the singles across the four groups ranged from 153 (22.3%) in Control to 192 (28.0%) in E2 group. There were 116 (14.4%) married Apprentices in the study, the highest number was found in Control with 49 (42.2%) and least 8 (6.9%) found in E2 (Chi square and Pvalue see Table 4.1).

4.2.4 Type of Apprenticeship

Out of 804 apprentices that were surveyed, slightly more than half 413 (51.4%) were learning hairdressing and 391 (48.6%) tailoring. Among the groups E2 had the largest number 132 (32.0%) of hairdressing apprentices, E1 had 97 (23.5%) while E3 and Control each had 92 (22.3%). Tailor Apprentices made up the rest of the groups thus: Control 110 (28.1%); E3 109 (27.9%); E1 104 (26.6%) and E2 68 (17.4%). The difference was significant $p<0.05$ (see Table 4.1).

Table 4.1 Ages, Religion, Marital Status and Type of Business of Apprentices.

Variables		E^1 N=201	E^2 N=200	E^3 N=201	Control N=202	Statistics	P-value
Age		21.9	21.5	21.9	22.1	F28.3	0.218
Religion	Christianity	180 (89.6%)	196 (98.0%)	198 (98.5%)	199 (98.5%)	$X^{2=}$ 31.5	0.001
	Islam	20 (10.0%)	4 (2.0%)	0 (0.0%)	2 (1.0%)		
Marital status	Single	174 (25.4%)	192 (28.0%)	166 (24.2%)	153 (22.3%)	$X^{2=}$ 35.8	0.002
	Married	24 (20.7%)	8 (6.9%)	35 (30.2%)	49 (42.2%)		
Type of Apprenticeship	Tailoring	104 (26.6%)	68 (17.4%)	109 (27.9%)	110 (28.1%)	$X^{2=}$ 23.1	0.001
	Hairdressing	97 (23.5%)	132 (32.0%)	92 (22.3%)	92 (22.3%)		

4.2.5 Highest level of Education

The level of education attained by the respondents is shown in Table 4.2 Majority (98.9%) of the apprentices had formal education except 9 (1.1%) who did not go to any school. In all the groups 28 (3.5%) had only Primary education, 108 (13.4%) had junior secondary education while 114 (14.2%) did not complete junior secondary school. Less than half of the apprentices surveyed 346 (43.0%) completed senior secondary school; in addition 51 (6.3%) declared to have completed tertiary education Statistical analysis was done using Pearson Chi square-X^2=128.7; $p<0.05$.

Table 4.2 Distribution of Apprentices by their Highest level of Completed Education.

Highest level of completed education	Zones				Total
	E1	E2	E3	Control	
None	0 (0%)	0 (0.0%)	8 (4.0%)	1 (.5%)	9 (1.1%)
Primary	5 (2.5%)	2 (1.0%)	17 (8.5%)	4 (2.0%)	28 (3.5%)
Completed Junior secondary school	19 (9.5%)	17 (8.5%)	46 (22.9%)	26 (12.9%)	108 (13.4%)
Uncompleted Junior secondary	21 (10.4%)	22 (11.0%)	32 (15.9%)	39 (19.3%)	114 (14.2%)
Completed Senior secondary school	78 (38.8%)	116 (58.0%)	55 (27.4%)	97 (48.0%)	346 (43.0%)
Uncompleted Senior secondary	54 (26.9%)	41 (20.5%)	34 (16.9%)	19 (9.4%)	148 (18.4%)
Tertiary	24 (11.9%)	2 (1.0%)	9 (4.5%)	16 (7.9%)	51 (6.3%)
Total	201 (100.0%)	200 (100.0%)	201 (100.0%)	202 (100.0%)	804 (100.0%)

X^2 =128.7, df 18 P-value 0.002

4.2.6 Sex of the Instructor

Majority of the apprentices 791 (98.4%) reported to have females as their current instructors at their places of work. Only 13 (1.6%) had male instructors and among these, 7 (53.8%) were found in Control and 5(2.5%) in E3. The difference was not significant (p>0.05).

4.3 Knowledge about HIV/AIDS

At baseline, majority 63.3% scored above the knowledge mean score (11.4%), meaning they were knowledgeable about the prevention and mode of transmission of HIV while 26.7% scored lower than the weighted scale and this translated that they had poor knowledge. Table 4.3 shows the mean knowledge score among the experimental groups and control. The Apprentices in E2 had the highest total mean score (13.9) while those in E3 had the lowest score (9.7). However, separating the results of transmission from prevention and presenting each group gives a clearer picture of the knowledge level of the members of individual group. For HIV transmission E2 had the highest score of 8.4 while E3 had the least score of 5.3. The differences were highly significant (p=0.001).

As regards level of knowledge of prevention of HIV, the scores were similar to those for knowledge on transmission. Apprentices in E2 had the highest mean score of 5.5, followed by those

in E1 and Control having 4.8 each while those in E3 had the least score of 4.4. The overall knowledge means score for all the participants was 11.9, SD 4.0. The difference was very significant ($p<0.002$). Also the knowledge score rating was analyzed using one way ANOVA as shown in Table 4.3.

Table 4.3 Mean Knowledge Scores among Experimental and Control Groups at Baseline

Knowledge scores	E1 (n=201)		E2 (200)		E3 (201)		Control (202)		Overall Score (804)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
HIV Transmission	6.3	2.5	8.4	1.8	5.3	2.1	6.4	2.5	6.6	2.5
HIV Prevention	4.8	2.0	5.5	1.5	4.4	1.5	4.8	1.3	5.3	1.9
Total scores	11.1	4.0	13.9	2.9	9.7	3.1	11.2	3.2	11.9	4.0

ANOVA

		Sum of Squares	**Df**	**Mean Squares**	**F-Statistics**	**P-value**
Knowledge of Transmission	Between Groups	1051.000	3	350.333	68.671	0.002
	Within Groups	4081.313	800	5.102		
	Total	5132.312	803			
Knowledge of Prevention	Between Groups	178.727	3	59.576	33.366	0.002
	Within Groups	1428.421	800	1.786		
	Total	1607.148	803			

4.4 Apprentices' Perceived Self Efficacy to Resist Sexual Pressure

The result showed that apprentices in E1 had the highest mean score of 12.1self-efficacy score points to resist sexual pressure than their counterparts from E3 (11.5) and E2 (10.5). The mean score for control group (11.2) was significantly higher than that of E2 but lower than that for E1and E3. Compared with the weighted scale of 11.3, only E1 and E3 groups scored above mean score for efficacy and this showed that they had higher level of self efficacy. The observed differences were significant ($p=0.002$), and one way ANOVA as shown in Table 4.4.

Table 4.4 Comparison of Perceived Self-efficacy between Experimental and Control Groups at Baseline

	N	Mean	Std. Deviation
E1	201	12.1	2.9
E2	201	11.6	5.0
E3	200	10.5	3.5
Control	202	11.3	2.9
Total	804	11.3	3.7

ANOVA

Variations	Sum of Squares	Df	Means of Squares	F-Statistics	P-value
Between	255.930	3	85.310	6.296	0.002
Within	10840.412	800	13.551		
Total	11096.342	803			

4.5 Apprentices Sexual Behaviour

Of the 796 that responded, (99.8%) claimed they had boyfriends and majority (80%) had been sexually exposed (see Table 4.5). Apprentices in E1 185 (28.9%), were more sexually active than their counterparts in the other experimental groups, followed by Control 162 (25.3%) and E3 151 (23.6%) while the least sexually active were in E2 142 (22.2%). Of the 20% who said they had never had sexual intercourse, majority 103 (69.6%) would prefer to abstain from sex and wait until they are married, while 5.0% planned to have the first sexual exposure after they had completed their apprenticeship. When asked with whom they would like to have their first sexual experience, majority (70.7%) of the 147 who responded preferred their husband, while (21.1%) would like to have the experience with their boyfriends.

However, for those who were sexually experienced, the age at first sexual intercourse ranged from 13-26 years with an overall mean age of 18.84 years. The apprentices in E2 had the highest mean age of 19.45±1.77, followed by those in Control 18.88 ±2.71 and E1 18.77±1.88, while E3 had the lowest mean age of 18.31±2.06 at first sex. Concerning the last time apprentices had sexual intercourse; 615 responded of which 313 (50.9%) reported a week before the survey; the highest was from Control 110 (35.1%), E1 80 (25.6%), E2 74 (23.6%) while the lowest was from E3 49 (15.7%). In addition, a significant proportion 159 (25.9%) reported that they last had sex a month before the baseline survey was conducted while 26 (4.2%) said they had it two months before the survey, about 65 (10.6%) claimed they could not remember.

Table 4.5 Sexual Behaviour of Experimental and Control Groups at Baseline

			Groups			
S/N	Sexual Behaviour	E1	E2	E3	C	Statistics
1	Have a boyfriend:	N=201	N= 196	N= 196	N=201	X^2 =29.9
	Yes	184 (91.5%)	139 (70.9%)	166 (84.7%)	162 (80.6%)	Df=3
	No	17 (8.5%)	57 (29.1%)	30 (15.3%)	39 (19.9%)	P=0.001
2.	Ever had sex:	N=201	N= 198	N= 198	N= 200	X^2 = 28.6
	Yes	185 (92.0%)	142 (71.9%)	151 (76.6%)	162 (81.0%)	Df = 3
	No	16 (8.0%)	56 (28.3%)	46 (23.4%)	38 (19.0%)	P = 0.002
3.	Mean age at first sex	N= 180	N=131	N= 142	N= 158	F=6.5
		18.8	19.4	18.3	18.9	Df=3
						P= 0.001
4.	Profile of sex partner:	N= 184	N= 133	N = 146	N = 154	X^2 =127.4
	Husband	24 (13.0%)	10 (7.5%)	32 (21.9%)	41 (26.6%)	Df = 9
	Instructor	4 (2.2%)	0 (0.0%)	1 (0.7%)	1 (0.6%)	P = 0.001
	Boyfriend	156 (84.8%)	122 (91.7%)	110 (75.3%)	78 (50.6%)	
	Casual sex partner	0 (0.0%)	1 (0.8%)	3 (2.1%)	34 (22.1%)	
5.	Time of last sexual	N= 183	N= 129	N= 144	N= 159	X^2 =94.5
	intercourse: 1 week	80 (43.7%)	74 (57.4%)	49 (34.0%)	110 (69.2%)	Df=3
	1 month	39 (21.3%)	42 (32.6%)	48 (33.3%)	30 (18.9%)	P= 0.002
6.	No of sexual partner:	N= 165	N= 121	N= 134	N=144	X^2 =48.1
	One	138 (83.6%)	121 (100%)	130 (97.0%)	111 (77.1%)	Df= 3
	>1	27 (16.4%)	0 (0.0%)	4 (3.0%)	33 (22.9%)	P =0.024
7.	Condom use before	N =182	N =139	N= 147	N = 162	X^2 =50.5
	intervention: Yes	141 (77.5%)	114 (82.0%)	72 (49.0%)	94 (58.0%)	Df = 3
	No	41 (22.5%)	25 (18.0%)	75 (51.0%)	68 (42.0%)	P = 0.001
8.	Source of condom:	N =141	N = 114	N =72	N= 94	X^2 = 66.9
	PMS	73 (51.8%)	33 (28.9%)	26 (36.1%)	55 (58.5%)	Df = 12
	F/Planning Clinic	21 (14.9%)	0 (0.0%)	6 (8.3%)	2 (2.1%)	P =0.002
	Health worker	3 9 (2.1%)	1 (0.9%)	4 (5.6%)	1 (1.1%)	
	Sexual partner	44 (31.2%)	79 (69.3%)	36 (50.0%)	36 (38.3%)	

Please note: Difference in N= No Response

When they were asked with whom they had the sexual intercourse, of the 617 respondents, majority (75.5%) had the sexual intercourse with their boyfriends. E1 had the highest proportion

(33.5%), E2 had (26.2%) followed by E3 with (23.6%) while Control had the lowest (16.7%). Furthermore, 107 (17.3%) had sex with their husbands, while the remaining (6.2%) had sexual intercourse with casual sex partner. Majority of these were in Control (89.5%), (7.9%) in E3, (2.6%) in E2 and none in E1. Surprisingly 6 Apprentices claimed they had sex with their instructors: 4 of them were found in E1 and one each in E3 and Control.

The apprentices were asked the number of sexual partner each had in the last three months before the survey, out of 564 respondents, majority (88.7%) reported to have one sexual partner while (11.3%) had more than one sexual partner. The difference was significant p=0.024 (see Table 4.5).

Four hundred and twenty-one (66.8%) of 630 respondents said they used condoms during the last sexual intercourse while 209 (33.2%) did not. Among those who used condom (33.5%) were in E1, (27.1%) in E2, (17.1%) in E3, and (22.3%) control group. They declared they got their condoms from various sources, mainly either from their sexual partners 195 (46.3%) or patent medicine stores 187 (44.4%). Other sources mentioned were Family Planning clinic 29 (6.9%) and from health workers 9 (2.1%).

The reasons given for not using condom during the last sexual intercourse by 209 apprentices varied such as “I am married, I don’t need to use condom” 54 (28.3%); “I trust my partner we are faithful to each other” 42 (22.0%), “I don’t enjoy sex with condom” 21 (11.0%), “I don’t like wearing condom” 19 (9.9%); “I don’t know the reason” 16 (8.4%); “sex with condom is painful” 14 (7.3%), “I want to get pregnant” 8 (4.2%); “my husband does not like wearing condom” 8 (4.2%); “I don’t have condom at that time” 5 (2.6%) and 3 (1.6%) said “we have gone for HIV test and we are negative"

4.6 Reported Incidence of STI

Out of 804 Apprentices, majority 542 (67.4%) had heard about STIs. The commonest STI mentioned 465 (85.8%) was HIV infection, followed by Gonorrhea by 238 (43.9%; but 103 (19.0%) could not mention any STI. Using multiple choice questions; apprentices were asked what they could do to protect themselves from contracting STIs. Their responses included: abstinence from sexual intercourse by 307 (38.2%); reducing number of sexual partner by 147 (18.3%); using condom at every sexual intercourse by 108 (13.4%); not engaging in casual sex by 79 (9.8%) and the rest, 116 (14. 4%) said they did not know what to do to prevent STIs.

Use of condom to protect against STIs: A three multiple choice answer was used to test the knowledge about the protective value of using condom against STI during sex; out of 804 respondents almost half 397 (49.4%) agreed that condom use would protect against STIs while 314

(39.1%) said it would not. Most 127 (40.4%) of those who said it had no effect were found in group E3 followed by 85 (27.1%) in Control, 80 (25.5%) in E1 and least number 22 (7.0%) in E2.

Treatment of STI by Apprentices: The apprentices were asked how they would treat STI if they realized they had the infection. Overall, majority 626 (77.9%) said they would go to the hospital for treatment, while 58 (7.2%) said they would seek treatment at the pharmacy shop, 41 (5.1%) inform a friend, 20 (2.5%) would go to the traditional healer while 54 (6.7%) appeared not to know what to do to manage the infection.

Availability of STI/HIV/AIDS Programme: The apprentices were asked if they were aware of provision of health services that meet the HIV/AIDS/STI needs of the youths in their locality. More than half of the respondents 465 (57.8%) said they were aware of youth friendly services but a high percentage 339 (42.2%) were not aware of the existence of such services. When the Apprentices were asked how one could ascertain that one has contracted HIV/AIDS, majority 615 (76.5%) appeared to know that taking HIV test was necessary to know ones HIV status, but 110 (13.7%) of the total respondents did not know what to do while 75 (9.3%) would visit the hospital.

An open ended question was asked on how youths can be encouraged to have HIV test done. Of the 462 respondents, approximately 234 (50.6%) suggested that government should provide free services for HIV test and treatment for clients. One hundred and forty (30.3%) apprentices suggested seminars; sex education programme for youths should be organized, stressing the importance of taking HIV test to know ones HIV status. In addition about 78 (16.9%) recommended that awareness creation programme should be done periodically especially on the mass media. Nine (1.9%) respondents suggested that HIV test should be mandatory for job opportunities. Only one person (0.22%) mentioned that youths should be encouraged to use condom.

Lastly, concerning how youths can be encouraged to engage in safer sex: several answers were given by the respondents to the open ended questions. These included: youths should stick to one sexual partner by 192 (41.0%); encouraging the use of condom with sexual partners by 138 (29.4%); abstinence 66 (14.1%); awareness creation and enlightenment on safer sex through media suggesting 40 (8.5%), and counselling of youths to postpone sexual activities till they are married was recommended by 33 (7.0%).

4.7 Comparison of Baseline and Follow-up findings at three and six months of Intervention

4.7.1 Knowledge about HIV/AIDS and Testing Hypothesis 1

Overall, the analysis showed there was significant difference in the level of knowledge about HIV mode of transmission and prevention at baseline and mid-term evaluation which was carried

out three months after the training. Table 4.10 showed the difference in the mean score for the four study sites, control group inclusive. The increased knowledge could be attributed to the knowledge gained at training and the follow-up activities of Peer Educators and Instructors. The difference was most pronounced in Experimental Group 3 which had combined intervention of Peer Education and Instructional approaches (PE+EAI) recorded an increase in mean score of 7.2 for overall knowledge score. The group had a mean score of 9.6 at baseline and it increased to 16.8 at mid-term.

Next is Experimental Group 1 that had intervention through Peer Educator Approach alone, had a difference of 5.49 (from 10.82 at baseline to 16.31 at mid-term). Unfortunately the difference of the mean value at the E2 with Instructional Approach only was very low 1.8 (from 13.9 to 15.8) compared with the other two experimental groups. The Control group had an increased mean value of 4.3 (from 11.2 at baseline to 15.5 at mid-term).

Tables 4.6 and 4.7 show the knowledge scores on the transmission and prevention of HIV among the apprentices at baseline, midterm and end-line surveys. All the groups recorded significantly higher scores at mid-term and end-line than baseline. The differences in the scores were more in the experimental groups than control, statistical analysis using t-test as stated in the tables below.

Table 4.6 Comparison of Knowledge Scores on Transmission of HIV among the Experimental and Control at Baseline, Mid-term and End-line

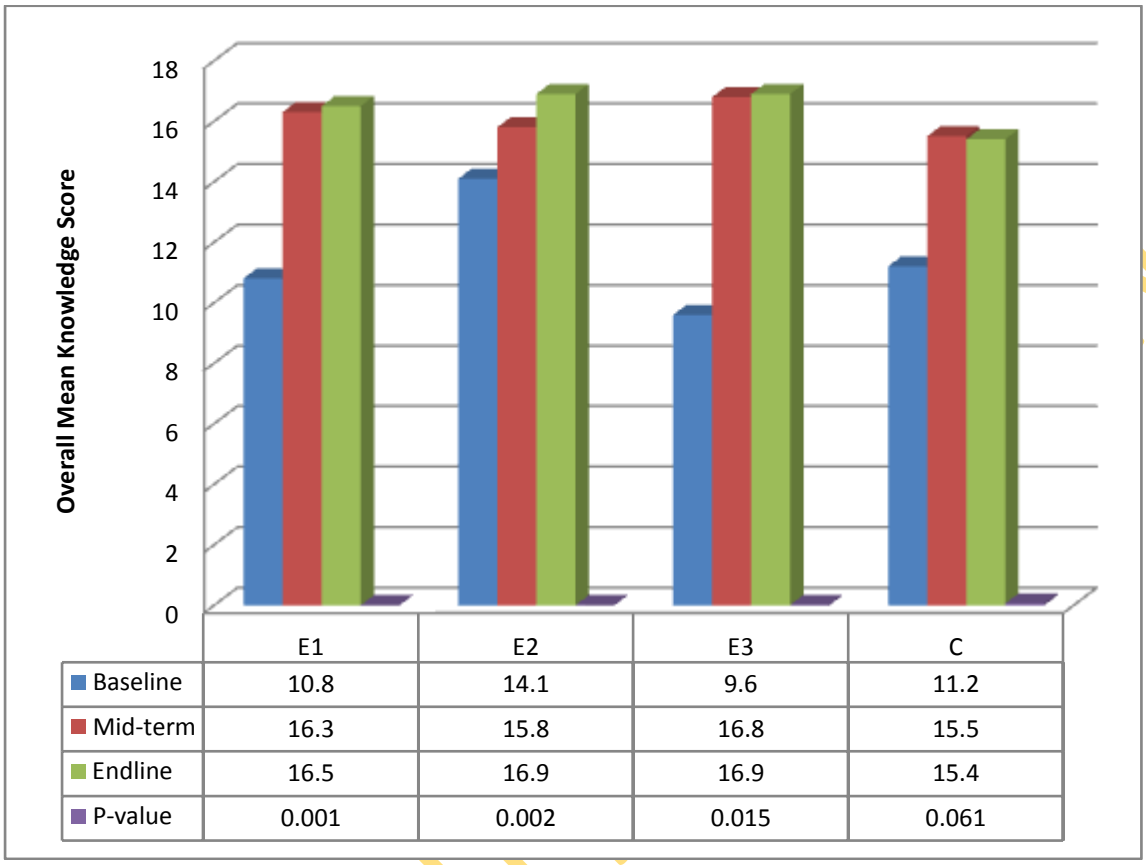
Groups	Statistics	Baseline	Mid-term	End-line	Total
E1	Number	201	199	200	600
	Mean	6.3	9.6	9.6	-
	Std. Dev	2.4	0.9	1.0	-
	T-test	-	-17.749	0.278	
	P-value	-	0.001	0.781	0.002
E2	Number	200	200	200	600
	Mean	8.4	8.9	9.9	-
	Std. Dev	1.7	1.7	0.4	-
	T-test	-	-2.376	-8.240	
	P-value	-	0.018	0.004	0.002
E3	Number	201	200	200	601
	Mean	5.3	9.8	9.9	
	Std. Dev	2.2	0.6	0.4	
	T-test	-	-28.7	-0.646	
	P-value	-	0.002	0.519	0.003
Control	Number	202	198	198	598
	Mean	6.4	8.8	8.8	8.0
	Std. Dev	2.5	1.2	1.2	2.1
	T-test	-	-11.996	0.004	
	P-value	-	0.003	1.001	0.002

Table 4.7 Comparison of Knowledge Scores on Prevention of HIV within the Experimental and Control at Baseline, Mid-term and End-line

Groups	Statistics	Baseline	Mid-term	End-line	Total
E1	Number	201	199	200	600
	Mean	4.5	6.6	6.8	-
	Std. Dev	1.6	0.6	0.6	-
	T-test	-	-17.463	-3.337	-
	P-value	-	0.001	0.001	0.001
E2	Number	200	200	200	600
	Mean	5.5	6.9	6.9	6.4
	Std. Dev	0.9	0.6	0.5	0.9
	T-test	-	-17.095	-0.945	
	P-value	0.001	0.003	0.345	0.002
E3	Number	201	200	200	601
	Mean	4.3	6.9	6.9	6.1
	Std. Dev	1.3	0.5	0.3	1.5
	T-test	-	-26.941	0.983	
	P-value	0.002	0.001	0.326	0.001
Control	Number	202	198	198	598
	Mean	4.8	6.6	6.6	6.0
	Std. Dev	1.3	0.7	0.7	1.3
	T-test	-	-17.457	0.001	
	P-value	0.001	0.001	1.000	0.002

Comparing the scores at end-line survey for each variable with regards to knowledge about the transmission of HIV- the score was highest at E2 with 9.9, and lowest at Control with 8.8 ($p<0.05$). The mean increase in the scores for Prevention was similar to that of Transmission. The highest score was with E3 6.9 and the least with the Control 6.7 (see Table 4.11). However the overall performance among the experimental groups showed the E3 had the highest gains from baseline of 9.6 to End-line of 16.8 (+7.2) the combined approach; followed by E1 (+5.7) PE alone approach; and E2 (+2.9) instructional approach recorded the least [Figure 4.1]. The combined approach proved to be superior over Peer Educator and Instructional approaches and control. Figure 4.1 show the

changes in the scores on the overall knowledge of AIDS at the three stages of assessment among the study groups.



	E1	E2	E3	C
Baseline	10.8	14.1	9.6	11.2
Mid-term	16.3	15.8	16.8	15.5
Endline	16.5	16.9	16.9	15.4
P-value	0.001	0.002	0.015	0.061

Figure 4.1 Changes of Overall HIV Knowledge Scores among Experimental and Control.

Testing Hypothesis 1

Apprentices in the experimental groups will have significantly higher knowledge about HIV prevention compared to the apprentices in the control group.

The 21 points scale questions on transmission and prevention of HIV on the questionnaire (Appendix D) was used to test this hypothesis. Table 4.7 showed that there was significant difference between the mean score of experimental groups and control at baseline survey, the control group had a higher mean score (11.2) than the combined (9.58) and E1 (10.8) groups, p=0.002. Comparing the mean knowledge score at mid-term, the three experimental groups recorded significant increases over the control group using one way ANOVA statistical analysis (see Table 4.7) which was not exposed to any intervention. Further increase was recorded by the three experimental groups at the end-line; the difference between their mean scores and the control was significant p=0.003. The null hypothesis is therefore rejected and the alternative accepted.

Table 4.8 Comparing the Overall HIV Knowledge Score within the Experimental and Control Groups at Baseline, Mid-term and End-line

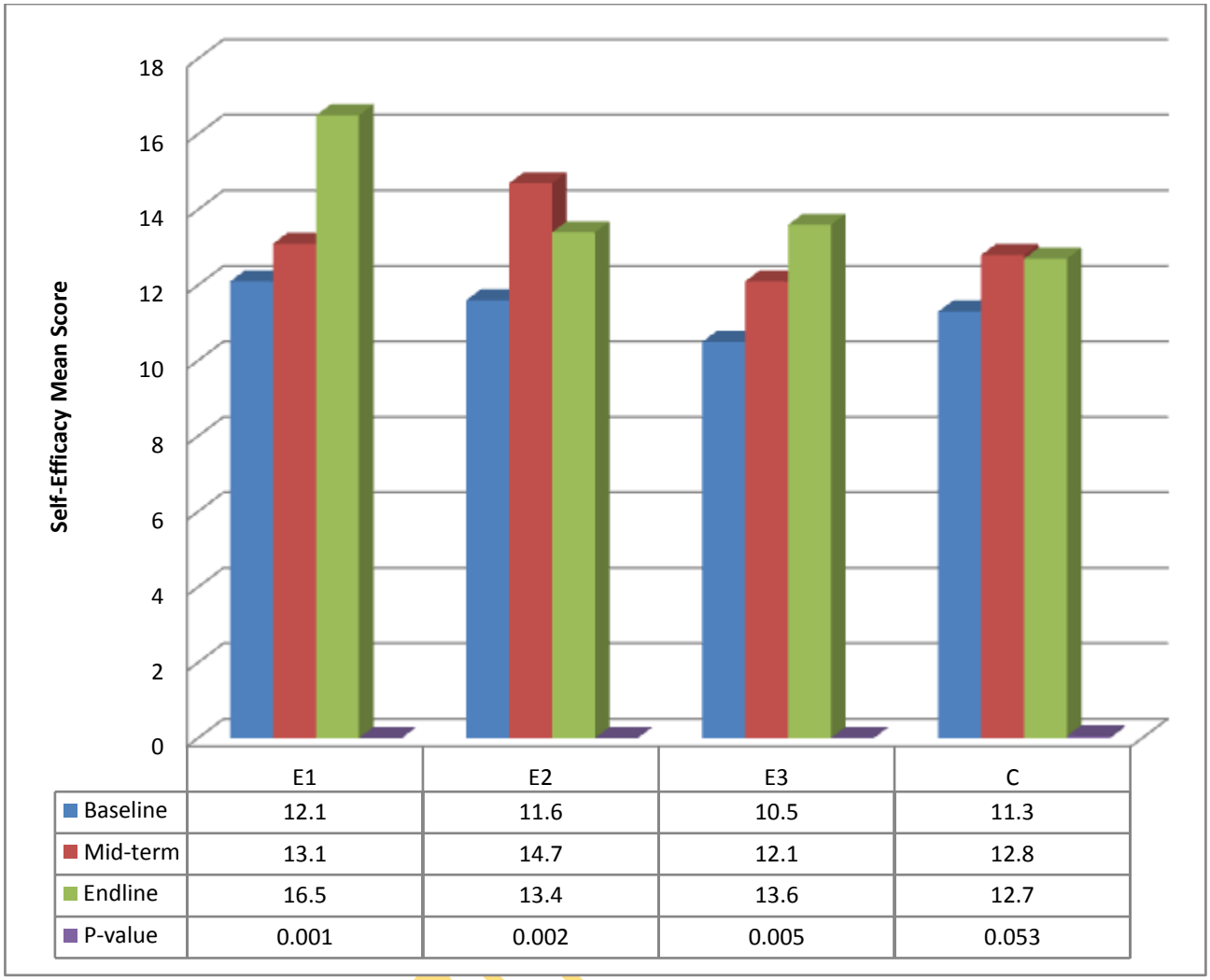
Baseline					
Groups	**Number**	**Mean**	**Std.Dev**	**F-statistics**	**P-value**
E1	201	10.8	3.6	74.3	0.002
E2	200	14.1	2.2		
E3	201	9.6	2.9		
Control	202	11.2	3.2		
Total	804	11.4	3.4		
Mid-term					
E1	199	16.3	1.2	33.4	0.001
E2	200	15.8	1.9		
E3	200	16.9	0.8		
Control	198	15.5	1.5		
Total	797	16.1	1.5		
End-line					
E1	200	16.5	1.4	69.2	0.003
E2	200	16.9	0.7		
E3	200	16.8	0.5		
Control	198	15.5	1.5		
Total	798	16.4	1.2		

4.7.2 Perceived Self-Efficacy to Resist Sexual Pressure

Perceived self-efficacy was assessed at follow-up using the same method that was used at baseline survey. The result showed the analysis of the apprentices' responses to the seven self-efficacy statements (Appendix E: Section C questions 28 a-g). The Mid-term assessment showed significant increase over the scores at baseline, (see Figure 4.2) showed the distribution of the mean scores within each group. The apprentices in E2 appeared to have the highest level of confidence in adopting safer sex behavior with a difference of 3.15 while E1 showed the lowest level of confidence with a mean score of 1.14 at mid-term survey.

At end-line survey, the Apprentices in E1 with a mean score of 16.55 had a higher level of confidence in adopting safer sexual behavior than their colleagues in E2 and E3 with mean score of

13.44 and 13.55 respectively. The increase at E1 was consistent throughout from baseline to end-line, unlike in E2 and E3 which had the difference at end-line lower than mid-term. For example E1 had a difference of 1.14 at mid-term but this was increased to 3.43 at end-line. But E2 had a difference of 3.15 at mid-term but reduced to 1.26 at end-line. Likewise E3 had an increase of 1.63 at mid-term but reduced to 1.49 at end-line. Meanwhile the difference at Control was marginal 1.01 and 0.52 at mid-term and end-line respectively. The difference in the mean scores among the four groups was significant ($p<0.05$). Peer Education approached appeared superior over the instructional and combined approaches.



	E1	E2	E3	C
Baseline	12.1	11.6	10.5	11.3
Mid-term	13.1	14.7	12.1	12.8
Endline	16.5	13.4	13.6	12.7
P-value	0.001	0.002	0.005	0.053

Figure 4.2 Comparison of the level of Perceived Self-Efficacy within Experimental and Control Groups at Baseline, Mid-term and End-line

Hypothesis 2

The level of perceived self-efficacy will be higher among the experimental groups than that of the control group after intervention.

The seven self-efficacy statements as contained in section C of Appendix D; these were used to test the hypothesis. The results of the statements were used and comparison of the mean scores of the four groups at baseline, mid-term and end-line was done. At baseline the result showed that the difference in the scores among the experimental groups was significant with E1 and E2 mean scores higher than that of E3 (see Table 4.9). The control group (11.3) had a higher mean score than E3 (10.5); but lower than that of E1 and E2 scores, the difference was significant. At mid-term survey the increase in the level of self-efficacy mean scores was significant among experimental groups, but comparing the scores between E1 (13.1) and control (12.8), the difference was not significant (p=0.428). Furthermore, at end-line, the difference in the mean score of E2 and E3 was not significant (p=0.651), whereas comparing the scores of the experimental groups with control, the difference was significant (p=0.013) as shown in Table 4.9 using one way ANOVA. Therefore the null hypothesis is rejected and the alternative accepted.

Table 4.9 Comparison of Perceived Self-Efficacy among Apprentices at Baseline, Mid-term and End-line in Experimental and Control Groups

Baseline					
Groups	**Number**	**Mean**	**Std.Dev**	**F-statistics**	**P-value**
E1	201	12.1	2.9	6.3	0.001
E2	200	11.6	3.5		
E3	201	10.5	5.0		
Control	202	11.3	2.9		
Total	804	11.3	3.7		
Mid-term					
E1	199	13.1	5.1	17.1	0.002
E2	200	14.7	1.8		
E3	200	12.1	4.2		
Control	198	12.8	3.4		
Total	797	13.2	3.9		
End-line					
E1	200	16.5	3.7	63.2	0.013
E2	200	13.4	1.7		
E3	200	13.5	2.8		
Control	198	12.7	3.4		
Total	798	14.1	3.3		

4.7.3 Comparison of Sexual Behavior at Baseline, Mid-term and End-line

The responses of the Apprentices to some questions remained the same as it was at the baseline since the same subjects were asked but at different times. Such questions included:

4.7.3.1 Apprentices ever had sex with their boy-friends. At mid-term and end-line surveys there was significant increase in the proportion of those that have had sexual intercourse in all the groups except Experimental group1 which recorded a marginal increase (see Table 4.10). The difference among the groups was significant (p=<0.05). Concerning the apprentices having sexual intercourse in the previous 3 months (before the survey) as a result of peer pressure-at baseline, out of 596 respondents, a significant proportion 38.4% declared to have had sex due to pressure. But the proportion reduced significantly to 15.5% at mid-term; the reduction in those that yielded to sex

under pressure varied among the groups as follows. E1 from (37.2% to 7.0%), E2 (5.9% to 19.4%), E3 (51.9% to 1.9%) and Control (57.9% to 33.9%).

Table 4.10: Comparison of the Apprentices that Ever had Sex at Baseline, Mid-term and End-line

Terms	Groups				
	E1 N (%)	**E2 N (%)**	**E3 N (%)**	**Control N (%)**	**Statistical Test**
Baseline	185 (28.9)	142 (22.2)	151 (23.6)	162 (25.3)	X^2=28.560 P=0.002 Df=3
Mid-term	186 (26.8)	162 (23.3)	167 (24.0)	177 (25.5)	X^2=43.818 P= 0.000 Df = 3
End-line	186 (25.5)	197 (26.2)	181 (24.3)	177 (24.2)	X^2=20.251 P= 0.018 Df= 3

4.7.3.2 Reported Number of Sexual Partner

Table 4.11 compares the number of sexual partners of the apprentices at the different stages of the study. There was significant reduction in the number of sexual partners of the apprentices at the end of the study compared with the values obtained at the beginning of the study. The same trend was seen in all the groups except E2 where the number of those with more than one partner increased at the end-line. At Baseline, Control group with 33 (22.9%) apprentices topped the list of those who reported having more than one sexual partner, followed by E1 with 27 (16.4%) apprentices, while E2 had none. But at mid-term E1 had the largest number 22 (15.0%) of apprentices who had more than one sexual partner followed by E2 with 12 (27.3%), Control had 6 (13.6%) while E3 had the least 4 (9.1%). The findings also revealed there was great reduction in the number of apprentices who declared to have more than one sexual partner as at the end-line assessment (see Table 4.11). Overall, at end-line 8 Apprentices declared to have more than one sexual partner, of which Control had the highest proportion 6 (75.0%), followed by E2 with 2 (25.0%), while E1and E3 had none. The intervention appeared to have had influence on the sexual behaviour at the end-line survey especially among E1 (Peer Education) and E3 (Combined

Intervention), the difference was significant. Nevertheless the number of respondents to this question reduced at each assessment and it cut across the four groups.

Furthermore, as regards the profile of sexual partner the result at baseline revealed that 6 apprentices claimed they had the last sexual intercourse with their instructors; E1 having the highest number of 4, E3 and Control had 1 each while there was none in E2. At mid-term, the total number among the four groups reduced to 5 with E3 leading with 2, while E1, E2 and Control had 1 each. However there was further reduction at the end-line survey to only 3 Apprentices reported to have had sex with their instructors; E1 that had the highest proportion at baseline (2.2%) recorded none while the other three groups recorded 1 (0.6%) each at the final assessment (see Figure 4.3).

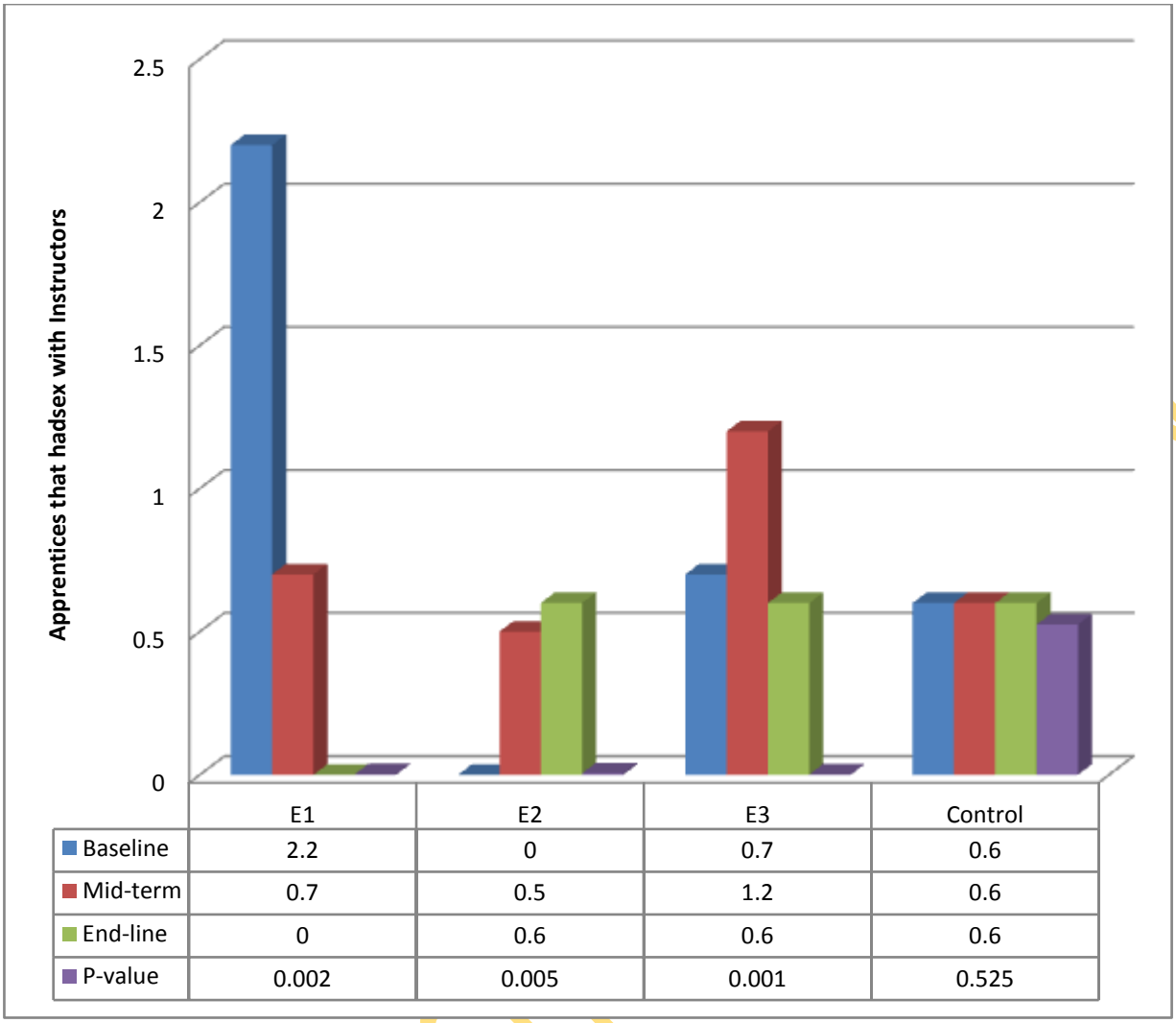
Table 4.11 Comparison of Number of Sexual Partners between the Experimental and Control at Baseline, Mid-term and End-line

		E1	E2	E3	C	Statistic
Baseline	One Partner	138 (83.6%)	121 (100.0%)	130 (97.0%)	111 (77.7%)	X^2=48.089 P= 0.002 Df= 3
	More than One	27 (16.4%	0 (0.0%)	4 (3.0%)	33 (22.9%)	
Mid-term	One Partner	120 (84.5%)	21 (63.3%)	160 (97.6%)	144 (96.0%)	X^2=50.689 P= 0.045 Df= 3
	More than One	22 (15.5%)	12 (36.4%)	4 (2.4%)	6 (13.6%)	
End-line	One Partner	106 (100.0%)	94 (97.9%)	168(100.0%)	144 (96.0%)	X^2=10.469 P=0.015 Df= 3
	More than One	0 (0.0%)	2 (2.1%)	0 (0.0%)	6 (4.0%)	

Hypothesis 3

The number of sexual partners of the apprentices in the experimental group would reduce significantly compared to control group after intervention.

In order to test this hypothesis, the comparison of those who reported to have more than one sexual partner among the four groups at the baseline, mid-term and end-line was done. At baseline there was no significant difference in the number of respondents who reported to have more than one sexual partner in E1 and control (p=0.195). But at mid-term, there was significant difference in the numbers among the four groups (p=0.045). In addition, at end-line survey there was further reduction in the number of apprentices who claimed to have more than one sexual partner. Table 4.11 showed that the difference was significant; the difference was more pronounced among the experimental groups: E1 from 27 at baseline to 0 at end-line and E3 from 4 to 0. Although there was also reduction among the control group, but the difference between the numbers of the intervention groups and the control is very significant (p=0.002). The null hypothesis is rejected and the alternative accepted.



	E1	E2	E3	Control
Baseline	2.2	0	0.7	0.6
Mid-term	0.7	0.5	1.2	0.6
End-line	0	0.6	0.6	0.6
P-value	0.002	0.005	0.001	0.525

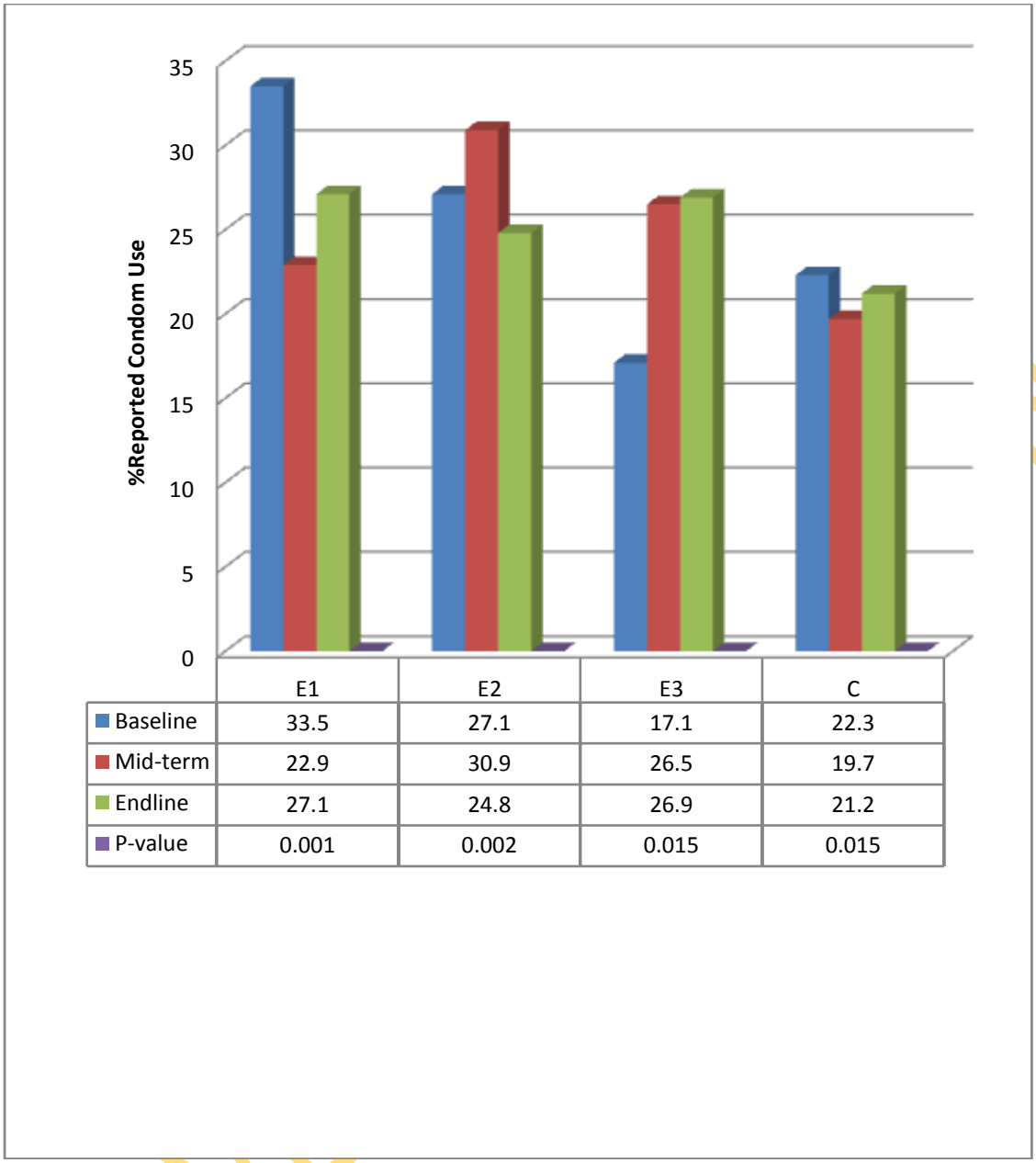
Figure 4.3 Percentage Distribution of Apprentices that ever had sex with Instructors

4.7.3.3 Use of Condom among Sexually Active Apprentices

The use of condom in the last sexual intercourse by the Apprentices increased significantly from baseline to end-line among the four groups. At baseline 421 (66.8%) apprentices reported use of condom during the last sexual activity before the survey, there was an increase at mid-term to 593 (84.7%) apprentices. Among the four groups E2 had the highest number 183 (30.9%) of apprentices who used condom, followed by E3 157 (26.5%), E1 136 (22.9%) and lowest at the control group 117 (19.7%) apprentices (see Figure 4.4). Furthermore at the end-line survey, the number of apprentices who reported to have used condom increased, this was more pronounced among the combined group E3 (which had the lowest percentage 17.1% at baseline), increased to (26.9%). Next was E1 (Peer Education Approach) with (33.5%) at baseline, had a decrease at mid-term (22.9%) and at end-line increased to (27.1%). Apprentices in E2 (Instructional approach), recorded

(27.1%) condom users at baseline, increased to 30.9% at mid- term but dropped at end-line to (24.8%) (see Figure 4.4).The reported use of condom among the 3 experimental groups was high overtime compared with the control group with 22.3%, 19.7%, 21.2% apprentices at baseline, midterm and end-line respectively; the difference was significant ($p<0.05$). Again the combined group appeared to be superior to other two approaches and control group.

Out of those who reported condom use from the four groups a large proportion, at baseline 46.3% got their condoms from sexual partner and slightly less 44.4% sourced the contraceptive from the medicine stores. But at mid-term 61.0% purchased the condom from patent medicine stores while 33.6% got condom from their sexual partners; there was further increase at end-line: an overall total 71.9% sourced condom from the Patent Medicine Stores while 22.2% got the condom from their sexual partners. In addition the number of Apprentices in the intervention groups that purchased condom from Patent Medicine Stores were slightly increased in number over the study period, but this was not so with the control group. The increase was highest with the combined intervention (E3) which had the least proportion 13.9% at baseline but increased at mid-term and end-line to (36.7%) and (38.4%) respectively. Instructional group (E2) also recorded significant increase from 21.4% at baseline to 23.2% at mid-term and 29.4% at end-line. The group with Peer Education approach (E1) had the highest proportion at baseline (35.1%) and this was sustained all through the study period with 36.0% at mid-term and 39.0% at end-line. The percentage of Apprentices in the control group who purchased condoms from the Patent Medicine Stores decreased from (17.6%) at baseline to 5.9% at end-line (Figure 4.5). The difference affirmed the attainment of higher level of confidence to source for condom at the shops and PE group proved superior.



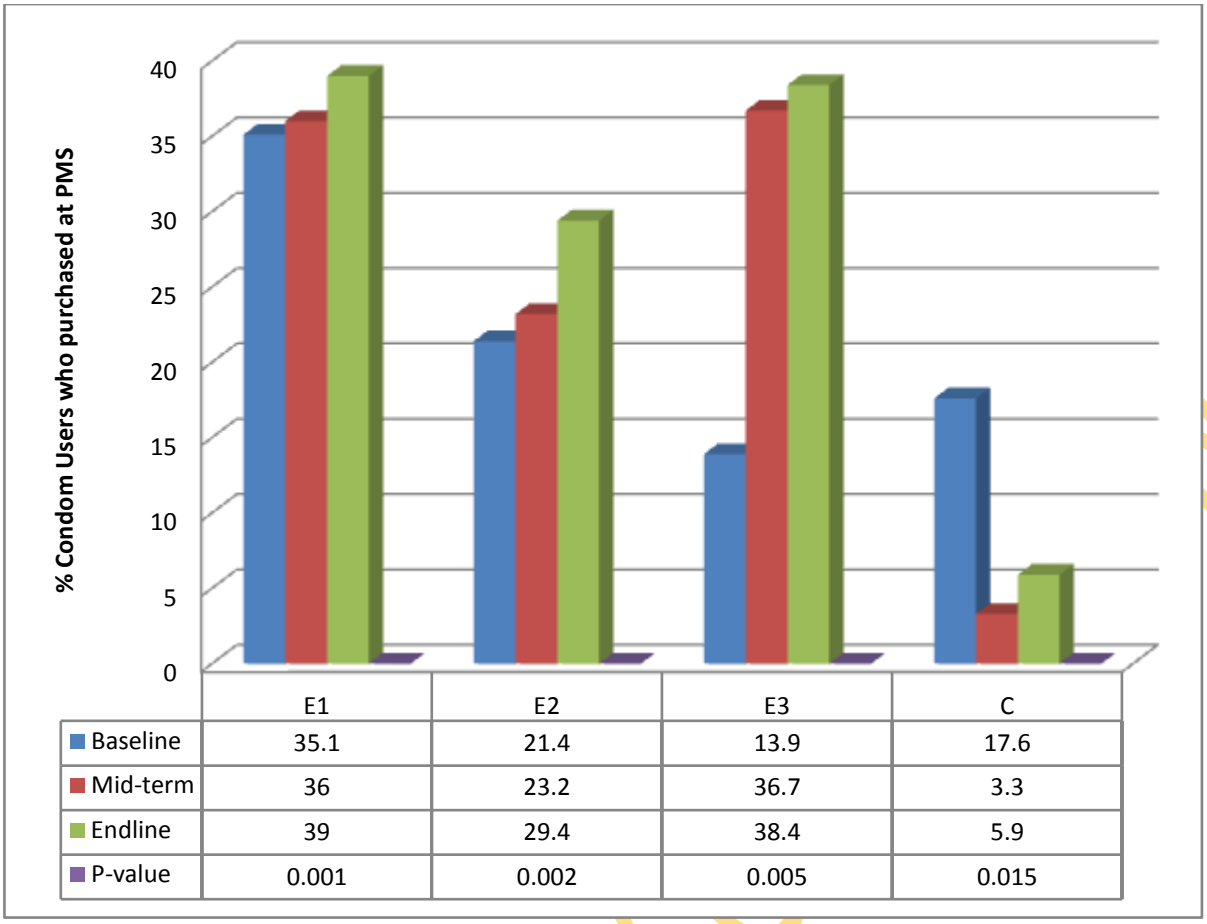
	E1	E2	E3	C
Baseline	33.5	27.1	17.1	22.3
Mid-term	22.9	30.9	26.5	19.7
Endline	27.1	24.8	26.9	21.2
P-value	0.001	0.002	0.015	0.015

Figure 4.4 Percentage of Reported Condom Use among Sexually Active Apprentices at Baseline, Mid-term and End-line

Hypothesis 4

The use of condom will increase significantly among the apprentices in experimental groups compared to control group.

The hypothesis was tested using the result obtained from respondents on the use of condom. The result of those who reported to have used condom in the last sexual intercourse was computed. The percentage of reported condom use as shown in Figure 4.4 indicated that at baseline, comparing E3 (17.1%) and control (23.3%) the difference was significant; whereas at mid-term the difference in the percentage of those who used condom among E1(22.9%), E2 (30.9%), E3 (26.5%) and control (19.7%) was significant (p=0.004), using chi square analysis. The result at end-line survey also revealed increase in number of those who used condon especially in E1 and E3 groups and that the difference between experimental groups and control group was highly significant (p=0.002), hence the null hypothesis is rejected.



	E1	E2	E3	C
Baseline	35.1	21.4	13.9	17.6
Mid-term	36	23.2	36.7	3.3
Endline	39	29.4	38.4	5.9
P-value	0.001	0.002	0.005	0.015

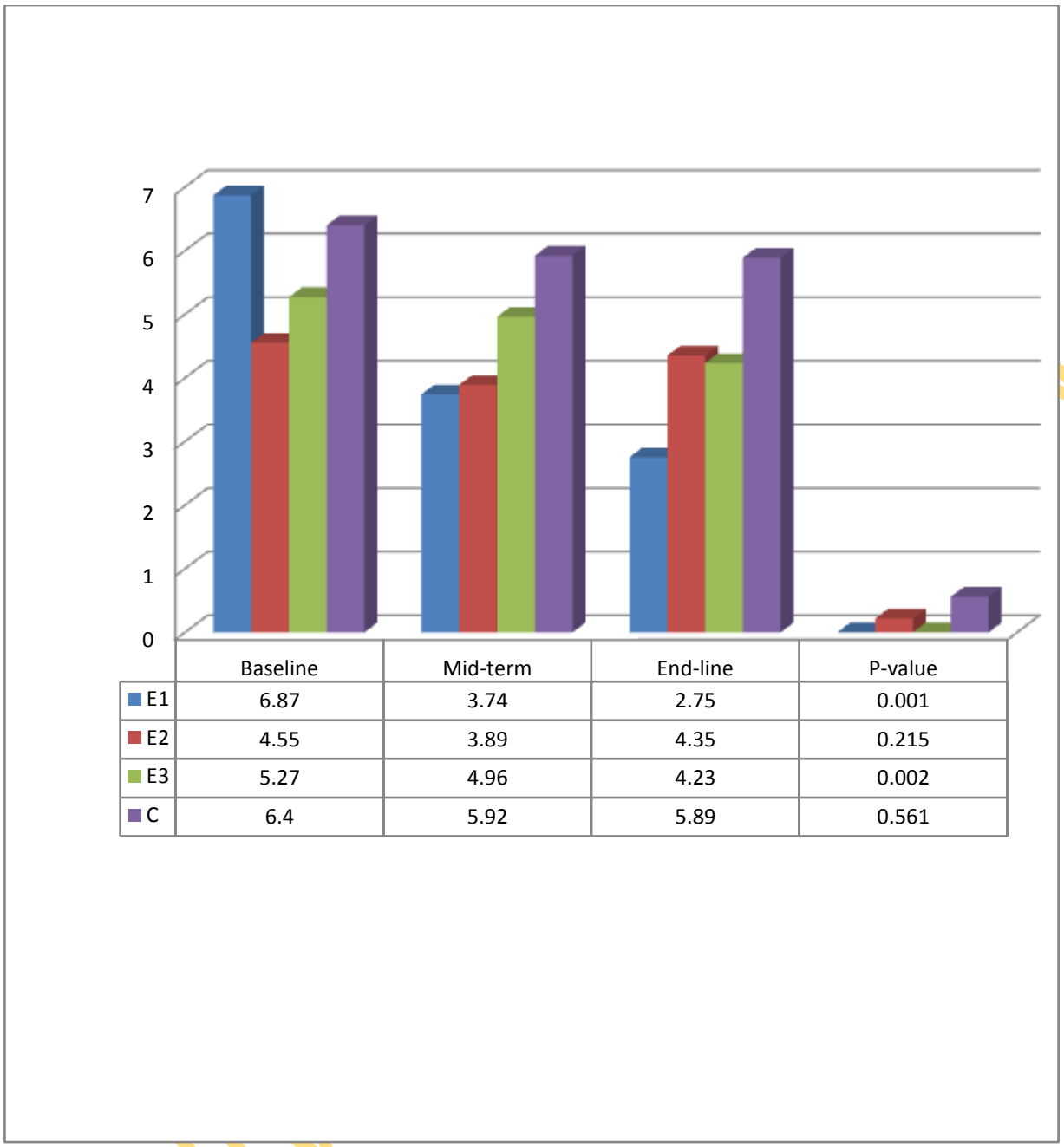
Figure 4.5 Proportions of Apprentices that Purchased Condom at the Patent Medicine Stores at Baseline, Mid-term and End-line

Hypothesis 5

Reported condom users who purchased condoms at the Patent Medicine Stores (PMS) will increase among the experimental than in control group.

The hypothesis was tested by using the responses of reported condom users among the apprentices to the statement in the questionnaire on where they purchased the condom used at the last sexual intercourse. The result was used to make comparison (see Table 4.16) between experimental and control groups: at baseline E1 (35.1%) had the highest percentage of those who purchased condoms at PMS while E3 (13.9%) had the lowest; compared with control (17.6%), the difference was significant (p=0.002). At mid-term E3 (36.7%) had slight increase which was the highest percentage among the four groups while control (3.3%) had the lowest proportion, the difference in the percentage was significant (p=0.003). However, at end-line E1 (39.0%) led the groups while the control (5.9%) had the lowest percentage. The difference was statistically significant (p=0.001), hence the null hypothesis is rejected.

Furthermore the responses of the apprentices to the questions on pattern of sexual behavior were summarized. These questions explored the engagement of apprentices with risky sexual behavior for example: (1) Have you ever had sex? Answers: Yes scored 1, while No scored 0. (2) Whom did you have the last sexual intercourse with? Answers: Husband=0; Boy friend=1; Casual sexual partner=1; Instructor=1. (3) How many sexual partners do you have? Answers: 1=0; >1=1. (4) Did you or your sexual partner use condom in the last sex? Answers: Yes=0; No=1. The mean score was determined and analysis showed that the higher the mean score the higher the risky sexual behavior of the apprentices whereas the lower the score the lower the risk or the greater the safer sex behavior of the apprentices. Figure 4.6 showed that the reported risky sexual behavior reduced significantly in E1 from 6.87 at baseline to 3.74 at mid-term and further reduced to 2.75 at end-line; E3 from 5.27 at baseline to 4.96 at midterm and 4.23 at end line. The difference is compared with the mean scores in E2 4.55 at baseline with slight difference 4.35 at end-line; and control from 6.43 at baseline to 5.89 at end-line. With this variable the PE approach proved superior over other two approaches and control.



	Baseline	Mid-term	End-line	P-value
E1	6.87	3.74	2.75	0.001
E2	4.55	3.89	4.35	0.215
E3	5.27	4.96	4.23	0.002
C	6.4	5.92	5.89	0.561

Figure 4.6 Mean Score of Risky Sexual Behaviour among the Apprentices at Baseline, Mid-term and End-line

In addition, apprentices were asked to mention the preferred person whom they could discuss issues of sexuality and reproductive health such as sexual intercourse, pregnancy prevention, use of condom, abortion and STIs. At baseline the apprentices preferred to share such sensitive issues with their friends, but at mid-term, issues such as sexual intercourse would be discussed mostly with parents (46.4%) and friends (38.2%). Other issues relating to pregnancy prevention (53.7%), STIs

(53.9%) and abortion (60.2%) they preferred to discuss with health worker but issues relating to the use of condom, majority (64.8%) apprentices preferred to discuss with their friends.

Hypothesis 6

There is significant difference in the relative efficacy of one of the three approaches on the knowledge of HIV among the experimental and control groups.

The hypothesis was tested by comparing the approach that was relatively effective than the other approaches. Figure 4.1 showed the overall performance of apprentices exposed to either peer education or instructional or the combination of the two interventions. Apprentices that had combined intervention recorded the highest knowledge gain (+7.2) comparing their scores from baseline (9.6) to end-line (16.8) mean score, the difference was significant ($p<0.05$), hence the null hypothesis is rejected.

Hypothesis 7

There is significant difference in the relative efficacy of one of the three approaches on the self-efficacy of the experimental and control groups.

The hypothesis was tested using the result obtained from respondents on level of self-confidence to resist sexual pressure. The result showed that out of the three approaches, apprentices that were exposed to Peer Education approach recorded consistent increase in the mean score for perceived efficacy from baseline to end-line surveys (see Figure 4.2). At end-line PE group had the higher level of confidence (16.5) in resisting sexual pressure than their colleagues in instructional (13.4) and combined (13.5) approaches. The difference was significant; ($p<0.05$) therefore the null hypothesis is rejected.

Hypothesis 8

There is significant difference in the relative efficacy of one of the three approaches on the sexual behaviour of the experimental and control groups.

The hypothesis was tested by computing the mean score of risky sexual behaviour with regards to the approach used for each group. The results showed that there was significant reductions only in PE and Combined approaches comparing the baseline and end-line mean scores. However PE approach proved to be more effective with a reduction of 4.12 points at end-line survey (see Figure 4.6). The difference was highly significant ($p=0.001$). Therefore the null hypothesis is rejected and alternative is accepted.

Hypothesis 9

There is significant difference between the impact of intervention at three and six months among the experimental groups.

This hypothesis was tested by comparing the scores obtained by each group for the variables studied, these are the knowledge, self-efficacy and sexual behaviour. For the HIV knowledge, Figure 4.1 showed that all the four groups recorded increase in the mean knowledge score at three months and the difference was very significant. At six months the knowledge gain was significant (p=0.001) in E2, was marginal in E1 but not significant (p=0.072) while the score remained the same (p=0.528) in E3. This could translate to stability of the level of HIV knowledge among the experimental groups.

Concerning the difference in the mean scores of perceived self-efficacy at mid-term, the three intervention groups recorded significant increase (see Table 4.13) in the mean score: E1 (p=0.004), in E2 (p=0.001) and E3 (p=0.003). At six months there was significant difference (p=0.001) in E1 and (p=0.003) in E3 groups while the difference in the mean score was not significant (p=1.000) in E2 group.

As for sexual behviour the difference in the mean scores at mid-term was significant with the three intervention groups (p=0.001, 0.003 and 0.001) for E1, E2 and E3 groups respectively. Likewise at six months decline of the mean score was significant in the three experimental groups (see Figure 4.6). These findings revealed that the six months intervention had a significant impact than three months period because there was opportunity for longer time of the positive impact, hence the null hypothesis is rejected and the alternative is accepted.

Section Three

4.8 Testing the Relative Effects of the Interventions

The results reported over time revealed a clear positive change among the apprentices at follow-up, and these were seen on three key variables: HIV/AIDS knowledge, self-efficacy in resisting risky activities and sexual behavior.

However final findings were documented on the main areas that the intervention had influenced: these areas included: increased knowledge of HIV/AIDS and STI prevention; reduced sexual partner; type of sexual partner (instructors); increased use of condoms; perceived self efficacy to resist sexual pressure; improved communication skills and boldness to discuss HIV/AIDS prevention and sexuality issues.

4.8.1 Knowledge of HIV/AIDS

Comparing the scores obtained in each variable over the period of three months and six months of interventions with the baseline scores, the result revealed that the gains at mid-term (3months) was significantly higher than at end-line (6months) survey. The gains on knowledge of transmission, prevention and overall knowledge on HIV by Apprentices are shown in Tables 4.12 & 4.13.

Table 4.12 Comparing the gains on the Knowledge of Transmission and Prevention of HIV at Mid-term Survey

		Groups			
Knowledge Variable		**E1**	**E2**	**E3**	**Control**
HIV Transmission	Gain	+3.3	+0.4	+4.6	+2.4
	t-value	17.549	-2.1376	-28.759	-11.996
	p-value	0.001	0.018	0.001	0.002
HIV Prevention	Gain	+2.2	+1.4	+2.7	+1.9
	t-value	-17.463	-17.095	-26.941	-17.457
	p-value	0.002	0.001	0.0003	0.001

It was observed that the gain for the knowledge of HIV Transmission and Prevention recorded by each group at three months was significantly higher especially among the experimental groups than the positive increase obtained at six months.

Table 4.13 Comparing the gains on the Knowledge of Transmission and Prevention of HIV at End-line Survey

		Groups			
Knowledge Variable		**E1**	**E2**	**E3**	**Control**
HIV Transmission	Change	+0.02	+1.06	+0.03	-0.03
	t-value	0.278	-8.240	-0.646	0.001
	p-value	0.781	0.000	0.519	1.000
HIV Prevention	Change	+0.20	+0.05	+0.02	0.000
	t-value	-3.337	-0.945	0.983	0.001
	p-value	0.001	0.345	0.326	1.000

Table 4.13 showed the positive gains in all the experimental groups but in contrast, the difference in the control group was significantly low at six months. Comparatively the combined group recorded significant increase over E1 and E2, at three months but had lowest knowledge gain at xix months. Apprentices in E2 appeared to be consistent in the increase though the increase at six months was not as much as it was at three months. However the intervention activities had a positive effect on their knowledge of HIV prevention education. This pattern especially at six months follow-up suggests the impact of time interval on the level of retention of knowledge acquired over a period of time. It might also be showing the level of stability of knowledge acquired, which might require an update program to refresh the memory of the apprentices. Further analysis however was carried out on each study group to measure the intervention changes from baseline to end-line.

*4.8.*2 Self-Efficacy to Resist Sexual Pressure

In testing the relative effectiveness of the interventions for perceived self-efficacy in resisting sexual pressure, Table 4.16 showed details of changes in the mean scores at baseline, mid-term and end-line surveys within the experimental and control groups.

At baseline the apprentices in Peer Education (E1) recorded the highest mean score (11.9) than the other intervention groups and the control; while the Combined approach had the least mean score (10.4) lower than all the groups. But at mid-term each of the groups recorded higher mean score, the difference in the increase was significant ($p<0.05$). Instructor led approach had the highest score (14.7), while the Combined approached had the lowest score (12.1); lower than the scores of other intervention groups and control. However, at end-line the apprentices with Peer Education alone approach scored the highest (16.5) than the other intervention groups and control. The Combined approach score (13.5) was slightly higher than Instructional (13.4), but the difference was not significant. The control group recorded the lowest mean score (12.8); the difference between Instructional and control was of borderline significant; the combined had a clearly significant higher mean score than the control group at the end-line survey (see Table 4.14). Using T-test statistical analysis, E1 proved superior over the other two approaches

Table 4.14 Comparison of Changes in Mean Scores of Perceived Self-Efficacy

Baseline		**E1**	**E2**	**E3**	**C**
	Mean	12.1	11.6	10.4	11.3
	St. dev	2.9	3.5	5.0	2.9
E1	t-value		1.336	3.772	2.527
	p-value	-	0.182	0.000	0.012
E2	t-value			-2.590	0.961
	p-value	-	-	0.010	0.337
E3	t-value				-1.975
	p-value	-	-	-	0.049
Mid-term		**E1**	**E2**	**E3**	**C**
	Mean	13.1	14.7	12.1	12.8
	St. dev	5.1	1.8	4.20	3.4
E1	t-value		-4.154	2.268	0.793
	p-value	-	0.000	0.024	0.428
E2	t-value			-8.127	7.039
	p-value	-	-	0.000	0.000
E3	t-value				-1.859
	p-value	-	-	-	0.064
End-line		**E1**	**E2**	**E3**	**C**
	Mean	16.6	13.4	13.55	12.7
	St. dev	3.7	1.7	2.8	3.4
E1	t-value		10.865	9.175	10.642
	p-value	-	0.000	0.000	0.000
E2	t-value			0.452	2.485
	p-value	-	-	0.651	0.013
E3	t-value				2.470
	p-value	-	-	-	0.014

4.8.3 Sexual Behavior of Apprentices-

The results at baseline, mid-term and end-line revealed that a high proportion (80.4%) of the apprentices were sexually active. When asked if the apprentices had ever had sex with someone before the survey, over 25% from each experimental and control groups responded positively. Apprentices in E2 (28.3%) appeared to be the most sexually exposed of all the experimental groups, followed by E3 (26.8%). Apprentices in the control (26.2%) and E1 (25.3%) groups were the least sexually exposed. The difference among the four groups was significant (p value=0.018).

Sexual partners at the last sexual intercourse: In responding to whom the sexual partner was at the last sexual intercourse; an overall result revealed that a high proportion of apprentices in all the groups reported that their sexual partner at the last sexual intercourse were their boy-friends: (75.5% at baseline, 79.8% by mid-term and 79.4% at end-line) while few of those that were married had sex with husbands (17.3%, 19.1% and 18.8%) at baseline, mid-term and end-line respectively. The rest that were unmarried had sex with casual friends (6.2%, 0.4% and 1.3%) or with instructor (1.0%, 0.7% and 0.4%) at each assessment respectively. The most striking responses were those who reported to have had sex with their instructors. This is suggestive of the implication of learning the trade under a male instructor who might take undue advantage of the young ladies, who appeared unskillful in resisting the sexual pressure from their masters. At baseline an overall total of six apprentices claimed to have had sex with their male instructors, of which 4 were in group E1 (66.7%), and 1 (16.7%) each in groups E2 and control. With the intervention, there was a decline in number of Apprentices that had sex with their instructors, at midterm the total number for the four groups was 5, and further reduced to 3 at end-line survey. Of which E2, E3 and Control groups had 1 (33.3%) each, while E1 that had the highest proportion at baseline recorded 0.0%, the difference over time was significant ($p<0.05$) as shown in Table 4.15.

Table 4.15 Comparison of Number of Apprentices that had sex with Instructors at Baseline, Mid-term and End-line

Term	E1	E2	E3	Control	Total
Baseline	4	0	1	1	6
Mid-term	1	1	2	1	5
End-line	0	1	1	1	3

Reported Number of Sexual Partner

At baseline majority (88.7%) of the apprentices in the experimental and control groups claimed to have one sexual partner, while (11.3%) reported to have more than one sexual partner. Among those with many sexual partners: the highest proportion, (51.6%) was in control group, (16.4%) in E1, (6.3%) in E3 and none in E2. After intervention, there was decline in the number of apprentices who claimed to have more than one sexual partner and the difference was significant among the experimental groups as E1 and E3 recorded none (0.0%) each. E2 group (2.1%) had the highest proportion among the experimental groups but still lower than control group (4.0%) (see Table 4.16).

Table 4.16 Comparison of Percentages of those having >1 Sexual Partner at Baseline, Mid-term and End-line

Terms	E1	E2	E3	C	Statistics
Baseline	27 (16.4%)	0 (0.0%)	4 (3.0%)	33 (22.9%)	X^2=48.089 DF=3 P=0.195
Mid-term	22 (15.5%)	12 (36.4%)	4 (2.4%)	6 (4.0%)	X^2=50.689 Df=3 P=0.045
End-line	0 (0.0%)	2 (2.1%)	0 (0.0%)	6 (4.0%)	X^2=10.469 Df=3 P=0.002

Reported Condom Use

There was a gradual increase in the use of condoms by the apprentices in the four groups from the baseline to end-line surveys. An increase in condom use was significantly higher among the peer educator group (E1) than other intervention groups and control at baseline and end-line. Table 4.17 showed that the combined group (E3) (26.9%) also reported increase in condom use than the Instructional group (E2) and control at end-line survey. Though the apprentices in E2 (24.8%) reported the lowest proportion among the intervention groups, it was significantly higher than control. The difference over time was significant ($p<0.05$).

Table 4.17 Percentage of Reported Condon Use within the Groups at Baseline, Mid-term and End-line

Terms	E1	E2	E3	Control	Statistics
Baseline	141 (33.5%)	114 (27.1%)	72 (17.1%)	94 (22.3%)	X^2=50.5 Df= 3 P=0.001
Mid-term	136 (22.9%)	183 (30.9%)	157 (26.5%)	117 (19.7%)	X^2 =127.0 Df=3 P=0.004
End-line	150 (27.7%)	137 (24.8%)	149 (26.9%)	116 (21.2)	X^2 =70.1 Df=3 P=0.002

Furthermore the responses of the apprentices to the questions on pattern of sexual behavior were summarized. These questions explored the engagement of apprentices with risky sexual behavior. The mean score was determined and t-test analysis showed that (Table 18) showed that the reported risky sexual behavior reduced significantly in E1 from 6.87 at baseline to 3.74 at mid-term and further reduced to 2.75 at end-line; E3 from 5.27 at baseline to 4.96 at midterm and 4.23 at end line. The difference is compared with the mean scores in E2 4.55 at baseline with slight difference 4.35 at end-line; and control from 6.43 at baseline to 5.89 at end-line. Because the higher the mean score the higher the risky sexual behavior of the apprentices whereas the lower the score the lower the risk or the greater the safer sex behavior of the apprentices. With this variable the PE approach proved superior over other two approaches and control.

Table4.18 Comparison of Changes in Mean Scores for Apprentices Sexual Behaviour

Baseline		**E1**	**E2**	**E3**	**C**
	Mean	6.9	4.6	5.2	6.4
	St.dev	2.1	1.9	2.9	2.8
E1	t-value	_	11.3	6.3	1.8
	p-value		0.001	0.003	0.076
E2	t-value	_	_	-2.9	-7.6
	p-value			0.004	0.003
E3	t-value	_	_	_	-4.0
	p-value				0.001
Mid-term		**E1**	**E2**	**E3**	**C**
	Mean	3.7	3.8	4.2	5.9
	St.dev	2.0	0.9	1.9	2.3
E1	t-value		-0.9	-2.5	-9.8
	p-value	_	0.352	0.014	0.003
E2	t-value	_	_	-2.2	-11.2
	p-value			0.025	0.002
E3	t-value	_	_	_	-7.7
	p-value				0.001
End-line		**E1**	**E2**	**E3**	**C**
	Mean	2.7	5.3	4.9	5.9
	St.dev	1.2	1.8	1.9	2.4
E1	t-value	__	-16.2	-13.5	-16.5
	p-value		0.002	0.005	0.001
E2	t-value	_	_	1.8	-2.9
	p-value			0.069	0.004
E3	t-value	_	_	_	-4.4
	p-value				0.003

4.9 Logistic Regression Analysis

Logistic regression was used to explain the change that occurred (pre and post intervention) between the experimental groups on the dependent variables which are the knowledge of HIV, perceived self-efficacy to resist sexual pressure and sexual behaviour.

In predicting for the variables- knowledge of HIV prevention, self-efficacy to resist sexual pressure and safer behaviour; the mean score of each variable at the three assessment (term) was used and stated (see Table 4.19) to determine the association between the exposure to intervention and the outcome. Independent predictor of good knowledge of HIV prevention, self-efficacy to resist sexual pressure and safer behaviour among participants were examined by including intervention group, type of trade, religion, level of education, time of assessment (baseline, mid-term or end-line) and age in a logistic regression model.

Table 4.19 Showing the Mean Scores of the Three Variables at Baseline, Mid-term and Sex Behaviour.

Term		Overall Knowledge	self_efficacy_ new	Sex behav
Baseline	Mean	11.4030	11.3047	5.7861
	N	804	804	804
	Std. Deviation	3.44055	3.71734	2.65988
Mid-term	Mean	16.0966	13.1669	4.4467
	N	797	797	797
	Std. Deviation	1.49856	3.92435	2.08879
End-line	Mean	16.4173	14.0852	4.7343
	N	798	798	798
	Std. Deviation	1.19914	3.32441	2.23850
Total	Mean	14.6303	12.8483	4.9912
	N	2399	2399	2399
	Std. Deviation	3.23367	3.84113	2.41147

Logistic Regression of Effect of Intervention on Knowledge of HIV

All the experimental groups recorded significant change in the knowledge of HIV as a result of the intervention activities. Using the overall mean score of the knowledge the mean score at baseline was 11.4, the value for regression was drawn at 11.3, this means that apprentices who scored 11.4 and above had good knowledge of HIV prevention while those who scored 11.3 and below had poor knowledge. Table 4.20 shows the odd ratios from the logistic regression analysis for

prediction of good knowledge. Good knowledge was significantly associated with intervention groups, type of trade, and level of education and term of study and these associations were independent of other factors in the model. Compared with the control group, participants in the peer group (OR = 2.73; 95% CI = 2.12, 3.52), instructor group (OR = 9.87; 95% CI = 7.20, 13.53) and those who had combined intervention (OR = 3.45; 95% CI = 2.66, 4.49) were more likely to have good knowledge. Participants who engaged in tailoring were more likely to have good knowledge (OR = 1.29; 95% CI = 1.06, 1.56). Considering the level of education, participants who had senior secondary education (OR = 1.71; 95% CI = 1.07, 2.72) and tertiary education (OR = 7.65; 95% CI = 3.45, 16.99) were more likely to have good knowledge than those with primary/no education. However, there was no difference between the odds of having good knowledge between those who had junior secondary education and primary/no education. Table 4.20 also show that the term of study significantly affected the level of knowledge. The odds of having good knowledge were significantly higher at mid-term (OR = 1.68; 95% CI = 1.32, 2.13) and end-line (OR = 2.81; 95% CI = 2.20, 3.60) than baseline among the apprentices.

Table 4.20: Predictors of Good Knowledge of HIV among Apprentices

	Good Knowledge		
	OR	95% CI	p
Intervention[a]			0.000
Peers	2.73	2.12, 3.52	0.000
Instructors	9.87	7.20, 13.53	0.000
Combined	3.45	2.66, 4.49	0.000
Type of trade: Tailoring[b]	1.29	1.06, 1.56	0.012
Religion: Christianity[c]	0.87	0.62, 1.22	0.412
Level of education[d]			0.000
Junior secondary	1.12	0.70, 1.79	0.636
Senior Secondary	1.71	1.07, 2.72	0.025
Tertiary	7.65	3.45, 16.99	0.000
Term of study[e]			0.000
Mid-term	1.68	1.32, 2.13	0.000
End line	2.81	2.20, 3.60	0.000
Age (years)	1.02	1.00, 1.04	0.110

Reference categories are: [a]Control (no intervention); [b]Hair-dressing; [c]Other religions; [d]Primary/no education; [e]Baseline

Logistic Regression of Intervention on Perceived Self-Effficacy

All the intervention groups recorded significant change in the level of perceived-self-efficacy when compared with control group at post-intervention. The Odd ratios for prediction of the score for average self-efficacy among participants were as shown in Table 4.21. There were significant associations between intervention groups, level of education, term of study and age. Each of these associations was independent of other factors in the logistic regression model. Compared with the control group, participants in the peer group (OR = 2.77; 95% CI = 2.15, 3.58) and those who had combined intervention (OR = 1.80; 95% CI = 1.41, 2.30) were more likely to score above average for self-efficacy while the odds of scoring above average for self-efficacy were not significantly different between those in the instructor group and control. Again, considering the level of education, participants who had senior secondary education (OR = 2.10; 95% CI = 1.34, 3.32) and tertiary education (OR = 2.28; 95% CI = 1.18, 4.41) were more likely to score above average for self-efficacy than those with primary/no education. However, there was no difference between the

odds of having score above average for self-efficacy between those who had junior secondary education and primary/no education. Moreover, the term of study also significantly affected scores for self-efficacy. The odd of having a score above average for self-efficacy was significantly higher at mid-term (OR = 1.93; 95% CI = 1.53, 2.45) and end-line (OR = 1.24; 95% CI = 1.11, 1.55) than baseline among study participants. Lastly, Table 4.21 also show that the odds of a participant scoring above average for self-efficacy decreased as the age increases (OR = 0.96; 95% CI = 0.94, 0.98).

Table 4.21: Odd Ratios from Logistic Regression Analysis for Prediction of above average Self-Efficacy Score among Apprentices

	Self-efficacy Above average		
	OR	95% CI	p
Intervention[a]			0.000
Peers	2.77	2.15, 3.58	0.000
Instructors	1.24	0.97, 1.60	0.092
Combined	1.80	1.41, 2.30	0.000
Tailoring[b]	0.96	0.80, 1.15	0.648
Christianity[c]	1.19	0.88, 1.62	0.254
Education[d]			0.000
Junior secondary	1.43	0.91, 2.25	0.120
Senior Secondary	2.10	1.34, 3.32	0.001
Tertiary	2.28	1.18, 4.41	0.014
Term[e]			0.000
Mid-term	1.93	1.53, 2.45	0.000
End line	1.24	1.11, 1.55	0.042
Age (years)	0.96	0.94, 0.98	0.000

Reference categories are: [a]Control (no intervention); [b]Hair-dressing; [c]Other religions; [d]Primary/no education; [e]Baseline

Logistic Regression of Intervention on Perceived Sex-Behaviour

The result of the changes in the mean score for the apprentices' sexual behaviour showed a sharp decrease among the three intervention groups at post intervention. Table 4.22 shows the odd ratios from logistic regression analysis for prediction of safer sex behaviour among study participants. Safer sex behaviour was significantly associated with intervention, term of study and age with each association being independent of other factors in the model. Compared with the control group, participants in the peers group (OR = 2.19; 95% CI = 1.27, 3.77), instructor group (OR = 1.27; 95% CI = 1.17, 1.42) and those who had combined (OR = 1.47; 95% CI = 1.30, 1.73) were more likely to have safer sex behaviours than the control group. Table 4.22 also shows that the term of study significantly affected the practices of safer sex behaviours. The odd of having safer sex was

significantly higher at end-line (OR = 1.08; 95% CI = 1.06, 1.10) than baseline among the apprentices.

Table 4.22: Odd Ratios from Logistic Regression Analysis for Prediction of Safer Sex Behaviour among the Apprentices

	Safer sex behaviour		
	OR	95% CI	p
Intervention[a]			0.000
Peers	2.19	1.27, 3.77	0.005
Instructors	1.27	1.17, 1.42	0.000
Combined	1.47	1.30, 1.73	0.000
Tailoring[b]	1.20	0.87, 1.66	0.272
Christianity[c]	1.13	0.51, 2.48	0.768
Education[d]			0.450
Junior secondary	0.44	0.20, 1.93	0.132
Senior Secondary	0.66	0.31, 1.42	0.291
Tertiary	0.63	0.22, 1.85	0.406
Term[e]			0.047
Mid-term	0.97	0.78, 1.22	0.808
End line	1.69	1.56, 2.87	0.001
Age (years)	1.08	1.06, 1.10	0.000

Reference categories are: [a]Control (no intervention); [b]Hair-dressing; [c]Other religions; [d]Primary/no education; [e]Baseline

4.10 Evaluation of and Opinion about the Intervention Programme

The post evaluation of the intervention programme was conducted using a qualitative method-Focus Group Discussion (FGD). Two sessions were carried out at each experimental site involving 6-10 participants in each session; the same FGD guide used earlier in the project was used with some modifications. The FGD was done to obtain the opinion of the participants and information about their experience throughout the study period, as well as the gains derived from the educational activities. The information gathered was to enrich the findings from quantitative method. The setting was conducive; there was a moderator and a recorder. Information gathered was transcribed, sorted

into categories and themes for easy analysis which was done manually. The Apprentices' response is as stated below:

4.11 FGD with the Apprentices

The apprentices described the general assessment of the educational activities as valuable and worthwhile because the project has increased their knowledge about HIV/AIDS and STI prevention especially in areas of the disease transmission and prevention. Majority claimed the educational activities were beneficiary to the youths as the project has taught them moral lessons, empowered them to resist sexual pressure. Some of the apprentices expressed their personal gains as:

"It has helped me to abstain from sex since I received the teachings and counselling."

Another added: "*It has made it clearer to me that abortion is bad."*

Another apprentice said: "*The project has helped me to know my rights as an individual*."

"I have gained a lot from the programme because it has enriched my knowledge about AIDS and sexuality".

However, the participants were asked about what they liked or enjoyed about the programme. In responding, several points were raised among which were: there was increased knowledge about HIV/AIDS, self esteem, sexual harassment, prevention of unwanted pregnancy, reducing risks of rape and abortion.

Furthermore, the participants were asked about the challenges encountered in performing the role of a Peer Educator. In the discussion it was evident that many of them found the task challenging to convince their colleagues in the shops on safer sex behavior; to have understanding about the health impairment associated with sexually transmitted infections and their vulnerability to these infections as a result of engaging in premarital and unprotected sex. The Peer Educators reported that some of the apprentices did not believe that they could contact HIV/AIDS despite their risky sexual practices. An apprentice declared that

"*Initially I found the work challenging, because sometimes other apprentices in the shop would not like to listen to me when i was counselling*".

But another PE reported:

"There was no problem in counselling my mates in the shop because I received support from our instructor."

Suggestions were given by the PEs to enrich future programme: these included- the participants would like to have lectures and discussions on human trafficking and prostitution. They requested for films show that are relevant and educative. They also asked for provision of identity card for all the

participants; awareness campaign on the media especially on radio and television to publicize the programme and allow the community to know that such programme is being implemented.

In addition the participants recommended that for similar studies in future, the teachings should be more elaborate; the programme should be extended to other apprentices in other parts of the city and state. As for the financial incentive the amount to be given as transport money should be reviewed upward.

CHAPTER FIVE

DISCUSSION

5.0 This chapter discusses the results that were discussed in chapter four; it includes the changes that occurred in the three variables of interest: these were knowledge on HIV/AIDS education, self-efficacy to resist sexual pressure and reported safer sex behavior among the female apprentices (tailors and hairdressers) within the period of six months of intervention. These changes could be attributed to the educational interventions conducted on the experimental groups of the study. Comparison was made with previous studies to highlight the similarities and differences. In addition, the relative effectiveness of each intervention approach was compared and finally conclusion was drawn, lessons learnt were documented and recommendations were provided.

5.1 Baseline Characteristics of Apprentices

The mean age of the apprentices showed that those from the three experimental groups were within the same age range but the mean age of the control group was slightly higher than Peer Education alone (E1) and Instructor led (E2) groups. But they all belonged to the age group 15-24 years which is regarded as youths (WHO, 1989). Also FMOH-Sentinel Survey (2008) stated that this age group had the highest age specific prevalence rate of 5.6 because new cases of HIV infection are common among the young people aged 15-24 years; worst still the females (4.0%) were more infected than the males (3.2%) (Bankole et al, 2007; FMOH-NARHS, 2007).

Considering their marital status, overall, majority (85.6%) of the apprentices studied was single; of the married participants, almost half were in control group. Also majority were Christians which is a reflection of the dominant religion in Benin-city. The educational level of the study group revealed that almost half completed senior secondary school education. As a result of economic decline and lack of employment opportunity, and worsened by their low level of education, a large proportion of adolescent and youths end up in the informal apprentice system learning a skill for a period of time to start a trade. (Fawole et al, 2004). The informal structure of apprenticeship system results in apprentices' vulnerability to exploitation (Ajuwon, 2002), and the occasional experience of sexual harassment by their instructors.

5.2 Changes that occurred as the result of intervention

5.2.1 Knowledge on HIV

At the beginning of the study, many apprentices were aware of the HIV/AIDS as killer disease; but the awareness did not translate to knowledge as the level of knowledge was very low at baseline, for example the apprentices in combined group (E3) had the lowest mean score 9.7 out of the overall 21 point knowledge scale. The low level of knowledge on AIDS among the apprentices is an indication that information about HIV education was not readily accessible to the apprentices in the study areas. This might be responsible for high incidence of unprotected sexual activities with the attendant high rate of sexually transmitted infections including HIV among the youths. Following the interventions, there was evidence of knowledge acquisition, as the mean knowledge score of each group increased during the mid-term and end-line surveys. The highest increase (16.81) was in E3 which had combined intervention approaches from the peer educators and instructors. Other experimental groups recorded significant increase than the control group. The difference in the increase in scores supports the efficacy of Peer Education. This observation agreed with the report of several studies that used peer education to reach out to the youth and vulnerable groups with information on sexuality and reproductive health (Ajuwon, 2000; UNICEF, 2003; UNFPA, 2004; Youth-Net, 2006; Ajuwon, 2008).

Likewise, as observed by other researchers, (Kirby et al, 2006; Ajuwon and Brieger, 2007), the instructor-led approach had a positive change on the knowledge of the apprentices. Though the instructors did not fill the MIS forms given to them, their maturity was demonstrated by influencing a positive change in the HIV knowledge and sexual behavior of the apprentices. Many apprentices had misconceptions about the transmission of HIV such as HIV being transmitted by mosquito bites or through kissing or using the same utensils with infected persons. This could be because these adolescents and youths were not in school and as such had missed out on HIV prevention programs that were carried out in the school settings.

A similar observation was noted by Ajuwon and Brieger (2007) who also reported that the knowledge gained by adolescents in the intervention schools was significantly higher than that in the control group. Kirby et al, (2006) also reported that HIV prevention and sex education conducted in schools had significant effect on the knowledge and sexual life of adolescents. However, adolescents that are not in school cannot benefit from such institutional based programs except for few intervention studies which were conducted to fill the gap for out-of-school youths.

The intervention of this study has had a positive impact in the out-of- school youths that participated in the project and this was confirmed by the increase knowledge gains among the experimental groups over the control. Surprisingly the control group recorded marginal increase but

not as much as the intervention groups. This change could have occurred as a result of many community-based developmental programme on HIV/AIDS being conducted by the government and Non-governmental Organizations in many communities at the same time of the implementation of this study. Both print and electronic media were also transmitting messages to educate people on the transmission and prevention of HIV/AIDS, to go for HIV screening test and treatment. In addition, some apprentices in the control group could have been inquisitive to know more about issues discussed during baseline survey. Some of them could have asked people around them who were working in related fields for clarification of ideas.

5.2.2 Perceived Self-Efficacy for Safer Sex

The apprentices in the intervention groups demonstrated a high level of positively perceived self-ability to resist sexual pressure. At the end of six months, apprentices in the experimental groups had an increase in their mean score above the baseline values and three months, unlike those in the control group who had a decline in their score. Among the apprentices, in the experimental group, those in the peer educator alone (E1) group, had a consistent increase at mid-term and end-line surveys, and these scores were significantly higher than those for E2 and E3 groups. This result confirmed that peers have potential influence on their mates; the PE had demonstrated good role models to other apprentices in their shops by passing on skills needed to practice safer sex behavior. Also the rate of reduction in the number of sexual partners was more pronounced among apprentices in E1 who claimed to have multiple sexual partners (16.4%) at baseline but dropped to (0.0%) at end-line. This is similar to the report of Nzioka, (2001) and Ajuwon, (2002) who observed a decrease in the number of sexual partners of apprentices after an exposure to peer education intervention. The decline is encouraging because the reduction in the sexual partners consequently would reduce the risk of exposure to various Sexually Transmitted Infections including HIV/AIDS especially among the sexually active young ladies who engaged in premarital sex and had multiple partners (Sunmola et al, 2003; Omokhodion et al, 2007).

5.2.3 Sexual Behavior

A high proportion of the apprentices in both the experimental and control groups were found to be sexually active at baseline. These findings are similar to those of previous studies Omokhodion et al, (2007); Bankole et al, (2007); Sunmola et al, (2003) and Ajuwon, (2002) who observed that a high proportion of their study population was sexually active, and also had multiple sex partners. This observation showed that the young population is potentially at risk of HIV/AIDS as a result of their poor perception and knowledge of AIDS and risky sexual habits (Babalola et al, 2005; Guiella and

Madise, 2007). UNFPA, (2004) also reported that young ladies are considered to be vulnerable to STIs including HIV/AIDS because of their high risk behavior which includes inadequate knowledge of preventive measures, exposure to premarital sex and problems relating to accessibility to sexual and reproductive health information and services. Unwanted pregnancies are the consequence of this unsafe sex behavior; adolescents and young ladies are reported (Omorodio, 2006; Agunlade, 2009) to be prone to have unplanned pregnancies and in an attempt to get rid of them, engage in induced abortion which might end up in unsafe abortion. This risky sex behavior is associated with complications that are life threatening such as retained products of conception, hemorrhage, sepsis or even death (Oye-Adeniran, 2005).

Apart from being sexually active, findings of this study showed that the use of condom by apprentices was low. Even after the intervention, the proportion that used condom was still small. The lowest was recorded with the control group (21.2%); while the experimental groups reported slight increase at end-line survey. This agrees with results from previous studies, Ajuwon et al, (2002, 2006), Okonta and Oseji, (2006) and Sunmola, (2003) indicated that the utilization of contraceptive methods and services such as use of condom was low among the adolescents. As a result, they experienced the consequences of risky sexual activities and unintended pregnancies (Oye- Adeniran et al, 2005). The danger is that these sexually active ladies are exposed to unprotected sex and various Sexually Transmitted Infections. Bankole et al, (2007) also lamented that despite extensive efforts in promoting condom use, rate of usage among young people in sub-Saharan Africa, and Nigeria in particular is still very low as many of them prefer to engage in unprotected sexual intercourse.

Majority of the apprentices who claimed to have used condom during the last sexual intercourse, got the condoms from their partners because many of them were not confident or felt too shy to go to the patent medicine stores or health facility to purchase or ask health worker for condoms. Amuyunzu-Nyamongo et al, (2005) and Kehinde et al, (2005) stated other reasons for non use of condoms among youths as youth's dislike of condoms and embarrassment and stigma associated with the purchase or asking for condoms from adult providers. Furthermore, the culture and values of the society do not encourage young ladies to demand or purchase condoms, and this is a limitation to the effort these young ladies may put into attempting to protect them from contracting STIs and unwanted pregnancies.

The intervention had a positive effect as regards the use of condom because the apprentices in the three intervention groups have acquired knowledge on HIV and other reproductive health issues; they were exposed to life saving skills that empowered them to be assertive in engaging in safer sex behavior. The positive impact of the intervention was evident with the increase in the percentage of

those who used condom at mid-term and end-line, although they could improve on this level. But there are still limiting factors that would not encourage young ladies to demand or purchase condoms, such as poor skills for negotiating for the use of condom, confidence to ask for condom from health provider and cost of condom. These limiting factors were documented by Rich, (2007) who observed that despite the fact that condom is protective, he noted that the demand for condom use was still low especially among out-of-school adolescents and youths who appeared to be sexually active than their counterparts in the school. Guiella et al, (2007) also reported that negotiation to use condom was difficult since suggesting the use of condom itself was seen as a sign of mistrust in a sexual relationship. In addition, the ability of female youths to negotiate the use of condoms was almost impossible if they had received gifts and money from their sexual partners. Other limiting factors for condom use among adolescents and youths reported by Guiella and Madise, (2007) were the problems of affordability and easy accessibility, stigma or embarrassment associated with the purchase of condom from adult provider.

5.2.4 Improved Communication Skill to discuss Sexuality and Reproductive Issues

The intervention was observed to have had a significant effect on the ability of apprentices to freely discuss issues relating to HIV/AIDS education and adolescent sexuality and reproductive health. This was evidenced by the increase counselling sessions and reaching out to colleagues achieved in the various groups. Findings showed that at the end of six months interventions, apprentices in E1- peer educator alone had 397 counselling sessions and reached out to 2904 colleagues (female apprentice tailors and hairdressers), while combined group recorded higher number 461 sessions and reached 3578 apprentices. This confirmed that the educational intervention program might have created a supportive social environment that favoured open discussion on sensitive issues. It is suggestive that combined and peer education approaches had a positive influence on the apprentices knowledge about HIV and safer sex behaviour. Ajuwon, (2002) observed a similar report in which the peer educators had significant impact on their colleagues.

5.3 Assessing the Relative Effectiveness of the Intervention

The study design was able to compare the intervention groups with control group considering the three dependent variables viz the HIV knowledge, sexual behaviour and perceived self-efficacy to resist sexual pressure. The interventions either through peer education, instructional or both, significantly impacted more effectively on the apprentices as evidenced by the significant difference in scores when compared with the control group which was not exposed to intervention. This affirmed that any intervention is better than no intervention at all.

Effect of the Intervention on Apprentices Knowledge

The result in this study showed that peer education approach is superior to instructional. The trained peers were able to disseminate information about prevention and transmission of HIV infection, sexuality and reproductive health issues adequately without inhibition among their colleagues thereby imparting knowledge, influencing positive change in sexual behavior and increasing perceived self-efficacy to resist sexual pressure. The peer educators also demonstrated a high level of commitment in the follow-up activities. The counselling and discussion of reproductive health issues were adequately documented by peer educators; whereas the trained instructors did not fill the MIS forms, hence there was no report of their activities. Some of the instructors gave verbal reports but this could not be validated. Despite this omission, the apprentices that had the instructor led intervention were able to record significant change compared with control group. This may suggest that the maturity and level of skill demonstrated by the instructors could have influenced the positive change.

The combined intervention however, yielded more positive impact compared with the other two approaches. The apprentices and instructors in this group appeared to have complemented each other to effect the significant change. For the acquisition of HIV knowledge scores, the combined group proved superior to and relatively more effective than the other two intervention approaches. The knowledge increased from the lowest score at baseline to the highest score at end-line (see Figure 4.1). The participants however were equipped with knowledge that would protect them from contracting HIV infection. Hypotheses 1and 6 also confirmed that the difference in the mean knowledge score of the experimental groups and control group at the end of intervention was significant.

Effect of the Intervention on Perceived Self-efficacy

Concerning the relative effects of intervention on perceived self-efficacy, the peer education was as effective as the combination of instructional and peer education. The peer educators demonstrated higher level of confidence to resist sexual pressure and to refuse gifts in exchange for sex. The apprentices also reported to have developed confidence to ask their sexual partners to wear condom at every sexual intercourse. Furthermore, since majority of the apprentices reported to be sexually active, practicing the gains of the intervention consistently would protect them from contracting or transmitting various types of STIs/HIV infections; and consequently reduce the HIV/STIs prevalence among out-of-school youths.

The educational intervention had recorded several benefits which translated into reduction in the number of apprentices who reported to have had sex with their instructors at the end of six months

intervention, decline in the number of those who claimed to have more than one sexual partner. Also increased contraceptive use and increased perception of self-ability to purchase condom at the Patent Medicine store. Evidence of high confidence to resist sexual pressure and refuse gifts in exchange of sex was also documented. Peer Education group (E1) of the four groups consistently had the highest mean score for self-efficacy at mid-term and end-line surveys. This showed that the PEs seemed to perform better than others (see Figure 4.2); hypotheses 2 and 7 also agreed with the findings that there was a significant difference of the level of self-efficacy in resisting sexual pressure among the experimental groups as a result of the intervention. However, E1 with peer education approach proved superior over the instructional and combined approaches.

Effect of the Intervention on Sexual Behaviuor

Considering the difference in the mean score of the risky sexual behaviour among experimental and control groups, findings (see Figure 4.6) there was significant reduction in the proportion of apprentices that had sex under pressure in only two groups (E1 and E3), the difference was not significant in control group while E2 stll had increase proportion of apprentices that engaged in risky sex behaviour at the end-line survey. This shows that PE and combined approaches were effective and that the instructors did not make much impact. The hypotheses 3, 4, 5, and 8 further showed the impact of interventions on the apprentices.

In answering the research questions, the three variables- the level of knowledge of HIV prevention, perceived self-efficacy and safer sex has been assessed and documented in this study. Educational intervention activities carried out among the cohort apprentices had proved to have positive on the participants. This was evident with increase in knowledge, higher level of perceived self-efficacy and safer sex demonstrated.. There was reduction in the number of sexual partners, increased condom use was also reported. Findings showed that implementation of intervention to influence the apprentices is feasible, any intervention is relevant than no intervention at all. The results have proves that both PE and combined approaches have positive impact on the participants.

The evaluation of this study was conducted at three and six months, this design was adopted to determine if short term intervention could be adequate to effect a positive change. The findings in this study justified that the increase at mid-term was significant and was adequate for a positive impact, but at six months further increase was observed among the intervention groups. Although the increase was not as significant as it was at three months, for example the difference in the knowledge gain at six months was lower than the scores obtained at three months. However it showed that there was stability of the level of knowledge acquired by the apprentices. It also suggests that exposure to an intervention overtime will increase the retention of knowledge and

consequently further influence positive behavior. Hypothesis 9 agrees with this finding that short term intervention may be effective, but for greater impact, a long term intervention is recommended.

5.4 Conclusion

The study has documented the effect of educational interventions on the knowledge level on HIV education, self-efficacy to resist sexual pressure and safer sex behavior among the female apprentices. The apprentices in the experimental groups benefitted from the program as the increase in their knowledge was significantly higher than the control group. The study also revealed the pattern of sexual behavior of the apprentices and the influence of the project to adopt safer sexual behavior which has the potential to protect them from contracting STIs and HIV/AIDS. During the intervention period the apprentices in intervention groups acquired skills to enhance their self-efficacy to resist sexual pressure. Finally, the study has provided answers to the research questions which were drawn at the commencement of the research, the objective of the study was achieved and the hypotheses were tested.

5.5 Lessons Learnt

Eight lessons were learnt from this study, this included the following:

1. Young persons have proved to be effective in influencing their peers positively especially in an intervention programme. Nevertheless they need supportive supervision from adults to ensure they deliver adequately.
2. The Instructional group had a positive impact on the apprentices learning under their supervision, though the instructors did not fill the MIS forms given to them, their maturity was demonstrated by influencing a positive change in the HIV knowledge and sexual behaviour of the apprentices.
3. Multiple approaches were found to be superior to single intervention strategy: the collaborative effort of instructors and peer educators produced more positive outcome than interventions delivered by instructors alone or peer educators alone especially for the young and vulnerable groups.
4. The three months of intervention had a remarkable impact, the results showed high significant difference over baseline and this could be sufficient, but for sustainability a six months intervention increased the changes though not as much as at three months. This suggests that exposure to an intervention overtime, will increase retention of information and consequently influence positive behaviour.

5. Contrary to the general belief that sexuality education may be counter-productive for young persons, the results obtained in this study confirm otherwise that intervention results in several positive outcomes including increased knowledge and skills needed to make positive decisions to protect their sexual and reproductive health.
6. Contraceptive practices among out-of-school youths could be enhanced if they are given opportunities that could strengthen their decision making about reproductive issues.
7. Behavioural change is most sustainable when participants are directly involved in planning and implementing programme that are targeted at them.
8. A small stipend to support their transportation was essential; this incentive was found to have increased the level of commitment and participation of the apprentices.

5.6 Recommendations

The following recommendations are made based on the findings of this study whicherer stated in the discussion and conclusion-

1. A comprehensive package of policy and programme guidelines for addressing HIV prevention initiavites among young people especially female apprentices should be developed.
2. Approaches to HIV programming for young female apprentices should be revised to meet different needs of apprentices.
3. Regular advocacy programmes such as public campaigns, mass education and re-orientation of apprentices are urgently needed to raise the low level of contraceptive use.
4. There is need for a broader research base to identify the risk and protective factors related to sexuality and reproductive health needs of female apprentices, this group should be treated as a priority population and specific programs should be designed based on the evidence and best practices.
5. Young people especially the female apprentices should be meaningfully involved in Public Health policy and programme design and implementation for their population to validate the type and quality of programmes being implemented for them.
6. There is need to develop a comprehensive functional friendly health services in all Public health facilities for female apprentices to access HIV testing and counseling, Family Planning services and condom supply and also treatment of STIs.
7. Life skills HIV education is needed to empower young female apprentices to make decisions that will protect them from contracting HIV/STIs, teenage pregnancy abortions and its complications.

8. Similar intervention programmes should be conducted on the control group that have been kept in waiting and scale up among the apprentices in other LGAs to ensure equal opportunities and wider coverage.
9. Use of social media as a method of communication of HIV education and sexuality messages to the female apprentices is recommended.

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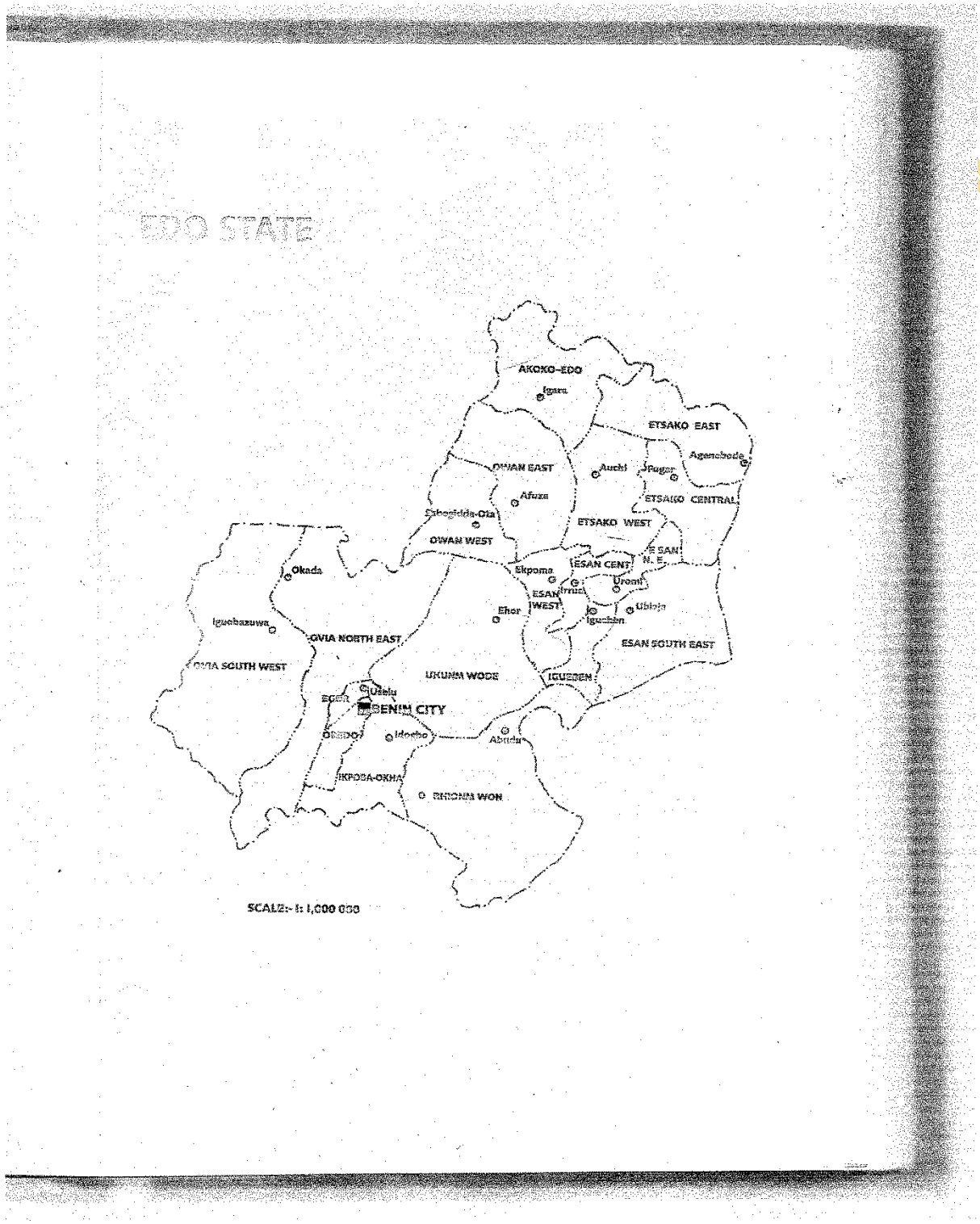
APPENDIXES

Appendix A: MAP OF EDO STATE



APPENDIX B

ETHICAL APPROVAL FROM THE MINISTRY OF HEALTH EDO STATE.

EDO STATE

Our Ref: HA 547/71
Your Ref.
Date: 24th March, 2009

Mrs. Adetoke Akinbami,
Dept of Health Promotion and Education,
Faculty of Public Health,
College of Medicine,
University of Ibadan,
Ibadan.

RE: EFFICACY OF EDUCATIONAL INTERVENTION TO PREVENT HIV / STDs AMONG FEMALE APPRENTICE TAILORS AND HAIRDRESSERS IN BENIN, OF EDO STATE, NIGERIA.

I am directed to acknowledge the receipt of your request on the above stated matter. Consequent upon the review of your proposal and recommendations by the State Ethical Clearance Committee, you are hereby given approval by the Honourable Commissioner to conduct the research on efficacy of educational intervention to prevent HIV / STDs among female apprentice tailors and hairdressers in Benin, of Edo state, Nigeria.

You are to maintain confidentiality and make available to the Ministry of Health, a copy of the Research work. Accept the assurances of the highest esteem from the Honourable Commissioner.

DIRECTOR OF MEDICAL SERVICES
Ministry of Health
BENIN CITY.
Date 24/03/2009

Dr Mrs. H.I. Eboreime,
(Director of Medical Services),
for: Honourable Commissioner.

DIRECTOR OF MEDICAL SERVICES
Ministry of Health
BENIN CITY.
Date

EDO STATE GOVERNMENT OF NIGERIA
OFFICE OF THE HON. COMMISSIONER
MINISTRY OF HEALTH, EDO STATE
Sickle Cell Centre, G.R.A., P.M.B. 1113,
Benin City, Nigeria.

APPENDIX C

Focus Group Discussion Guide

Introduction
Greetings. My name is ….. and we are from … we have invited you to discuss issues relating to he reproductive health of young persons. We want you to express your opinion freely, so that we can learn from each other and build on what we have known. We assure you that the information that you provide will be kept confidential that is why we will not ask for your names. The information you provide us will be used to plan programme that will empower young apprentices like you on how to negotiate safer sex behavior. We will like to record the discussions on tape so that we can remember all that you tell us today. We require your kind permission to do this.

Thank you for participating in this discussion.

Now let us start the discussion.

1. What are the important health issues affecting apprentices in this area?
2. How do they cope with these problems?
3. What have you heard about HIV/AIDS?
4. How does HIV/AIDS spread from one person to the other?
5. How can you know if someone has AIDS?
6. How can you protect yourself from contacting HIV/AIDS?
7. What are risks involved when a young unmarried person has sex?
8. How can these risks be prevented?
9. What problems do young girls have in preventing having sex?
10. What will you like to know more about HIV/AIDS?
11. How can the adolescents and youths be encouraged to practice safer sex?

APPENDIX D

Adolescent Sexual and Reproductive Health for Apprentices:

Questionnaire

Introduction-

Greetings. I am_____ a research assistant to a post graduate student in the Department of Health Promotion and Education, College of Medicine, University of Ibadan. We are carrying out a study to identify the reproductive health needs and concerns of female apprentices. I would like to ask you some questions about your sexual behavior and knowledge of AIDS/STDS prevention. The information you give will be used to design an intervention programme to address these needs I will be grateful if you can spend sometime answering these questions. All the information provided will be kept confidential. Your participation is voluntary and you are not obliged to answer any question you do not wish to answer. Do l have your permission to continue?

1. Yes. 2. No

Date of interview:

Shop No_____

Address:_____

Zonal Area:_____

Interviewer's name Signature Date

Demographic information of Respondents (Apprentices)

1. How old are you now?____Years
2. Marital status 1. Single 2. Married 3. Divorced
   4. Separated 5.Cohabiting with a male friend
3. If not married do you have a regular sexual partner? 1. Yes 2. No
4. Which religion do you practice?
   a. Christianity (specify denomination) _____
   b. Islam
   c. Traditional religion
   d. None
5. What type of trade are you learning? 1. Tailoring 2. Hairdressing
6. What is your highest level of completed education?
   1. None
   2. Primary

3. Completed Junior secondary
4. Uncompleted Junior Secondary
5. Completed Senior Secondary
6. Uncompleted Senior secondary
7. Tertiary

7. Is your current instructor a male or female? 1. Male 2. Female

8. How many female apprentices does the instructor have now?

8b. When are you likely to finish your training (Apprenticeship)?

SECTION B Knowledge about HIV/AIDS

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

If yes to question 9 proceed to question 10, but if answer is No skip question 10.

10. How can one contact HIV/AIDS? Mark (X) whether the statements about HIV/AIDS in the table below are True or False

S/N	**Statements**	**True**	**False**	**I don't know**
1	A person can get the HIV if one has sexual intercourse without a condom (unprotected sex)			
2	HIV can be transmitted through hand shake with infected person			
3	HIV can be transmitted through unsterilized sharp objects			
4	HIV can be transmitted through blood transfusion			
5	HIV can spread through mosquitoes or other insect bites			
6	One can contact HIV through hogging an infected person			
7	HIV cannot be contacted from the first sexual encounter			
8	One can contact HIV using the same toilet and utensils with infected person			

9	HIV can be transmitted from infected mother to child during pregnancy, birth or breast feeding			
10	It is easy to recognize a boy or a girl who has AIDS			

11. How will you describe your risk of HIV infection (circle correct response)
    1. Very possible
    2. A bit possible
    3. Not possible
    4. Not sure.

12. How can HIV/AIDS be prevented? Tick the correct response.

S/N	**Statements**	**True**	**False**	**I don't know**
1.	Sexual abstinence is the only way			
2.	Staying faithful to one partner who is not infected			
3.	Avoid sharing of needles, razor & other sharp objects			
4.	Not receiving transfusion of unscreened blood			
5.	Not shaking hands with someone who has HIV			
6	Consistent and correct use of condoms			
7.	Use of contraceptive pills			

13. How can one be sure that someone has HIV/AIDS? Mark the correct responses:
    1. Loss of weight
    2. Person is coughing
    3. Body rashes.
    4. Taking HIV test
    5. 1, 2, 3, & 4 items above.
    6. I don't know.

14. AIDS can be cured if it is detected early by a doctor:

1. True
2. False
3. I don't know

SECTION C: Apprentices Sexual Behavior and Self Efficacy to Resist Sexual Pressure.

15. Do you have a boy friend or husband? 1. Yes. 2. No

16. Have you ever had sex with someone? 1. Yes 2. No

If yes to Question 16, go to Question 19

17. If no, when do you plan to have first sexual intercourse?

1. When l get married.
2. When l complete my apprenticeship.
3. Any time from now.
4. Not certain.

18. With whom will you like to have your first sexual experience?

a. My boy friend
b. My husband
c. My instructor
d. A fellow apprentice
e. Not certain

19. At what age did you have first sexual intercourse? _____Years .

20. When last did you have sex?_____.

21. With whom did you have the last sexual intercourse? Tick appropriate answer.

1. An Instructor.
2. My husband
3. My boy friend
4. Casual sex partner.

22. How many sexual partners do you have in the last three months?

_____

23. Did you have sexual intercourse in the last 3months as a result of Peer pressure? 1. Yes 2. No.

24. How confident are you to tell your boy friend that you do not want to have sex?

1. Very confident
2. Little confident

3. Not confident.

25. Did you use or your partner used a condom the last time you had sex?

1. Yes 2. No

26. If your answer is yes to question 25, where did you or your partner get the condom during the last sexual intercourse? (Tick the appropriate response):

1. Patent Medicine Store.
2. Family Planning Clinic
3. From a health worker
5. From my sexual partner.
6. Others (Specify)

_____

27. If your answer is no to Question 25, what is your reason for nor using condom?

_____

28. How confident are you in doing any of these activities listed below? Tick the appropriate response to the following statement

S/N	Statements	Very Confident	Little Confident	Not Confident
1.	Convince your partner to postpone sex?			
2.	Refuse gifts in exchange of sex?			
3.	Ask your sexual partner to use condom whenever you want to have sex?			
4.	Encourage your friend to use condom regularly?			
5.	Go to a shop to buy a condom?			
6.	Go to health facility to request for a condom?			

29. With whom do you prefer to discuss Sexuality and Reproductive Health issues among those listed below? (mark the correct response)

S/N	Statement	Parent	Relation	Instructor	Friend	Health Provider	None
1.	When to start having sexual intercourse						
2.	Sexual intercourse						
3.	Pregnancy prevention						
4.	Use of condom						
5.	Abortion						
6.	Sexually Transmitted Disease						

SECTION D – Adolescent Sexual Practices, Use of STD Clinic and VCT Centre.

30. Have you heard about diseases that can be transmitted through sexual intercourse?

1. Yes. 2. No.

31. If yes, list all sexually transmitted diseases you have heard about?

a b.

c. d.

e.

f. I don't know

32. What can you do to prevent getting sexually transmitted diseases?

1. Abstinence
2. Not having casual sexual intercourse
3. Reduce number of sexual partners
4. Use Antibiotics
5. Use Concoctions
6. Wear condom at all sexual intercourse.
7. I don't know

33. Can use of condom protect you from contracting STD? 1. Yes. 2. No

3. I don't know.

34. If you realize you have STD, how will you treat it?

1. Seek treatment in the hospital
2. Seek treatment at the Pharmacy shop
3. Received treatment from traditional healer.
4. Inform a relation.
5. Inform a friend.
6. I don't know

35. Are you aware of programmes that serve the HIV/AIDS/STD needs of youth in your area?

1. Yes. 2. No.

36. How can one be sure if one has contracted HIV/AIDS?

1. Taking HIV test
2. Visit to hospital
3. Others (specify)
4. I don't know

37. How best do you think youths can be encouraged to go for HIV test?

_____

_____

38. How best do you think youths can be encouraged to engage in safer sex behavior?

_____

_____

39. What behavioral changes will you like to adopt?

S/N	Statements	Agree	Disagree	Not sure
1.	Abstinence			
2.	Having one sexual partners			
3.	Not having casual sexual intercourse			
4.	Delay of sexual activities			
5.	Not having sex in exchange of gifts			
6.	Using condoms with partners			

I thank you for giving answers to all the questions.

APPENDIX E

Adolescent Sexual and Reproductive Health for Apprentices:

Follow-up Questionnaire for Apprentices

Introduction-

Greetings. I am_____ a research assistant to a post graduate student in the Department of Health Promotion and Education, College of Medicine, University of Ibadan. We are carrying out a study to identify the reproductive health needs and concerns of female apprentices. I would like to ask you some questions about your sexual behavior and knowledge of AIDS/STDS prevention. The information you give will be used to design an intervention programme to address these needs I will be grateful if you can spend sometime answering these questions. All the information provided will be kept confidential. Your participation is voluntary and you are not obliged to answer any question you do not wish to answer. Do l have your permission to continue?

1. Yes. 2. No

Date of interview:

Shop No_____

Address:_____

Zonal Area:_____

Interviewer's name Signature Date

Demographic information of Respondents (Apprentices)

3. How old are you now?_____Years

4. Marital status 1. Single 2. Married 3. Divorced
4. Separated 5.Cohabiting with a male friend

3. If not married do you have a regular sexual partner? 1. Yes 2. No

4. Which religion do you practice?

a. Christianity (specify denomination) _____

b. Islam

c. Traditional religion

d. None

5. What type of trade are you learning? 1. Tailoring 2. Hairdressing

6. What is your highest level of completed education?

1. None
2. Primary
3. Completed Junior secondary
4. Uncompleted Junior Secondary

5. Completed Senior Secondary
6. Uncompleted Senior secondary
7. Tertiary

7. Is your current instructor a male or female? 1. Male 2. Female

8. How many female apprentices does the instructor have now?

9. When are you likely to finish your training (Apprenticeship)?

SECTION B Knowledge about HIV/AIDS

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

If yes to question 10 proceed to question 11, but if answer is No skip question 11.

11. How can one contact HIV/AIDS? Mark (X) whether the statements about HIV/AIDS in the table below are True or False

S/N	**Statements**	**True**	**False**	**I don't know**
1	A person can get the HIV if one has sexual intercourse without a condom (unprotected sex)			
2	HIV can be transmitted through hand shake with infected person			
3	HIV can be transmitted through unsterilized sharp objects			
4	HIV can be transmitted through blood transfusion			
5	HIV can spread through mosquitoes or other insect bites			
6	One can contact HIV through hogging an infected person			
7	HIV cannot be contacted from the first sexual encounter			
8	One can contact HIV using the same toilet and utensils with infected person			
	HIV can be transmitted from infected mother			

9	to child during pregnancy, birth or breast feeding			
10	It is easy to recognize a boy or a girl who has AIDS			

12. How will you describe your risk of contacting HIV infection (circle the correct response)
    5. Very possible
    6. A bit possible
    7. Not possible
    8. Not sure.

13. How can HIV/AIDS be prevented? Tick the correct response.

S/N	**Statements**	**True**	**False**	**I don't know**
1.	Sexual abstinence is the one of the ways			
2.	Staying faithful to one partner who is not infected			
3.	Avoid sharing of needles, razor & other sharp objects			
4.	Not receiving transfusion of unscreened blood			
5.	Not shaking hands with someone who has HIV			
6	Consistent and correct use of condoms			
7.	Use of contraceptive pills			

14. How can one be sure that someone has HIV/AIDS? Mark the correct responses:
    7. Loss of weight
    8. Person is coughing
    9. Body rashes.
    10. Taking HIV test
    11. 1, 2, 3, & 4 items above.
    12. I don't know.

15. AIDS can be cured if it is detected early by a doctor:
    4. True
    5. False
    6. I don't know
16. Has anyone in this shop educated you on transmission and prevention of HIV/AIDS? 1. Yes 2. No.
17. If yes, who is the person? 1. Name
    2. Instructor
    3. Peer Educator
18. What were the issues discussed?

_____

_____

SECTION C: Apprentices Sexual Behavior and Self Efficacy to Resist Sexual Pressure.

19. Do you have a boy friend or husband? 1. Yes. 2. No
20. Have you ever had sex intercourse with someone? 1. Yes 2. No

    If yes to Question 19, go to Question 22

21. If no, when do you plan to have first sexual intercourse?
    5. When l get married.
    6. When l complete my apprenticeship.
    7. Any time from now.
    8. Not certain.
22. With whom will you like to have your first sexual experience?
    a. My boy friend
    b. My husband
    c. My instructor
    d. A fellow apprentice
    e. Not certain
23. At what age did you have first sexual intercourse? _____Years .
24. When last did you have sex?_____.
25. With whom did you have the last sexual intercourse? Tick appropriate answer.
    7. An Instructor.
    8. My husband

9. My boy friend

10. Casual sex partner.

26. How many sexual partners do you have in the last three months?

_____

27. Did you have sexual intercourse in the last 3months as a result of Peer pressure? 1. Yes 2. No.

28. How confident are you in doing any of these activities listed below? Tick the appropriate response to the following statement

S/N	Statements	Very Confident	Little Confident	Not Confident
1.	Resist sexual pressure			
2.	Convince your partner to postpone sex?			
3.	Refuse gifts in exchange of sex?			
4.	Ask your sexual partner to use condom whenever you want to have sex?			
5.	Encourage your friend to use condom regularly?			
6.	Go to a shop to buy a condom?			
7.	Go to health facility to request for a condom?			

29. Did you use or your partner used a condom the last time you had sex?
1. Yes 2. No

30. If your answer is yes to question 28, where did you or your partner get the condom during the last sexual intercourse? (Tick the appropriate response):

1. Patent Medicine Store.
2. Family Planning Clinic

3. From a health worker

11. From my sexual partner.

12. Others (Specify)

_____

31. If your answer is no to Question 28, what is your reason for nor using condom?

_____

32. With whom do you prefer to discuss Sexuality and Reproductive Health issues among those listed below? (mark the correct response)

S/N	Statement	Parent	Peer Educator	Instructor	Friend	Health Provider	None
1.	Sexual intercourse						
2.	When to start having sexual intercourse						
3.	Pregnancy prevention						
4.	Use of condom						
5.	Abortion						
6.	Sexually Transmitted Disease						

SECTION D – Adolescent Sexual Practices, Use of STD Clinic and VCT Centre.

33. Have you heard about diseases that can be transmitted through sexual intercourse?

2. Yes. 2. No.

34. If yes, list all sexually transmitted diseases you have heard about?

a b.

c. d.

e.

f. I don't know

35. In the last 3months has anybody in this shop talked with you about STD clinic and VCT center? 1. Yes 2. No.

36. Who was the person? 1. Instructor 2. Peer Educator

37. Have you done HIV test? 1. Yes 2. No

38. If no why? _____

39. What can you do to prevent getting sexually transmitted diseases?

8. Abstinence
9. Not having casual sexual intercourse
10. Reduce number of sexual partners
11. Use Antibiotics
12. Use Concoctions
13. Wear condom at all sexual intercourse.
14. I don't know

40. Can use of condom protect you from contracting STD? 1. Yes. 2. No

3. I don't know.

41. If you realize you have STD, how will you treat it?

7. Seek treatment in the hospital
8. Seek treatment at the Pharmacy shop
9. Received treatment from traditional healer.
10. Inform a relation.
11. Inform a friend.
12. I don't know

42. Are you aware of programmes that serve the HIV/AIDS/STD needs of youth in your area?

1. Yes. 2. No.

43. How can one be sure if one has contracted HIV/AIDS?

1. Taking HIV test
2. Visit to hospital
3. Others (specify)
4. I don't know

44. How best do you think youths can be encouraged to go for HIV test?

_____

_____

45. How best do you think youths can be encouraged to engage in safer sex behavior?

_____

_____

46. What sexual behavioral changes will you like to adopt following the counseling given to you by the Peer Educator/Instructors? Pick your responses

1. Abstinence
2. Having one sexual partners
3. Not having casual sexual intercourse.
4. Delay of sexual activities.
5. Not having sex in exchange of gifts
6. Using condoms with partners
7. Others

I thank you for giving answers to all the questions.

APPENDIX F

HIV/AIDS EDUCATION TRAINING FOR APPRENTICES IN BENIN-CITY TRAINING AGENDA

TIME	DAY 1	DAY 2	DAY 3
8:30-9AM	Arrival/Registration	Opening Prayer/ Recap	Opening Prayer/ Recap
9:am – 10 am	Opening prayer Introduction, setting ground rules, breaking the ice, stating the ground and objectives	Sexual Abuse/violence/harassment (Role Play)	Relationship, family, friendship/courtship, (brainstorming, Role Play)
10 am – 10 :30am	Pretest	Communication (Role Play)	Relationship continued Love/Dating; Marriage & Parenting (Role Play)
10:30 - 11am	**Tea Break**		
11:am – 12 noon	Value/Value clarification (group work) Overview of ARSH; Anatomy and Physiology & Body Image (Brain Storming)	Counseling Discussion and Role Play	Design of Work plan for Follow up activities (group work)
12 noon – 1pm	STDs, HIV/AIDS – (Brain Storming, group work) Unwanted Pregnancy, Abortion (Brainstorming)	Concept of Peer Education Responsibilities of a Peer Educator Qualities of a good Peer Educator (Brainstorming)	Introduction to the use of MIS forms. Post Test
1-2pm	Contraceptive use-Condom use in the prevention of STI/HIV and Pregnancy Prevention. (Brain storming)	Life skills - Leadership Negotiation & Assertiveness (Role play)	Recap/ Evaluation
2:pm - 2:30pm	**Lunch**		
2:30pm-3:15pm	Condom programming demonstration and return demonstration with the use of models	Life skills (continued) Self esteem, decision making (group work)	End of Program and Departure
3:15pm – 3:30pm	Recap Closing Praying		**Closing Prayer**

APPENDIX G

HIV/AIDS EDUCATION TRAINING FOR APPRENTICES IN BENIN-CITY.

ID NO: **DATE:**

PRE / POST TEST QUESTIONS

SECTION A: Knowledge about HIV/AIDS

Please mark the correct answers to the following statements

1. One can contact HIV through handshake with someone who already has HIV/AIDS.

   1. True 2. False.

2. It is possible for someone to get HIV through the bite of a Mosquito.

   1. True 2. False.

3. One can contact HIV by using the same toilet with someone who has the disease.

   1. True 2. False.

4. One can contact HIV by having unprotected sexual intercourse with someone who has the disease.

   1. True 2. False.

5. HIV can be transmitted from infected mother to the baby

   1. True 2. False.

6. Sexual intercourse is the one of the measures to prevent HIV/. STD

   1. True 2. False

7. Consistent and correct use of condom can prevent HIV/STD.

   1. True 2. False

8. Use of contraceptive pills can prevent HIV.

   1. True 2. False

9. AIDS can be cured if it is detected early by the doctor.

1. True 2. False

10. It is easy to recognize some one who is infected by HIV/AIDS.

1. True 2. False

SECTION B: Apprentices Sexual Behavior and Self Efficacy to Resist Sexual Pressure. Please mark the correct answers to the following statements.

11. Uses of antibiotics can prevent getting STDs.

1. True 2. False

12. Having many sexual partners can increase a lady's risk of getting HIV.

1. True 2. False

13. Safer sex can protect a lady from contracting STD & HIV & AIDS.

1. True 2. False

Tick the appropriate response that describes your level of confidence in Questions 14, 15 and 16.

14. How confident are you to ask your sexual partner to postpone sex?

1. Very confident
2. Little confident
3. Not confident at all

15. How confident are you in refusing gifts in exchange of sex?

1. Very confident
2. Little confident
3. Not confident at all

16. How confident are you to go to a shop to buy a condom?

1. Very confident
2. Little confident
3. Not confident .at all

SECTION C: Qualities of a good Peer Educator.

17. A good Peer Educator must be respected and accepted by her Peers.

    1. True 2. False.

18. A good Peer Educator must keep the information about her friends secret.

    1. True 2. False.

19. A good Peer Educator is a Role Model to her peers

    1. True 2. False.

20. A good Peer Educator has ability to counsel her mates.

    1. True 2. False.

APPENDIX H

INTERVENTIONS FOR HIV/AIDS & STDs PREVENTION AMONG APPRENTICES IN BENIN-CITY

RECORDS OF ACTIVITIES OF PEER EDUCATORS-MIS FORM

Name of PE: _____

Zonal Area _____

S/N	Date	Counselling Yes	No	Topics	No of Apprentices Reached	Remarks