The Effect of an Educational Intervention on the Sexual Perceptions and Practices of Adolescents in Trinidad and Tobago

Vanessa Jones

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THE EFFECT OF AN EDUCATIONAL INTERVENTION ON THE SEXUAL PERCEPTIONS AND PRACTICES OF ADOLESCENTS IN TRINIDAD AND TOBAGO

By

Vanessa Jones

A Dissertation in Partial Fulfillment of the Requirements for the Degree of Doctor of Public Health in Health Education

August 2009
Each person whose signature appears below certifies that this dissertation, in his/her opinion, is adequate in the scope and quality as a dissertation for the degree of Doctor of Public Health.

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ABSTRACT OF THE DISSERTATION

The Effect of an Educational Intervention on the Sexual Perceptions and Practices of Adolescents in Trinidad and Tobago

By

Vanessa Jones

Doctor of Public Health Candidate in Health Education

Loma Linda University, 2009

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Background. Human immunodeficiency virus (HIV) or acquired immune deficiency syndrome (AIDS) is one of the fastest spreading infectious diseases in the Caribbean, and is second only to Sub-Sahara Africa in the prevalence of HIV/AIDS cases. Trinidad and Tobago is the southernmost twin island republic in the Caribbean. In 1999, the 5th leading cause of death among individuals ages 15-34 in Trinidad and Tobago was HIV/AIDS. According to UNAIDS (2006), the prevalence rate of HIV in Trinidad and Tobago is 2.6%.

Purpose. Currently, there is no standardized HIV/AIDS education program in secondary schools in Trinidad and Tobago. Since HIV/AIDS is a health concern in Trinidad and Tobago and adolescents as young as 15 years of age have been infected the study was conducted to determine if providing adolescents with HIV/AIDS information will make them more aware of their susceptibility of becoming infected with HIV, and the severity of HIV. Additionally, I attempted to show that providing information about
and demonstrating assertiveness skills regarding saying no to sexual advances will lead to an intention to delay sexual initiation.

**Method.** A quasi-experimental design was used with a treatment group (n=104) and a comparison group (n=92). The educational intervention was conducted once per week for the treatment and the comparison groups over 5 consecutive weeks, each session was 30-45 minutes in length. Participants completed a pre and post-test during the first and last sessions. Sessions 2-4 comprised the educational intervention. The health belief model (HBM) was used to develop the intervention and assess its impact among adolescents 11-18 years old in nine secondary schools throughout Trinidad and Tobago. Three of the five constructs of the HBM used to design the intervention were perceived susceptibility, perceived severity, and self-efficacy. The treatment group received an interactive, instructor led intervention which included three areas of HIV education: (1) basic facts about HIV, (2) ways to decrease the spread of HIV, (3) and assertiveness skills. The comparison group watched 3 videos about HIV/AIDS.

**Results.** The participants in the treatment group were younger (13.4 years) than those in the comparison group (14.7 years) (p=<.001). At pre-test, the comparison groups had higher scores on the knowledge items than those in the comparison group (p=.009) and maintained higher scores at post-test controlling for age, gender, and pre-test values (p=.001). At post-test controlling for age, gender, and pre-test values the treatment group were more likely to plan to delay sexual initiation (p=.006).

**Conclusions.** The students in the comparison group were on average older than the students in the comparison group. At post-test there was a decrease in the comparison
group scores on the variables of attitudes toward abstinence and delaying sexual initiation. Overall, there was a positive direction of change for the treatment group on the variables that were measured including intention to delay initiation of sexual activity.
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CHAPTER 1

INTRODUCTION

A. Statement of the Problem

Human immunodeficiency virus (HIV) is a slow acting retrovirus that is transmitted by unprotected sexual intercourse, contaminated blood used for blood transfusions, needles contaminated with HIV, prenatal transmission and by breastfeeding (A World Bank Country Study, 2001). By the end of 2007, an estimated 33 million people were living with HIV worldwide, and of these, 2.7 million people were newly diagnosed with the disease (UNAIDS, 2007). There were two million HIV/AIDS related deaths in 2007 (UNAIDS, 2007).

HIV infection has reached epidemic proportions in the Caribbean and the prevalence rate is second only to sub-Saharan Africa. The first AIDS case in the Caribbean was reported in Jamaica in 1982 (Camara, Lee, Gatwood, Wagner, Gamelsy, & Boisson, 2003). By the end of 2007, there were 230,000 people in the Caribbean living with HIV with 20,000, newly infected, and 14,000 HIV/AIDS related (UNAIDS, 2007; UNAIDS, 2008). The primary mode of transmission of HIV in the Caribbean is through heterosexual contact although the virus is also spread through homosexual and bisexual contact, and to a small extent intravenous drug use (Camara et al., 2003; UNAIDS, 2008). Seventy percent of the HIV/AIDS cases in the English speaking Caribbean occur among individuals ages 15 to 44 years old (Camara et al., 2003).

According to a World Bank Country Study (2001), if the incidence of HIV/AIDS is not ameliorated there will be decreased productivity and economic losses in the areas
of agriculture, tourism, mining, lumber, finance, and trade. The study also indicated that economic growth is negatively impacted when HIV/AIDS prevalence is greater than 5% per capita.

Trinidad and Tobago (T&T) is the southernmost twin island republic in the Caribbean (PAHO, 2008). In 1983, eight persons were diagnosed with AIDS (National Surveillance Unit of the Ministry of Health as cited by Henry and Newton, 1994). From 1983 to 2005, 3,349 people have died from AIDS. A World Bank Country Study (2001) indicated that HIV/AIDS treatment is minimal in developing countries, and care may be limited to the treatment of opportunistic infections. In 1991, Henry and Newton estimated the annual cost of care for a person in a public hospital to be $29,850 TTD or $7,024 USD. With an estimate of 234 AIDS cases at that time, the cost of care for AIDS patients would have been TTD $6.985 million or USD $1.644 million. The country would be unable to maintain such expenditures without adverse effects to the economy.

In 2007, highly active antiretroviral therapy (HAART) was available in three treatment centers for adults and two treatment centers for children at a monthly cost of $4,000-6,000 USD the equivalent of $24,000-36,000 TTD according to A. DeFour, Coordinator of Treatment and Prevention, Trinidad and Tobago Ministry of Health (personal communication, July 24, 2007). The government of Trinidad and Tobago pays for the treatment of about 2,000 individuals who are in need of HAART. This program came about because the member nations in the Caribbean Community (CARICOM) met with the major American pharmaceutical companies and received a 90% reduction in the cost of antiretroviral drugs. HAART is also available in clinics and hospitals throughout Trinidad to provide health care providers with post exposure prophylaxis. Prevention of
HIV and education about HIV can potentially have a positive impact on the HIV crisis as evidenced by a decreasing the incidence and economic impact of the disease.

Although there is a national program in Trinidad and Tobago that provides HAART for individuals with a high viral load, there is an economic factor associated with HIV. There are indirect costs such as time lost from work for the ill person and the caregiver, decreased productivity, and the treatment of opportunistic infections of persons with HIV. According to Voison and Dillon-Remy (2001), many AIDS patients die quickly and quietly at home because they cannot afford highly active anti-retroviral therapy. Because these individuals die in secret, the extent of the epidemic is not always accepted in the communities, including the religious community. The associated stigma of having HIV may prevent people from obtaining treatment that is available (A. DeFour personal communication, July 27, 2007).

In the 1995 Youth Response Survey conducted in Trinidad and Tobago, respondents perceived the occurrence of AIDS to have reached crisis proportions. Respondents indicated that they received information about HIV/AIDS from the radio, local and foreign television broadcasts, posters/pamphlets, public health/social workers, newspapers and magazines. While students received information about HIV/AIDS in schools, the content of the information was not ascertainable. Despite the availability of information, HIV was the 5th leading cause of death in the 15 to 34 year old age group in Trinidad and Tobago, according to the 1999 statistics by the Pan American Health Organization. According to The Republic of Trinidad and Tobago Morbidity and Mortality Report for 2005, six females between the ages of 10 to 14, 49 females between the ages of 15 to 19, and eight males between the ages of 15 to 19 tested HIV positive.
According to Jack (2001), there has been an increase in the number of women in the Caribbean who are affected by HIV/AIDS due to an increase in the number of heterosexual HIV transmission cases. Adolescent females are often not adept on negotiating condom use by their sexual partners, have a history of low condom use and accept multiple partners as a norm of the society (Jack). Additionally, adolescent females have sex with older men in exchange for food, brand name clothing and transportation. Other risk factors that promote the transmission of HIV are incest, rape, coercive sex, sexual abuse, and domestic violence.

Allen, Wagner, Washington, Chapman-Smith, and Wright (2002) indicated that the major quality of life issues for the adolescent population of Tobago include limited resources and information about sexual health. According to S. Williams, Student Support Manager of the Trinidad and Tobago Ministry of Education (personal communication, September 21, 2006) there are 80 abstinence clubs in secondary schools. Non-governmental organizations and teachers provide HIV/AIDS education in schools. However, these programs are not coordinated or evaluated, and therefore no results are available to assess their impact. The Ministry of Education has hired an HIV/AIDS co-coordinator who is collaborating with the National AIDS Coordinating Committee (NACC) to create HIV educational programs for schools. In November 2006, a workshop was conducted in Trinidad in which policies were developed for the implementation and evaluation of HIV/AIDS education programs in schools.

Section 7 of The Republic of Trinidad and Tobago: Ministry of Education Sector Policy on HIV and AIDS highlights prevention and includes curriculum approaches, co- and extra-curricular approaches, parent and community education programs, peer
education, access to information on HIV and AIDS, voluntary, confidential counseling and testing, health promoting schools, universal precautions, and access to condoms.

Interventions that target youth are essential to curb the HIV/AIDS epidemic (A World Bank Country Study, 2001; Henry & Newton, 1994; Jack, 2001). The current research was implemented in Trinidad and Tobago and followed the recommendations of organizations and researchers on how to target the adolescent population (World Bank Country Study; Voisin & Dillon-Remy, 2001). It has been recommended that HIV/AIDS intervention programs that provide information and risk reducing behavior be conducted in schools for adolescents. Currently, there is no standardized HIV/AIDS education program in secondary schools in Trinidad and Tobago. This research attempted to identify effective educational strategies and content that may reduce the spread of HIV in the adolescent population living in Trinidad and Tobago.

B. Purpose of the Study

The purpose of the study was to determine if an interactive HIV/AIDS education intervention program for adolescents between the ages of 12 to 15 years will increase knowledge about HIV/AIDS and self-efficacy in assertiveness skills on speaking about sexual intercourse and saying no to sexual advances compared to video based didactic instruction. The study also determined adolescent’s perception of their susceptibility to contracting HIV and the severity of the disease. These perceptions may be associated with delayed initiation of sexual intercourse and/or safer sexual practices. There were two study groups each of which received five 30-45 minute sessions of either the interactive intervention or the video instruction. The pre and post-test was conducted
during the first and last session. Sessions two through four comprised the educational intervention.

**C. Research Questions**

1. Did the interactive educational intervention positively affect three of the five main constructs of the HBM (perceived susceptibility, perceived severity, and self-efficacy) compared to those in the comparison group?

2. Was the interactive educational intervention associated with an intention to delay the initiation of sexual intercourse, compared to the video-based instruction for the comparison group?

**D. Theoretical Justification**

The HBM was used to develop the intervention and assess its impact among adolescents in nine secondary schools throughout Trinidad and Tobago. This model was selected because it can be adapted to the specific needs of the population. See Figure 1 for a description of the health belief model pathways for the HIV interactive educational intervention.

The key components of Figure 1 are located on the right side of the figure and include perceived susceptibility of contracting HIV/AIDS if safe sexual practices are not engaged in, perceived severity of HIV/AIDS and, intention to delay initiation of sexual activity. According to the model, once the adolescent receives accurate information about HIV/AIDS and is able to identify risk factors/behaviors associated with HIV/AIDS there will be an increased perceived susceptibility to HIV/AIDS. In addition, providing information about the short and long term consequences of HIV will lead to an increased
perceived severity of the disease. When the adolescent receives instruction about assertiveness skills and is able to demonstrate assertiveness skills in role-playing a potentially risky sexual encounter the adolescent should perceive a benefit of engaging in such activities and be more likely to delay initiation of sexual activity.

If these adolescents are provided with information about the modes of transmission of HIV and risk factors associated with HIV/AIDS, this knowledge may lead to an increased perceived susceptibility and increased perceived severity of HIV/AIDS. Once there is an increased perceived susceptibility and increased perceived severity of HIV/AIDS, adolescents will be more likely to engage in health maintaining and health promoting behaviors.

Facente (2001) conducted a study in which 78 adolescents from six different settings were recruited to complete a questionnaire about HIV/AIDS and found there was a gap in actual knowledge versus perceived knowledge. While the 13-18 year olds in the study thought that they knew about HIV and AIDS transmission, 30% of these teenagers scored 75% or lower on the knowledge questions. It is necessary to provide factual information about HIV/AIDS to adolescents so that the reality of being susceptible to HIV/AIDS to this and the severity of the disease is evident to and recognized by them.

HIV/AIDS researchers have applied the HBM with success to interventions in the United States. The Reach for Health Community Youth Service (CYS+) was based on the HBM and on theories of social learning (Alford, 2003). The (CYS+) incorporated a quasi-experimental and experimental design in 7th and 8th grade urban, middle school students, who were either Black or Hispanic from economically disadvantaged households. There was a delay of initiation of sexual intercourse, reduced frequency of
sexual intercourse, an increase in condom use, and an increase in contraception use in the CYS+ youth compared to the youth who received the health curriculum only and no additional HIV/AIDS intervention. There was a long term effect of the CYS+ program. Of the students who had not initiated sexual activity at the start of the CYS+, by the time these students were in the 10th grade the youth in the CYS+ program had a delayed initiation of sexual intercourse compared to students who received the health curriculum only. Sexually experienced youth in CYS+ program engaged in sexual activity less frequently than youth who received the health curriculum.

In Cameroon, Horizon Jeunes, an adolescent reproductive health program based on the HBM, was implemented (Alford, Cheetham, & Hauser, 2005) to “encourage adolescents to delay the initiation of sex and to use condoms to prevent HIV and STIs when they do choose to initiate sex”. This program targeted in and out of school youth in two urban cities between the ages of 12-22 years. A quasi-experimental design was used to evaluate the program and it was noted that there was a delay in the initiation of sexual intercourse and increased abstinence among sexually experienced youth. For males, there was a reduced number of sexual partners and increase in contraception use. For females, there was an increase in condom use. Based on this and other information, the HBM was used in Trinidad and Tobago to design and assess the effectiveness of an intervention.
Define HIV and who is at risk. Rates of occurrence in adolescents. Describe behaviors that put people at risk of contracting HIV.

Increase knowledge about HIV and the risk to the adolescent

Decreased misconception about HIV

Adolescent will be able to identify behaviors that they engage in that can reduce risk of infection

Increased perceived Susceptibility to HIV and AIDS

HIV can lead to social isolation; stigma associated with the disease

Cost of Medications to treat HIV and AIDS

If HIV is left untreated can progress to AIDS and death

Assertiveness skills How to say no to sexual advances

Increased knowledge about the short and long term consequences of HIV

Increased perceived severity of HIV/AIDS

Decrease the risk of contracting an STI including HIV

Increase perceived benefit of modifying behavior

Delay initiation of sexual activity

Figure 1. Health Belief Model pathways for HIV Education Intervention
E. Significance to Health Education

Health educators provide instruction on a variety of health topics and issues including HIV/AIDS to populations. Since HIV is a preventable disease and information is available to the residents of Trinidad and Tobago from various venues, health educators can more effectively provide programs and interventions that will help to curb the problem. Over the last decade, HIV transmission has steadily increased in Trinidad and Tobago as in other Caribbean islands. Recent literature has identified factors such as perceived susceptibility to HIV/AIDS, gender norms about condom use and sexual behavior and self-efficacy for taking HIV/AIDS preventive actions to be important in decreasing risky sexual behavior (DiClemente et al., 2004; Dilorio, Dudley, Kelly, Soet, Mbwara, & Potter, 2001).

This study examined the effectiveness of HIV/AIDS education intervention in early adolescence in Trinidad and Tobago. In discussion with the Ministry of Education HIV/AIDS Coordinator, (P. Downer, personal communication, July 17, 2007) the expectation was that this study will have implications for program development if the results show that such a program can be effective in bringing about a significant change in behaviors relative to risks associated with HIV/AIDS. Findings from this study may also provide information that can be used effectively by educators and medical personnel who provide education and services for adolescents in Trinidad and Tobago.
CHAPTER 2
LITERATURE REVIEW

A. Overview

The Caribbean has the second highest HIV/AIDS prevalence in the world. (Camara et al., 2003). This study examined the effects of an intervention program on HIV/AIDS beliefs and behavior was implemented in nine secondary schools along the East-West Corridor in Trinidad in response to the increasing rates of HIV/AIDS infections in Trinidad and Tobago (World Bank, 2001). In 1999, human immunodeficiency virus was the 5th leading cause of death in individuals between the ages of 15 to 34 (Pan American Health Organization, 1999). In 2007, 14,000 people died of AIDS in the Caribbean and AIDS continues to be a leading cause of death in persons 15 to 44 years of age (UNAIDS, 2006; UNAIDS 2007). Carrino (2005) indicated that “more than 70 percent of premature deaths are linked to behaviors begun in adolescence, such as smoking and risky sexual behavior” (p. 12).

Furthermore, children in early adolescence have an imaginary audience, over-differentiate their feelings, and have a personal fable all of which are part of adolescent egocentrism (Elkind, 1967). The adolescent views himself as being unique and as such he/she is immune to death. The thought is that something bad will happen to someone else, not me. In the case of HIV/AIDS, the adolescent may view others as being vulnerable to the disease while he/she is invulnerable to the disease. This personal fable can lead the adolescent to engage in risky behavior and/or not use precautions when engaging in sexual activity. According to Brooks-Gunn and Furstenburg, Jr., (1989)
teenagers do not plan their first sexual experience; it simply happens. The fact that sexual intercourse just "happens" indicates that the teenager was not prepared for the activity and more than likely has not taken precautions to prevent pregnancy or the transmission of disease.

While various HIV/AIDS programs have been implemented in Trinidad and Tobago, the primary focus has been on creating awareness about the disease and providing information about how a person is affected by HIV/AIDS rather than on assertiveness skills and ways to change behavior. The review of the literature included the epidemiology of HIV/AIDS in the Caribbean and in Trinidad and Tobago; sexual behavior of youth in the Caribbean including Trinidad and Tobago; the role of religion in the dissemination of risk reduction messages; and HIV/AIDS education interventions in schools.

B. Epidemiology of HIV/AIDS in the Caribbean and in Trinidad and Tobago

The first case of HIV in the Caribbean was documented in Jamaica in 1982 (Camara et al., 2003). Since that time, every country or island in the Caribbean has residents who are either HIV positive or have a diagnosis of AIDS (A World Bank Country Study, 2001; Bokazhanova & Rutherford, 2006). Early in the HIV/AIDS epidemic, the disease was spread primarily through homosexual contact but today the primary mode of transmission of HIV/AIDS is by heterosexual contact, with the exception of Puerto Rico and Bermuda whose epidemics are fueled by injecting drug use (Narain, Hull, Hospedales, Mahabir, & Bassett, 1989; Camara et al., 2003; Inciardi, Syvertsen, & Surratt, 2005).
As of June 30, 1988, there were 827 cases of AIDS reported by the Caribbean Epidemiology Center (CAREC) countries. The Bahamas, Trinidad and Tobago, Jamaica, Barbados, and Bermuda reported about 90% of the 827 AIDS for the aforementioned time period (Narain et al., 1989). By the end of 2001, 92,000 people in CAREC member countries were living with HIV/AIDS (Camara, 2001). As of 1996, a total of 6,911 children under the age of 14 years had HIV/AIDS in Latin America and the Caribbean. Of the 6,911 children who had HIV/AIDS, approximately 75% of these children were infected by their HIV infected mothers in utero, during delivery, or by breast feeding (A World Bank Country Study, 2001). As of 1999, there was a 2% prevalence of HIV in individuals between the ages of 15 to 49 years in the Caribbean (A World Bank Country Study, 2001).

Early initiation of sexual activity, multiple sex partners and young girls having intercourse with older men are a few reasons HIV/AIDS continues to spread in the Caribbean. Additionally, cultural and religious taboos, low condom usage, substance abuse, poverty, internal and external migration, limited access to care for some populations, stigmatization of people living with HIV, and sexual tourism are other reasons the HIV/AIDS epidemic persists (Camara, 2001; Inciardi et al., 2005).

In 1987, the population of the Bahamas was approximately 235,000 with an annual AIDS incidence of 38.3 (Narain et al., 1989). There have been several success stories in the Caribbean about the decrease in HIV/AIDS incidence. Between 1994 and 1999, there was a 52% decrease in the number of reported HIV cases in the Bahamas. There has also been a decrease in the annual AIDS incidence (Camara et al., 2003). This has occurred primarily because the Bahamian government implemented an expanded
program for the prevention and control of HIV. Elements of this program include promotion of condom use, voluntary counseling and testing for HIV, caring for patients with AIDS in national anti-retroviral treatment programs, and the provision of care and support by non-governmental organizations (Camara et al., 2003). There has also been a decrease in the incidence of AIDS in Bermuda from 1994-2002 since the implementation of highly active anti-retroviral therapy (Camara et al., 2003).

HIV/AIDS cases were first reported in Trinidad and Tobago in 1983 among homosexual or bisexual males (National Surveillance Unit of the Ministry of Health as cited by Newton and Henry, 1994; Narain et al., 1989). In 1985, the male to female ratio of the disease was 5.9:1 (Narain et al., 1989). By 2005, there were 15,968 documented cases of HIV infection (Ministry of Health, Morbidity and Mortality Report, 2006). Of these, 5,492 progressed to AIDS and there have been 3,349 deaths associated with HIV/AIDS.

According to The Republic of Trinidad and Tobago Morbidity and Mortality Report, individuals between the ages of 20 to 49 account for 67% (945) of the new cases of HIV for 2005. While teenagers between the ages of 15 to 19 years account for 0.04% of the new cases of HIV, teenage girls outnumbered teenage boys 6 to 1 for these new infections indicative of the feminization of HIV/AIDS (Ministry of Health Morbidity and Mortality Report, 2006). While the incidence of HIV/AIDS is low in teenagers, it is important to identify sexual behaviors that will put adolescence and teenagers at risk for contracting HIV/AIDS and tailor programs to meet the needs of this population. Inciardi et al. (2005) commented that “CAREC, WHO, and PAHO specifically indicate the
importance of behavioral surveillance among young people, MSM, people living with HIV/AIDS, drug users, and sex workers” (p. S22).

C. Sexual Behavior of Youth in the Caribbean and in Trinidad and Tobago

The 1998 Adolescent Health Survey Report, published by the Grenada Ministry of Health, included 1,255 students between 10-20 years of age. In this report, 12% of males and 8% of females reported homosexual attraction and 2% of both males and females reported bisexual attraction. In addition to being attracted to persons of the same sex, 4% of males reported kissing other males and 6% of females report kissing other females. Twenty eight percent of females had kissed a male and 38% of males reported kissing a female. As boys and girls got older, it was more likely for them to have sexual experiences, such as kissing. Forty percent of the respondents in this survey claimed to have had sexual intercourse.

In 2000, Halcon, Beuhring and Blum identified sexual behaviors of adolescents in the Caribbean. Almost 70% of adolescents stated that they did not want to engage in sex. These adolescents wanted to wait until marriage; they did not want to become pregnant and they feared contracting a disease. Forced intercourse was reported by one-third of adolescents who had sexual intercourse previously and the statistics were higher for females compared to males and for children less than 12 years old. This information is consistent with dysfunctional gender relationships as mentioned by Camara (2001) as one of the factors that propagate the HIV epidemic. O’Toole, McConkey, Casson, Goetz-Goldberg and Yazdani (2007) also documented that of the 2,118 young people ages 12-20 years who participated in their study, one-quarter of these had their first sexual contact before the age of 12 years.
According to A Portrait of Adolescent Health in the Caribbean, published by the WHO Collaborating Centre on Adolescent Health in the Caribbean in 2000, males had more sexual partners than females. Sexually active adolescents were not worried about getting AIDS as evidenced by low condom usage. Although homosexual relationships are taboo in the Caribbean, young people in this study claimed that they spoke about same sex relationships among themselves. Some adolescent males may also engage in same sex relationships due to economic hardship.

In 2001, a sexual health survey was conducted among high school students between the ages of 13-18 years in St. Maarten. Forty-two percent of the students were sexually active and 60% of these students used a condom the last time they had sexual intercourse. Eighteen percent of these students had four or more sexual partners and 34% of the students had one or more sexual partners within the past three months (Camara, 2001).

In 2005, Behavioural Surveillance Surveys (BSS) were conducted in six countries of the Organisation of Eastern Caribbean States (OECS). Countries in the OECS are Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines. In this survey of 1,105 in school youth 10-14 years of age, the preliminary findings indicated approximately 1 in 10 students had sex previously. Twenty percent of children who had sex were forced to do so. Even though almost all the students have heard about condoms, less than half of the students used condoms the last time they had sex.

The Executive Summary of the BSS in six countries of the OECS Round 1:2005 included information from four sample populations. The sample populations were mini-
bus and taxi drivers (15-49 year olds, n=326), in-school youth (10-14 year olds, n= 1,105 previously mentioned), youth on the block (10-19 year olds, n= 391) and the general population (15-24 year olds, n=9,438). While the study populations were knowledgeable about HIV prevention, they did not consistently engage in practices to avoid contracting HIV. This was not the case for in-school youth of whom many did not know about the ABC’s (Abstinence, Be faithful/be consistent, Condom use) of HIV prevention. Myths about HIV transmission remain prevalent in the society.

Hutchinson et al. (2007) conducted a qualitative study in Jamaica to determine factors associated with HIV risk in Jamaica. The study participants included 41 adolescents, 16 parents, and 10 teachers. During the focus groups, the adolescents expressed conflicting views about sex. While they saw sex as pleasurable, the adolescents were unsure whether sex was a “good thing” or a “bad thing”. They felt that parents, teachers, and religious organizations promote abstinence while images in the media, music, and magazines portray everyone as having sex.

The perception of adolescent males is that it is important for them to engage in sexual intercourse to prove their gender identity (Hutchinson et al., 2007; Smith et al., 2003). This is demonstrated by boys having sex frequently and with multiple female partners. Hutchinson et al. (2007) indicated that while adolescent males and females were knowledgeable about how HIV is spread, only 66% of the adolescents thought that condoms can help to prevent the spread of HIV/AIDS. Therefore condoms were not used consistently. Younger boys did not possess the skill and were afraid that condoms would be too large for them (Hutchinson et al., 2007; Brooks-Gunn & Furstenberg Jr., 1989).
One of the students in the focus groups commented that “AIDS has been put into condoms and has been sent to Jamaica from the United States”.

Hutchinson et al. (2007) also found that girls have sexual partners who are “big men” or “dons”. “Big men” are older men and “dons” are either drug lords or gang leaders. In either situation, the female is powerless to refuse sex or negotiate condom use because of the power the “big men” or “dons” have. These men provide the adolescent girl with clothing, money, or favors for herself and sometimes for her family as well.

In 2000, research was conducted in Tobago to assess the determinants of sexual health of adolescents and young adults in Tobago (Allen et al., 2002). On average, males in the study had their first sexual contact at 13 years and girls had their first sexual contact at 15 years. This finding is consistent with a study published by the University of the West Indies School of Continuing Studies Caribbean Population and Family Health Programme in 1995 in which the average sexual debut for Dominican teenagers occurs between 14-15 years but sexual debut can occur as early as 10 years of age. According to the Pan American Health Organization Basic Health Indicator Data Base (1999), 14% of pregnancies in T & T occurred in young women between the ages of 15 to 19 years. Some teenagers are sexually active and are at risk of contracting HIV/AIDS.

Throughout this region there is a need for education about HIV. This is an opportune time to provide the early adolescent population with information before they are sexually active. This may lead to an increase in the age of sexual initiation and safer sexual practices for those students who choose to become or remain sexually active.
D. The Role of Religion in the Dissemination of Risk Reduction Messages in Trinidad and Tobago

Genrich and Brathwaite (2005) conducted research in Trinidad between November 2002 through April 2003 to investigate the perceptions of religious leaders about HIV/AIDS as a sexually transmitted disease and the willingness of the religious leaders to participate in HIV/AIDS initiatives. Representatives from 10 religious organizations were interviewed and verbatim statements were categorized and documented.

Views about the rationale for the spread of HIV/AIDS from religious leaders included “the disease began with homosexuals and you reap what you sow” (Genrich & Brathwaite, 2005, p. 25). A representative from one of the religious organizations did not feel individuals of his group would engage in behavior that can lead to HIV/AIDS. The representatives of the religious organizations all agreed that abstinence was the best for all unmarried individuals. Some of the representatives from the religious groups were against the use of condoms because they felt its use promoted promiscuity by sending the message you cannot control yourself so use a condom. One of the representatives did not agree with sex before marriage but was receptive to the use of condoms to avoid contracting disease (Genrich & Brathwaite).

Voisin and Dillon-Remy documented that religious schools are an integral part of primary and secondary education. In these schools, sexual education is prohibited. In 1995 a video, “Put It On” was distributed to television stations. The video promoted condom use but received insufficient airtime (National AIDS Program, 1995 as cited by Voisin and Dillon-Remy). The insufficient airtime given to the video may indicate that
the members of this society may be uncomfortable talking about sexual issues or the desire not to create a stir among religious leaders who are influential in the society (Genrich & Brathwaite, 2004; Voisin & Dillon-Remy, 2001; A World Bank Country Study, 2001).

Because T & T is a religious society, Voisin and Dillon-Remy (2001) suggested that religious organizations should become involved in HIV/AIDS initiatives for the care and support of infected individuals and to share information with their congregations on how to reduce HIV/AIDS infections in adolescents. A collaborative HIV/AIDS prevention effort between the public and religious sectors may prove to be beneficial to the residents of T & T in reducing the spread of HIV/AIDS. In 1990, AIDS education was implemented in primary schools in T & T (Voisin & Dillon-Remy, 2001). Due to the religiosity and the influence of religious leaders in the nation, the curriculum has not been fully implemented. While collaborative efforts with religious organizations are being addressed, educational interventions that address the adolescent population in schools should be fully implemented, in spite of previous objections.

E. HIV/AIDS Education in School

On the basis that 80% of children in the Caribbean attend primary and secondary schools, a theory-based culturally sensitive intervention for adolescents was developed in Antigua (Gillaim, Eke, Aymer & O'Neil, 2001). Jack (2001) commented that two areas of HIV/AIDS intervention will have a positive effect in the Caribbean: mother-to-child interventions and interventions that focus on the adolescent population. These interventions are most likely to positively affect future economic growth and productivity.
Holschneider and Alexander (2003) conducted a study using the HBM and social cognitive theory. Surveys were obtained from 845 adolescent males and females, 15 to 19 years of age, from three villages in Northern Haiti who attended public or private primary and secondary schools. The dependent variables for the study were consistency of condom use, condom use at last intercourse and number of sexual partners. The Cronbach's alpha for questions about perceived gender norm was .44. Questions about perceived gender norms were included in the questionnaire but not reviewed as scale scores.

The data suggested that adolescents with high self-efficacy were almost three times as likely to use condoms consistently, three times as likely to have used condoms during the last sexual intercourse and twice as likely to have had one to two sexual partners since they have been sexually active compared to adolescents with low self-efficacy. Adolescents ages 18 and 19 years were 78% more likely to have used condoms compared to 15 to 17 year olds. Adolescents who first had sex between the ages of 14 to 19 years were twice as likely to have used condoms at last sexual contact compared to adolescents who first had sex at 13 years and under. Adolescents with a high socioeconomic status were twice as likely to use condoms consistently.

This study demonstrated that theory-based constructs are related to increased protective behavior but given the cross-sectional nature of the study design, the results cannot be used to identify a cause-effect relationship between self-efficacy and a positive lifestyle change. A longitudinal randomized study design must be used to investigate school education intervention programs that include a self-efficacy component to
determine whether or not an increase in self-efficacy is associated with a positive lifestyle change.

The Draw the Line/Respect the Line intervention was a 3-year, middle school, HIV/pregnancy prevention program based on social cognitive theory and social inoculation theory (Coyle, Kirby, Marin, Gomez, & Gregorich, 2004). There were 20 sessions in the curriculum and a total of 2,829 participants. The primary goals of the program were to decrease the number of sexually active students and to promote condom use among sexually active students.

Overall the results of this intervention revealed an increase in knowledge about HIV and condom use for both boys and girls in the intervention group compared to the control group. Even though girls in the intervention group had fewer sexual advances than girls in the control group, at the eighth grade follow-up, the positive outcomes of the program were more evident in boys. Boys delayed sexual initiation and had less sex during the year prior to follow-up.

The Safer Choice intervention was a 2 year high school based HIV/STD and pregnancy prevention program (Kirby et al., 2004). This intervention was based on social cognitive theory, social learning theory, and models of change. There were 4,733 participants in the study. The results of the study demonstrated an increase in condom use but not a delay in the initiation of sexual intercourse. As with The Draw the Line/Respect the Line intervention, the Safer Choice intervention had a greater impact on males compared to females.

Younger adolescents should be included in additional surveys about HIV because the age of initiation of sexual contact was 13 years (Allen et al., 2002). Jack (2001) also
identified the pre-adolescent and the adolescent populations as target populations to receive HIV/AIDS interventions in an attempt to reduce the negative effects of HIV/AIDS in the Caribbean in the future. Rotherman-Borus (2000) identified early adolescence as the time when positive social identities can be enhanced which may determine the adolescent’s sexual risk.

In Haiti there were reported successes in raising awareness about HIV but this has not curbed the risky sexual practices of Haitian adolescents (Holschneider & Alexander, 2003). Recent literature has identified HIV preventive actions such as perceived susceptibility to HIV/AIDS, gender norms about condom use and sexual behavior and self-efficacy for taking HIV/AIDS preventive actions to be important in decreasing risky sexual behavior (DiClemente et al., 2004; DiIorio, Dudley, Kelly, Soet, Mbwara, & Potter 2001). Because adolescents have a variety of experiences and resources, it is recommended that a comprehensive program that include abstinence, delaying the initiation of sexual contact, and wearing condoms with each sexual contact be implemented for all primary and secondary schools in T & T (Voisin & Dillon-Remy, 2001).

Research conducted in Trinidad about HIV educational interventions have focused on the need to implement HIV educational programs in schools and not on the evaluation of such programs. While it is important to assess the need of HIV educational programs in schools, research has indicated that adolescents as young as 13 years of age are becoming sexually active. Therefore, HIV educational programs in schools will be of benefit to sexually active and non-sexually active adolescents. The adolescents will receive accurate information from the teacher/health educator.
F. Conclusions

HIV/AIDS is a real health threat in the Caribbean, including Trinidad and Tobago. Children as young as 13 years old have initiated sexual intercourse as evidenced by the research done so far. Adolescents have been infected with HIV through sexual contact. While several programs have been implemented to increase knowledge about HIV/AIDS, there is no documentation that programs conducted in schools have addressed risk reduction. According to the Student Support Manager of schools in Trinidad and Tobago, the programs that are currently being implemented in schools at present are not coordinated or evaluated. Current research is needed that will determine the effectiveness of HIV/AIDS education intervention. Jack (2001) has commented that “HIV/AIDS prevention behavioral research to establish relevant strategies has been limited” (p. 36). The research presented in this document examined the effects of an HIV/AIDS educational intervention for adolescents between 12-15 years of age. The interactive intervention provided information about basic facts about HIV, how the disease is transmitted and demonstrated and encouraged assertiveness skills. Scenarios were presented to students about assertiveness skills and practice of how they can address each situation.
A. Overview

A quasi-experimental pre-test, post-test design with an experimental and a comparison group was used for the study. Secondary schools were matched based on the socioeconomic status of the parents and whether or not the school was a private school compared to a public school. Classrooms were then randomly selected into the study. There were 92 students in the experimental group and 104 students in the comparison group for a total of 196 students. The study was conducted as a school based program for secondary school students. The experimental intervention was conducted once per week over five consecutive weeks and each session was 30-45 minutes in length. The comparison group received similar exposure to a video-based education program. Nine secondary schools (four schools for the intervention group and five schools for the comparison group) were matched from secondary schools in Trinidad and Tobago. Classrooms at each school were randomly selected and all the students in the selected classrooms were invited to participate in the study. After the schools were selected, parents were provided with information about the research program and asked to sign a permission form that was used to either grant or deny permission for their child to participate in the program.

B. Study Participants

The study participants were 11-18 year olds attending secondary school in Trinidad and Tobago. Schools that had active abstinence clubs were excluded from the
study. Students who utilized the services of the Family Planning Association of Trinidad and Tobago and The Ministry of Health RAPPORT program were also excluded from the study. Students who were actively involved in organized HIV/AIDS related activities including peer education, drama groups by governmental, private, or non-governmental agencies were excluded from the study.

C. Recruitment and Consenting

Before the research began, approval was sought and obtained from the Ministry of Education officials: Director of School Supervisors, Manager of Student Support Services, Chief Educational Officer, Permanent Secretary, and the Coordinator for HIV/AIDS. After obtaining approval from Loma Linda University Institutional Review Board (IRB), the recruitment phase of the program began. The principals of the selected schools were notified of the inclusion of their school into the study by the Regional School Supervisor for each school district. The student investigator provided the principals of the schools that were invited to participate in the research with a written description of the program and the opportunity to ask questions about the program.

Once the principals of the matched schools agreed to participate in the research, the student investigator randomly selected classrooms and students from these classrooms were invited to participate in the study. The student investigator informed the students in the randomly selected classrooms about the research. The students were able to ask questions about the program. The students received verbal information about the exclusion criteria and were asked not to participate in the program if they had been involved in any of the exclusion criteria activities. None of the students in the
participating schools were involved in any activities that were listed in the exclusion criteria.

After the study was explained to the students, those who were interested in participating in the study were given a permission form that was to be signed by their parents or legal guardian. The student investigator’s cellular telephone number was included on the permission form in the event that parents had questions or wanted more information about the study so that they could make an informed decision as to whether or not to allow their child to participate in the study. Students who did not return the parent permission forms within three days were encouraged to return signed consent forms by a teacher that liaised with the student investigator. After one week students were given another parent permission form and asked to return a signed consent form by their parents or legal guardian.

Once the parent or legal guardian signed the permission form allowing the student to participate in the research, the student was given another opportunity to decide whether or not they want to be included in the study by signing an assent form and checking the appropriate box for participation or non-participation. The study participants were informed that their answers would be kept confidential, that truthful responses would be helpful in developing HIV/AIDS educational programs, and that they would not be penalized for not participating in the study.

D. Procedures

Once parent permission and child assent was obtained, four schools were assigned to the treatment group and five schools were assigned to the comparison group. The principals for each of the schools in the study were contacted again to identify the most
suitable location for the HIV educational intervention to be conducted. The location of the educational intervention was determined by the principal based on whether or not a television and a DVD player were available and the number of students in the study.

The student investigator met with the study participants on five occasions. During the first and last meetings the study participants completed the pre- and post-test respectively.

E. Educational Intervention

The educational intervention in both the treatment and comparison groups lasted five weeks. The student investigator met with participants in both study groups one day per week over a five week period for 30-45 minutes per meeting in a classroom or auditorium selected by the school principal. Participants of both study and the comparison groups were given a pre-test one week prior to the first education session and a post-test one week after the final education session. See Table 1.

The first education session of the experimental group consisted of providing information about HIV, modes of transmission, risk factors, the effects of HIV/AIDS on the health of individuals. The second session consisted of how to decrease/prevent the spread of HIV. The third session consisted of speaking about and demonstrating assertiveness skills. In addition, the study participants engaged in role playing activities on how to refuse sexual advances using potential scenarios that the study participant may encounter. During the third and fourth sessions the adolescents worked in small groups to discuss scenarios that were provided to them. See Table 2.

The comparison group received passive video instruction for each of the educational sessions. They watched three DVD’s. The titles of the DVD’s were Force
Ripe Man, Understanding HIV and AIDS, and Voices: Perspectives on HIV and AIDS.

There was no structured lecture for this group but the participants were able to ask questions if they so desired. The student investigator did not initiate conversation about the content of the DVD’s.

The students were asked to put their initials and birth date on the pre- and post-tests in order to match the collected data while at the same time preserving confidentiality. All completed pre- and post-tests were placed in an envelope and transported and stored off of the school compound until time for data entry. The student investigator and other individuals on the research team are the only individuals who viewed the completed pre- and post-tests.

Students who did not participate in the study attended regularly scheduled classes.

Table 1. Study Design

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Table 2. Timeline of the Intervention

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F. Variables

The health belief model (Rosenstock, Strecher, & Becker, 1994) was used to design the content of the experimental intervention and to assess the key study variables as follows. See Figure 1.

1. Perceived susceptibility – the risk of contracting HIV/AIDS.
2. Perceived severity – the seriousness of HIV/AIDS whether the consequences are physical and/or social.
3. Perceived benefit – the belief that a particular action such as delaying sexual initiation will lead to decreased risk of HIV/AIDS.
4. Perceived barrier – a particular action such as speaking about condoms will be a hindrance to following recommended advice.
5. Self efficacy – a person’s confidence to perform a specific action, such as saying no to unwanted sexual advances, or being able to openly speak about sex

Other dependent variables

6. Knowledge about HIV/AIDS
7. Attitudes about safe sexual practices
8. Intention to delay sexual initiation
9. Communication
10. Demographics

G. Measurement Instrument

The questionnaire was a 92-item tool that was developed using several previously validated surveys. The AIDS Knowledge and Attitude Survey is an established scale that was developed from various scales used in the 1992 United States National Health
Interview and other studies in the United States. The *AIDS Knowledge and Attitude Survey* was used to assess the adolescents’ knowledge about and modes of transmission of HIV/AIDS. This is a previously validated 28-item scale in which 11 items assessing HIV/AIDS knowledge and causative factors are measured as true/false/don’t know. Thirteen items assess knowledge about transmission of HIV/AIDS and are measured on a 6-point scale with responses of ‘very likely’, ‘likely’, ‘unlikely’, ‘most unlikely’, ‘absolutely unlikely’, and ‘do not know’. Four items assess sexual practices and are measured on a 5-point Likert scale with responses of ‘strongly agree’, ‘agree’, ‘uncertain’, ‘disagree’, ‘strongly disagree’. This scale has an alpha coefficient for the knowledge items of 0.72, for the transmission items are 0.67 and for the practice items are 0.66. Ten knowledge items were used in the study with an alpha of 0.47. The responses for these items were true/false/don’t know.

Perceived susceptibility was measured using a scale developed by Lux and Petosa (1994). This is a subscale of a larger instrument assessing HBM variables and the established Cronbach $\alpha$ was 0.72. The Cronbach $\alpha$ for this study was 0.64. The responses were on a 4-point Likert scale that ranged from 1-disagree to 4-agree. Statements from this scale include “People like me do not get HIV infections” and “People my age do not get HIV infections”.

Self-efficacy was assessed with the Condom Use Self-Efficacy Scale (CUSES). This is a 28-item scale developed by Brafford and Beck (1991). The mechanics (putting a condom on yourself or someone else) and the assertive (ability to persuade a partner to use a condom) subscales were utilized in the pre-post tests. The Cronbach $\alpha$ for the mechanics and the assertive subscales were 0.78 and 0.80 respectively. Three items from
the Condom Use Self-Efficacy scale were modified and included in the questionnaire. The items were modified to reflect what other boys and girls should be aware of rather than the item reflect a first person response so as not to convey the idea that the boys and girls were sexually active. The Cronbach α for these items was 0.70. These responses were on a 5-point Likert scale that ranged from 1-strongly disagree to 5-strongly agree.

Communication was assessed with the Parent-Adolescent Communication scale which is a 20 item scale that consists of two subscales; open family communication and problems in family communication developed by Olson (1982). The scale has a pre-established Cronbach α of 0.87. All 20 items from this scale were included in the questionnaire. These items were on a 5-point Likert scale that ranged from 1-agree to 5-strongly disagree.

The Attitudes Toward Abstinence scale is a 12-item scale developed by Miller, Norton, Fan, and Christopherson (1998) with a pre-established Cronbach α of 0.85. In the study the Cronbach α was 0.81. The 12 items on this scale were measured on a 5-point Likert scale ranging from 1-strongly disagree to 5-strongly agree.

The Beliefs about Preventing AIDS is a 36-item scale developed by Koopman et al., (1990). Two of the five subscales that were included on the pre-post tests were perceived threat of being diagnosed with AIDS and self-efficacy about speaking on topics about safe sexual practices and using condoms. The pre-established Cronbach α for these subscales were 0.81 for perceived threat and 0.90 for self-efficacy. Three of six items from the perceived threat subscale and five of 14 items from the self-efficacy subscale were included on the study questionnaire with Cronbach α of 0.40 and 0.63 respectively.
These responses were on a 4-point Likert scale that ranged from 1-disagree strongly to 4-agree strongly.

Five items from The Healthy Oakland Teens Survey and the HIV Risk, Prevention and Treatment were used to assess the degree of sexual contact on the pre and post tests. The Cronbach α for these five items were 0.78. Questions asked were have you ever talked to someone of the opposite sex you like? Have you ever tongue kissed or touched the genitals of someone of the opposite sex? The responses to these items were either yes or no. The Healthy Oakland Teens Survey was developed using previous surveys and was modified after it was pilot tested on junior high school students to accommodate the students in Oakland, CA. Healthy Oakland Teens Survey was used as a pre-test in the spring of 1994 in Oakland, CA prior to implementing changes in the school based peer led AIDS prevention program for junior high school students.

Postponing Sexual Initiation Scale is a 12-item scale that was developed by Khan et al (1999) to determine the beliefs and attitudes among adolescents about delaying sexual activity. The five constructs of the Theory of Planned Behavior and Social Cognitive Theory were used to develop the scale. The pre-established Cronbach alpha for the scale was 0.86. For the study, the Cronbach alpha was 0.78. These items were on a 3-point scale that ranged from 0-not at all important to 2-very important.

The survey instrument for the educational program was pilot tested in Central Trinidad among 15 adolescents between 12-15 years of age. A church hall was used as the site for pilot testing after approval was received from the church officials and the LLU IRB. The adolescents who participated in the pilot study were not participants in the educational program. After the results of the pilot study were reviewed, survey items
were revised in accordance with the understanding and vernacular of adolescents in Trinidad and Tobago.

H. Data Analysis

Statistical analyses were performed using the Statistical Packages for the Social Sciences (SPSS) version 16.0 software. Data were entered and no outliers were identified. Frequencies and percentages were performed on categorical data, and descriptive statistics for continuous data. Research question number one was analyzed using the paired samples t-tests for the pre- and post-test of the treatment group and for the pre- and post-test of the comparison group. This was done to determine if there were differences within groups and between groups to determine if three HBM constructs (perceived susceptibility, perceived severity, and self-efficacy) were positively affected by the interactive intervention compared to the video-based intervention. The independent t-test was used to analyze the data between the comparison and treatment groups at pre- and post-test. ANCOVA was also utilized to determine differences between the comparison and treatment groups at post-test controlling for age and gender and pre-test values for each dependent variable.

Research question number two was analyzed using paired samples t-tests for the pre- and post-test of the treatment group and the pre- and post-test of the comparison group. ANCOVA was used to determine differences at post-test controlling for age and gender and pre-test values for each independent variable. The data provided information about whether there were any differences between groups on intention to delay sexual activity.
I. Power Analysis

This was an exploratory study. There were no previous studies found to determine the effect size of such an intention therefore, a medium effect size of 0.25 was chosen. According to Cohen (1992), for a large effect size with an \( \alpha \) of .05, 128 participants per group would be needed. A total of 307 participants were needed for the study when an attrition rate of 20% was accounted for. This study had a total of 196 participants. There were 92 participants in the experimental group and 104 participants in the comparison group.

J. Strengths and Limitations

The strength of the study are that schools were matched based on the socioeconomic status of parents and whether or not the school was a private school compared to public school therefore, the treatment and comparison groups were similar to each other and the classrooms were randomly selected. The study was conducted in different geographic locations of Trinidad and Tobago and this provided information about adolescents in different regions of the twin island republic.

This study also has its limitations. Self reporting is an issue in this research. Eggleston, Leitch, and Jackson (2000) observed that adolescents are not always truthful when providing self reports. In this study, information about sexual activity was obtained by self report. In an attempt to decrease false answers, the participants were informed that individual responses to the questions would be kept confidential and not be shared with classmates, parents, or school authorities. Findings from this research may be used to assist in developing programs for their peers in other secondary schools.
K. Research Ethics

Beneficence was maintained throughout the program. A description of the research study and procedures were given to parents prior to obtaining their permission, and any risks (if any) were explained. Parents were given the opportunity to ask questions about the research before they provide permission.

After parental permission was obtained, the study was re-explained to the participants. The participants were given another opportunity to ask questions. Study participants were able to opt out of the program at any time without being adversely affected by the student investigator or by school authorities. Additionally, the study participants were informed that all information they provide will be kept confidential. Participants were not required to put their names on the questionnaires. Additionally, the researcher collected all completed questionnaires from the students. School teachers and principals were not allowed to view the completed questionnaires.

Justice was maintained because even though the focus of the study was on the educational intervention by the student investigator, the comparison was also provided with information about HIV via DVD.
CHAPTER 4
PUBLISHABLE PAPER

The Effect of HIV/AIDS Education on Adolescents in Trinidad and Tobago

For Submission to: Pan American Journal of Public Health

Referencing is in Vancouver format and is not in accordance with the APA specifications of this dissertation as specified by the journal requirements
ABSTRACT

Objective – This study was conducted to determine the effectiveness of an HIV/AIDS educational intervention on the adolescent’s perceptions of susceptibility and severity of HIV/AIDS. Also the study examined whether providing information about assertiveness skills will lead to an intention to delay initiation of sexual activity.

Methods – A quasi experimental design was used to conduct this study among secondary school students in Trinidad and Tobago. Three of the five constructs of the health belief model were used to design and test the impact of the educational lessons for the intervention group while the comparison group watched videos about HIV. A total of 196 secondary school students between the ages of 11-18 years old participated in the study; 92 in the intervention group and 104 in the comparison group.

Results – The comparison group showed greater knowledge at post-test than the intervention group, controlling for pre-test knowledge (p = .001) but those in the intervention group were more likely to plan to delay sexual initiation (p = .006).

Conclusions – The educational program had a positive impact on knowledge in the comparison group and a positive impact on intention to delay sexual initiation in the intervention group. Additional research needs to be conducted to determine the best method to instruct students about HIV to encourage positive sexual behaviors.
Introduction

Human immunodeficiency virus (HIV) is a slow acting retrovirus that is transmitted by unprotected sexual intercourse, contaminated blood used for blood transfusions, needles contaminated with HIV, prenatally/perinatally and by breastfeeding (1, 2). HIV is the virus that causes acquired immunodeficiency syndrome (AIDS). AIDS is a syndrome in which the immune system of the body is weakened and the body is unable to fight off infection (1, 2). By the end of 2007, an estimated 33 million people were living with HIV worldwide of which 2.7 million were new infections and there were two million HIV/AIDS related deaths (3). During this same time period, young people between the ages of 15-24 years accounted for 45% of new HIV infections worldwide (3).

The rate of HIV infection has reached epidemic proportions in the Caribbean and the prevalence rate is now second to sub-Saharan Africa (3, 4). The first AIDS case in the Caribbean was reported in Jamaica in 1982 (4). Since that time, every country or island in the Caribbean has residents that are either HIV positive or have a diagnosis of AIDS (1, 5). Seventy percent of the HIV/AIDS cases in the English speaking Caribbean occur in persons ages 15 to 44 years (4).

In the Caribbean there were 230,000 people living with HIV by the end of 2007. Twenty thousand of these were newly infected cases and there were 14,000 HIV/AIDS related deaths (3, 6). The primary mode of transmission of HIV in the Caribbean is through heterosexual contact although the virus is also spread through homosexual and bisexual contact, and to a small extent, intravenous drug use (4, 6).
If the incidence of HIV/AIDS is not ameliorated there will be decreased productivity and economic losses in the areas of agriculture, tourism, mining, lumber, finance, and trade (1). Economic growth is negatively impacted when HIV/AIDS prevalence is greater than 5% per capita (1). In 2007, the HIV prevalence rate in Trinidad and Tobago was 1.5%.

Trinidad and Tobago (T & T) is the southernmost twin island republic in the English speaking Caribbean with an estimated population of 1.1-1.3 million people (7, 8). In 1983, eight persons were diagnosed with AIDS in Trinidad and Tobago, among individuals who were either bisexual or homosexual (7, 9, 10). Since the beginning of the HIV/AIDS epidemic in 1983 to end of the third quarter of 2007, there have been a total of 24,132 documented cases of HIV/AIDS in T & T (11). In 1999, HIV/AIDS was among one of the five leading causes of death in the general population and the leading cause of death in 15-34 year olds (7). Teenage girls outnumbered teenage boys 6 to 1 for new infections in 2005 and the HIV prevalence rate among 15-24 years olds in 2007 was 0.3% for males and 1% for females (12, 13). At the end of the third quarter of 2007, 20-49 year olds accounted for 71%, and teenagers between the ages of 15-19 years accounted for 0.049%, of the new HIV cases in T & T (11).

Research published in 2002 indicated that the major quality of life issues for the adolescent population of Tobago include limited resources and information about sexual health (14). In 2005, six females between the ages of 10 to 14, 49 females between the ages of 15 to 19, and eight males between the ages of 15 to 19 tested HIV positive (12). By the end of the third quarter of 2007, no teenagers 10-14 years of age were diagnosed
with HIV but in the 15-19 age group, 2 males and 14 females tested positive for HIV (11).

There has been an increase in the number of women in the Caribbean who are affected by HIV/AIDS due to an increase in the number of cases of heterosexual HIV transmission (1, 4, 7, 15). According to Jack (15), adolescent females are not adept at negotiating condom use by their sexual partners, have a history of low condom use and accept multiple partners as a norm of the society. Additionally, adolescent females have sex with older men in exchange for food, brand name clothing and transportation. Other risk factors that promote the transmission of HIV are incest, rape, coercive sex, sexual abuse, and domestic violence (15, 16).

Furthermore, children in early adolescence have an imaginary audience, over-differentiate their feelings, and have a personal fable all of which are part of adolescent egocentrism (17). Adolescents view themselves as being unique and as such immune to disease and death. Their thinking is that something bad will happen to someone else, not me (17). In the case of HIV/AIDS, adolescents may view others as being vulnerable to the disease while they are invulnerable. This personal fable can lead the adolescent to engage in risky behavior and/or not use precautions when engaging in sexual activity. Teenagers do not plan their first sexual experience, “it simply happens”. The fact that sexual intercourse just “happens” indicates that the teenager was not prepared for the activity and more than likely has not taken precautions to prevent pregnancy or the transmission of disease (18).

In the 1995 Youth Response Survey conducted in Trinidad and Tobago, respondents perceived the occurrence of AIDS to have reached crisis proportions.
Respondents indicated that they received information about were interviewed about. The results showed they perceived the occurrence of AIDS to have reached crisis proportions. They indicated that they received information about HIV/AIDS from the radio, local and foreign television broadcasts, posters/pamphlets, public health/social workers, newspapers and magazines (19). While students received information about HIV/AIDS in schools, the content of the information was not ascertained. While the incidence of HIV/AIDS is currently comparatively low in teenagers it is important to identify sexual behaviors and beliefs about the disease that will put them at risk for contracting HIV/AIDS in order to tailor programs to meet the needs of this population (11, 12).

The objective of this study was to determine if an HIV/AIDS education intervention program for adolescents between the ages of 11-18 years would increase knowledge about HIV/AIDS and self-efficacy in assertiveness skills compared to traditional HIV/AIDS information. The study determined adolescent perceptions of their susceptibility to contracting HIV and the severity of the disease, which in turn may be associated with an intention to delay the initiation of sexual intercourse and/or engage in safer sexual practices.

Materials and Methods

Recruitment and Consenting

A quasi-experimental pre-test/post-test with an experimental and a comparison group design was used for the study. Before the research began, approval was obtained from the appropriate Ministry of Education officials in Trinidad and Tobago. After obtaining approval from The Loma Linda University Institutional Review Board (IRB), the recruitment phase of the program began. Approval letters from the
various Ministry of Education officials were then forwarded to regional school supervisors and to principals that were to be included in the study. Secondary schools were matched based on the socioeconomic status of parents and whether or not the school was a public school or a religiously affiliated school as determined by the regional school supervisor. After matching, one school was selected to be in the intervention group and the other in the comparison group.

Once the principals of the matched schools agreed to include their school in the study, the classrooms were randomly selected and students from these classrooms were invited to participate in the study. The student investigator then informed the students in the randomly selected classrooms about the study, and students were given the opportunity to ask questions about the program. Parental consent forms and student assent forms were distributed to students in the randomly selected classrooms. Students were advised to take the parental consent forms to their parents or legal guardians for signature and only children of those parents who gave written permission to be in the study were allowed to participate. The student investigator’s cellular telephone number and the office telephone number for the Manager of Student Support Services were included on the parental consent form in the event that parents/legal guardians wanted additional information or had questions about the study. Students who did not return the parent permission forms within one week of the first distribution were given another form. All students who received parental permission were asked to and signed an assent form.

The students were informed that the information and participation in the study would be kept confidential, that truthful responses would be helpful in developing
HIV/AIDS educational programs for their peers who attend secondary school, and that they would not be penalized for not participating in the study.

**Study Participants**

The study participants were between 11-18 years of age and attended nine participating secondary schools in Trinidad and Tobago. Schools that had active abstinence clubs were excluded from the study. Students who were involved in governmental, non-governmental or private HIV/AIDS related educational activities or utilized the services of the Family Planning Association of Trinidad and Tobago or The Ministry of Health RAPPORT program were also excluded from the study.

**Procedures**

The study was conducted between April and November of 2008. A total of 196 students from nine secondary schools in Trinidad and Tobago participated in the study. Once the regional school supervisor identified secondary schools to be included in the program, the school principals were contacted and the program was explained to them along with the process of how classes were to be randomly selected. The sample consisted of two groups, a comparison and an intervention group. There were 104 students in the comparison group and 92 students in the intervention group. The program was conducted once per week over four consecutive weeks and each session was 30-45 minutes in length. The pre-test and post-test were administered at Week 1 and Week 6, respectively. The program consisted of lectures about basic facts about HIV, ways to decrease the spread of HIV, and assertiveness skills. The student investigator met with students in the intervention and comparison groups 1 day per week over a 4 week period, for 30-45 minutes per meeting in a classroom or conference room selected by the school.
principal. Both the treatment and the comparison groups were given a pre-test one week prior to the first lecture and a post-test one week after the final lecture.

The first lecture of the educational program provided information about HIV, modes of transmission, risk factors, and effects of HIV/AIDS on the health of individuals. The second lecture covered how to decrease/prevent the spread of HIV. The third and fourth lectures included information about assertiveness skills about how to say "no" to unwanted sexual advances. The students engaged in role playing activities on how to refuse sexual advances using potential scenarios that the student may encounter.

The comparison group received passive instruction by watching three DVDs, during 4 sessions, about HIV/AIDS. There were no structured lectures for this group but the participants were given the opportunity to ask questions about HIV/AIDS of the student investigator, if they had any.

Students were asked to put their initials and birth date on the pre- and post-test so the collected data could be matched, while preserving confidentiality. All completed pre- and post-tests were given to the student researcher and placed in a sealed envelope and was only viewed by individuals on the research team.

**Measurement Instrument**

The questionnaire was a 92 item instrument that included demographic items and statements/questions from The AIDS Knowledge and Attitude Survey an established scale used to assess the adolescents' knowledge about and modes of transmission of HIV/AIDS. The Cronbach alpha (α) for the knowledge items was 0.72. Ten knowledge items were used in the study with a Cronbach α of 0.47. The options for these items were true/false/don't know.
Perceived susceptibility was measured using a scale developed by Lux and Petosa in 1994, *Health Belief Model – Perceived Susceptibility (HMBP)*. This is a subscale of the health belief model and the established Cronbach alpha was 0.72. The Cronbach α for this study was 0.64. The responses were on a 4-point scale that ranged from 1 – disagree to 4 – agree. Statements from this scale include “People like me do not get HIV infections” and “People my age do not get HIV infections”.

The *Condom Use Self-Efficacy Scale (CUSES)* is a 28-item scale that was developed by Brafford and Beck in 1991. Three items from this were modified and included in the questionnaire. The Cronbach α for the modified items was 0.70.

The *Parent-Adolescent Communication Scale* is a 20 item scale that consists of two subscales; open family communication and problems in family communication developed by Barnes and Olson in 1982. The scale has a pre-established Cronbach α of 0.87. The 20 items from this scale were included in the questionnaire and had a Cronbach α of 0.77.

The *Attitudes Toward Abstinence* scale is a 12-item scale developed by Miller, Norton, Fan, and Christopherson (1998) with a pre-established Cronbach α of 0.85. In our study the Cronbach α was 0.81. The 12 items on this scale were measured on a 5-point Likert scale ranging from 1 – strongly disagree to 5 – strongly agree.

The *Beliefs about Preventing AIDS* is a 36-item scale developed by Koopman et al (1990). Two of the five subscales included in our study were perceived threat (3 items) and self-efficacy about speaking on topics about safe sexual practices and using condoms (5 items). The Cronbach α for these scales in our study were 0.40 and 0.63 respectively.
The Healthy Oakland Teens Survey was developed using previous surveys and was modified after it was pilot tested on junior high school students to accommodate the students in Oakland, CA. Healthy Oakland Teens Survey was used as a pre-test in the spring of 1994 in Oakland, CA prior to implementing changes in the school based peer led AIDS prevention program for junior high school students. Five items measuring sexual precursors from The Healthy Oakland Teens Survey and the HIV Risk, Prevention and Treatment Scale were included in the pre and post test. The Cronbach alpha for these five items was 0.78. Questions asked were have you ever talked to someone of the opposite sex you like? Have you ever tongue kissed or touched the genitals of someone of the opposite sex? Yes responses were summed to form a total score for each respondent (0-5).

*Postponing Sexual Initiation Scale* is a 12-item scale that was developed by Khan et al in 1999 to determine the beliefs and attitudes among adolescents about delaying sexual activity. The five constructs of the Theory of Planned Behavior and Social Cognitive Theory were used to develop the scale. The pre-established Cronbach $\alpha$ for the scale was 0.86. For the study, the Cronbach $\alpha$ was 0.78.

The survey instrument for the educational program was pilot tested in Central Trinidad among 15 adolescents between 12-15 years of age. A church hall was used as the site for pilot testing after approval was received from the church officials and the LLU IRB. The adolescents who participated in the pilot study were not participants in the educational program. After the results of the pilot study were reviewed, questions were revised in accordance with the understanding and vernacular of adolescents in Trinidad and Tobago.
Data Analysis

Statistical analyses were performed using the Statistical Packages for the Social Sciences (SPSS) version 16.0 software. Data were entered, cleaned, and outliers were identified. Frequencies and percentages were performed on categorical data, and descriptive statistics run for continuous data. Paired samples t-tests were used to compare differences of scores on variables within groups. Independent samples t-tests and ANCOVA were used to analyze the data to determine if there were differences between groups at post-test controlling for pre-test values of baseline variables.

Results

The first set of analyses that was conducted was descriptive statistics. There were significant differences in age between study group: those in the intervention group were younger (13.4 years) that those in the comparison group (14.7 years) \( (p < .001) \). Most students identified themselves as being of African or Indian descent or of mixed race. In both groups, at least 50% of the students lived with both parents, with over 20% living with their mother only. Even though there was a statistically significant difference in mother’s level of education for the two groups \( (p = .01) \), at least 25% of students in both groups were unaware of their mother’s educational achievements. Mother’s level of education was no longer significant after further analyses were conducted. At least 30% of students in both groups did not know the highest level of education their father completed. There were no differences between the groups on either of the parent’s occupation. At least 50% of students in both groups were Protestants. There were no significant differences in church attendance between the intervention and comparison groups. See Table 1.
Next ANCOVA was performed between the comparison and intervention group. At pre-test, the comparison group had higher scores for knowledge than those in the intervention group (p = .009). At post-test the comparison group maintained higher scores than the intervention group controlling for age, gender and pre-test values (p = .001). At pre- and post-test the students in the intervention group had significantly higher HIV/AIDS susceptibility scores but there was no statistically significant difference between the two groups at post-test controlling for age, gender and pre-test values. The comparison group had higher scores on the following variables perceived seriousness about HIV (p = .01), self-efficacy about speaking on topics about safe sexual practices and using condoms (p = .001), and attitudes towards abstinence (p = .006) at pre-test compared to the intervention group. See Table 2.

At post-test controlling for pre-test values, the comparison group had significantly higher knowledge scores compared to the intervention group (p = .001) and lower intention to delay sexual activity than the intervention group (p = .006).

There were no statistically significant differences between the comparison and intervention group at pre-test or post-test controlling for pre-test values on the variable of combined open family/problematic family communication was assessed. See table 2.
comparison group from pre-test to post-test. There was a decrease in scores for the comparison group at post-test on the intention to delay sexual activity (p = < .001) and there was no change for the intervention group. See Table 3.

Correlations were conducted between the variables. Age in years was negatively related to parent-adolescent communication (r = -.183, p < .01). The adolescent self-efficacy as it pertains to speaking about topics on safe sexual practices is positively related to parent-adolescent communication (r = .197, p = .006).

Insert Table 3 Here

Discussion

The study assessed the impact of the educational intervention versus the students watching DVD’s about HIV/AIDS on three of the five main constructs of the HBM: perceived susceptibility, perceived severity, and self-efficacy in relationship to being able to practice safe sex and indirectly by discussing issues that pertain to condoms with their peers among 11-18 year old adolescents. This study was conducted because although information about HIV/AIDS is provided in schools, research has not been conducted to evaluate the short or long term effectiveness of such interventions. This study examined the short term effect of an educational intervention in secondary schools in T & T.

A quasi-experimental design was used to conduct the study in secondary schools in Trinidad and Tobago and was comprised of an active comparison group who watched educational DVD’s about HIV/AIDS and an intervention group that received interactive instruction about modes of transmission, risk factors and ways to decrease/prevent the spread of HIV/AIDS. Information about assertiveness was also presented and scenarios were discussed.
The comparison group had higher pre- and post-test scores on HIV/AIDS knowledge compared to the intervention group. The total mean score increased for intervention and comparison groups 5% and 8% respectively. This is similar to research conducted in South Africa and Trinidad and Tobago which demonstrated an increase in transmission knowledge about HIV from pre- to post-intervention (20). A study conducted among young people in Guyana between the ages of 12-20 years in which 95.6% of the respondents knew that HIV can be transmitted by having sexual intercourse with someone who is HIV positive (21). In two earlier studies conducted in Trinidad and Nigeria among secondary school students 100% and 83.3% of the respective secondary schools knew that AIDS was transmitted by sexual contact (22, 23).

On the variable of intention to delay sexual activity there was a statistically significant difference between the intervention and comparison groups at post-test (p = .006). This finding indicates that the educational program had a positive impact on the adolescent’s in the intervention group intention to delay sexual initiation. Several intervention programs in sub-Saharan Africa have been effective in promoting a delay in sexual initiation (27). These programs were of longer duration and hence were able to report results beyond the intention to delay sexual initiation. The main reasons why some adolescents in the Caribbean did not want to engage in sexual activity were wanting to wait until marriage, wanting to wait until they were older, wanting to avoid pregnancy, fear of disease, and not being emotionally ready (24, 28).

While information about the seriousness of HIV is not readily available for the adolescent population, adolescents are not usually worried that they may contract HIV (21, 22, 24). Both groups had high perceived susceptibility for contracting HIV with the
intervention group viewing themselves as more susceptible to the disease than the comparison group. It is important to note that even though the intervention group on average was younger than the comparison group more students from this group were sexually active when compared to the comparison group. This might account for why the students in the intervention group viewed themselves as being susceptible to contracting HIV. Guyanese youth who were sexually active thought it was very possible for them to contract AIDS and those who were knowledgeable about AIDS thought there was some possibility they could contract the disease (21). These findings differ from those in a study conducted in rural Jamaica in which adolescents between the ages of 15-18 did not view themselves as being susceptible to HIV consistent with the personal fable of adolescence (25). Ideas that were stated during the focus groups indicate that adolescents don’t think they are susceptible to contracting HIV because it is the first time they are having sex, because a person who is HIV positive can be identified by physical changes that occur, and adolescent simply believe they are disease free (25).

Students in the intervention and comparison groups believed that young people their age should know how to use condoms correctly and that they should be able to discuss condom use with their peers in an objective manner. Some of the students were interested in learning how to put on a condom correctly. Before adolescents can discuss condom use among themselves they need to have accurate information from a reliable source. Parents/guardians and teachers/guidance officers are in an ideal position to disseminate such information even though research has indicated that such education is prohibited in some schools and parents are not comfortable speaking about HIV/AIDS with their teenagers (20, 26). Therefore, parents and teachers need to be educated about
issues that pertain to sexuality and how to discuss these issues with their children. In addition, trust need to be established between parents/guardians and the Ministry of Education whereby parents will understand that the school is not trying to corrupt their children in teaching them about sex, sexuality, and HIV/AIDS. Parents need to realize that if responsible adults with accurate information aren’t permitted to/don’t share information with their children, they may learn about HIV/AIDS from their peers who may not always possess correct information thereby propagating myths and misconceptions.

For attitudes toward abstinence the comparison group had higher scores at pre-test in relationship to the intervention group. At post-test the scores for the comparison group decreased slightly and the scores for the intervention group increased.

Future research will be necessary to determine the effect of parental involvement in HIV/AIDS intervention programs, the effect of church involvement in HIV/AIDS intervention programs and the effect of violence experienced by adolescents on their ability to avoid risky sexual behaviors.

*Ethics*

Beneficence was maintained throughout the program. A description of the research study and procedures were given to parents prior to obtaining consent and risks were explained. Parents were given the opportunity to ask questions about the research before they provided consent.

After parental consent was obtained the program was reviewed with the prospective participants. The participants were given another opportunity to ask questions. The participants had the opportunity to opt out of the program at any time.
without being adversely affected by the student investigator or by school authorities. Additionally, all information provided by the study participants was kept confidential. Participants were asked to put their initials and date of birth on the questionnaire so that pre- and post-test questionnaires could be matched. Additionally, the researcher collected all completed questionnaires from the students and faculty and staff were not allowed to view the completed questionnaire.

Justice was maintained during the research. The comparison group received information about HIV/AIDS via DVD.

**Strengths and Limitations**

The strengths of the study are that schools were matched therefore the treatment and comparison groups were be similar to each other and the classrooms were randomly selected. The study was conducted in different geographic locations of Trinidad and Tobago and this provided information about adolescents in different areas of the twin island republic.

This study also has its limitations. Self reporting was an issue in this research. Eggleston, Leitch, and Jackson (29) have observed that adolescents are not always truthful when providing self reports. All answers that were obtained may not have been accurate. In an attempt to decrease false answers the participants were informed that individual responses to the questions will be kept confidential and will not be shared with classmates, parents, or school authorities. They were also informed that the research will be useful to assist in developing programs for their peers in other secondary schools.

Selection bias was another limitation of the study because students who wanted more information about HIV/AIDS took the consent forms home to be signed by their
parent/legal guardian. Some students did not take the consent forms home because they did not think they were HIV positive, therefore, they did not perceive a need to acquire information about the disease. Additionally, some students did not want to know their HIV status so they opted out of the program even though it was explained that this research was about providing information about HIV and that not about testing anyone for HIV/AIDS.

**Conclusion**

The students in the comparison group on average were older than the students in the intervention group. This may account for the difference in scores seen at pre-test. Even though the comparison group had higher pre-test knowledge, seriousness, self efficacy in relationship to speaking to peers about condoms and practicing safe sex, attitudes toward abstinence and intention to delay sexual initiation score the scores for the intervention group improved at post-test. The intervention was effective in that the direction of the change for the intervention group was positive.

At post-test the decrease in the comparison groups score on the variables of attitudes toward abstinence and delaying sexual initiation is cause for concern.

Additional research is needed to elucidate if this is due to a change in attitude or a phenomena of testing.

This research is important to the field of health education because HIV/AIDS is a public health issue that has reached pandemic proportions. Interventions that use a theoretical framework and can be duplicated are necessary to curb the spread of the disease. Health educators can use current research to assist national and local government officials in implementing programs that increase knowledge about HIV and
lead to more positive attitudes but that also lead to positive behavior change such as delaying sexual initiation. Since HIV is a preventable disease and information is available to the residents of Trinidad and Tobago from various venues, health educators can more effectively provide programs and interventions that will help to curb the problem. Over the last decade, HIV transmission has steadily increased in Trinidad and Tobago as in other Caribbean islands. Recent literature has identified HIV preventive actions such as perceived susceptibility to HIV/AIDS, gender norms about condom use and sexual behavior and self-efficacy for taking HIV/AIDS preventive actions to be important in decreasing risky sexual behavior (30, 31).
REFERENCES


8. The Republic of Trinidad and Tobago Ministry of Planning and Development Central Statistical Office. 2000 population and housing census; demographic report. Trinidad and Tobago: The Republic of Trinidad and Tobago; 2000.


11. The Republic of Trinidad and Tobago Ministry of Health. Acquired immunodeficiency syndrome (HIV/AIDS) morbidity and mortality report. Trinidad and Tobago: The Republic of Trinidad and Tobago; 2007.
12. The Republic of Trinidad and Tobago Ministry of Health. Acquired immunodeficiency syndrome (HIV/AIDS) morbidity and mortality report. Trinidad and Tobago: The Republic of Trinidad and Tobago; 2006.


19. Republic of Trinidad and Tobago, National AIDS Programme/Ministry of Health/EEC Project. Youth response survey: a national survey of knowledge, perceptions, and practices among 1500 youth in Trinidad and Tobago, subsequent to IEC activities on AIDS. Trinidad and Tobago: 1995.


24. Halcon L, Beuhring T, Blum RW. A portrait of adolescent health in the caribbean. 2000. WHO Collaborating Centre of Adolescent Health: Minneapolis, MN.


### Table 1. Demographic Information for Intervention and Comparison Groups

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### Table 1 (Continued). Demographic Information for Intervention and Comparison Groups

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*Other’ includes father only, mother and stepfather, father and stepmother, grandparents, and other relatives/people.

**’Protestant’ includes Anglicans, Baptists, Pentecostals, Presbyterians, and Seventh-day Adventists. ‘Other’ includes Hindus and Muslims.
Table 2. Comparison of Study Variables at Pre- and Post-Test Between Intervention and Active Comparison Groups

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<td>Knowledge %</td>
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<td>Intention to delay sexual activity</td>
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<td>Combined family communication</td>
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*Controlling for age and gender
**Controlling for age, gender, and pre-test values
Table 3. Comparison of Pre and Post-Test Values of Study Variables Within Intervention and Active Comparison Groups

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<td></td>
<td></td>
<td>3.58 (0.57)</td>
<td>3.54 (0.58)</td>
<td>.493 &lt;.001</td>
<td>3.74 (0.39)</td>
<td>3.64 (0.52)</td>
</tr>
<tr>
<td>Abstinence attitude</td>
<td>92</td>
<td>3.73 (0.73)</td>
<td>3.98 (0.68)</td>
<td>&lt;.001</td>
<td>3.90 (0.79)</td>
<td>3.95 (0.88)</td>
</tr>
<tr>
<td>Precursors to sexual</td>
<td>86</td>
<td>2.0 (1.61)</td>
<td>2.13 (1.43)</td>
<td>.251 &lt;.001</td>
<td>2.59 (1.58)</td>
<td>2.84 (1.51)</td>
</tr>
<tr>
<td>activity</td>
<td></td>
<td>1.34 (0.45)</td>
<td>1.33 (0.47)</td>
<td>.857 &lt;.001</td>
<td>1.32 (0.44)</td>
<td>1.15 (0.50)</td>
</tr>
<tr>
<td>Intention to delay</td>
<td>89</td>
<td>3.22 (0.67)</td>
<td>3.22 (0.66)</td>
<td>.962 &lt;.001</td>
<td>3.12 (0.64)</td>
<td>3.11 (0.76)</td>
</tr>
<tr>
<td>sexual activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combined family</td>
<td>92</td>
<td>3.22 (0.67)</td>
<td>3.22 (0.66)</td>
<td>.962 &lt;.001</td>
<td>3.12 (0.64)</td>
<td>3.11 (0.76)</td>
</tr>
<tr>
<td>communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER 5
OTHER FINDINGS

A. Overview

This section contains information that was observed but was not directly related to the research questions on the issues of HIV/AIDS knowledge scores, parent-adolescent communication, and sexual activity.

B. HIV/AIDS Knowledge Scores

The responses to the items on the knowledge scale were interesting. At pre-test and post-test the comparison group had a higher HIV/AIDS knowledge score than the experimental group. The pre-test scores for the comparison and experimental group were (92% v. 89%). The post-test scores for the comparison and experimental group were (96% v. 89%). Item one assessed knowledge about the severity of AIDS. The average score for the comparison group on item one at pre-test and post-test were 92% and 96% and for the experimental group, the average score at pre-test and post-test remained unchanged at 89%. See Table 1.

Item two assessed knowledge about the basic science of AIDS. At pre-test both groups had an average score of 83%. At post-test the average score for the comparison group was 89% and 91% for the experimental group. Item three measured knowledge about a cure for AIDS. On this item at pre-test the average score was 76% for the comparison group and 68.5% for the experimental group. At post-test, the score for the comparison group was 81% and 76.1% for the experimental group. While these results
indicate that students knew that AIDS is a serious disease that destroys the body’s immune system, many in both groups were not aware that there is no cure for AIDS.

**Table 1.** Comparison of Pre and Post Test Knowledge Variables

<table>
<thead>
<tr>
<th>Item</th>
<th>Pre-test Experimental %</th>
<th>Post-test Experimental %</th>
<th>Pre-test Comparison %</th>
<th>Post-test Comparison %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. AIDS is not at all serious, it is like having the common cold</td>
<td>89.5</td>
<td>89.1</td>
<td>92.3</td>
<td>96.2</td>
</tr>
<tr>
<td>2. AIDS is a disease which destroys the body’s natural immunity against infection.</td>
<td>83.7</td>
<td>91.3</td>
<td>83.7</td>
<td>89.4</td>
</tr>
<tr>
<td>3. There is no cure for AIDS.</td>
<td>68.5</td>
<td>76.1</td>
<td>76</td>
<td>80.8</td>
</tr>
<tr>
<td>4. AIDS is caused by a virus.</td>
<td>51.1</td>
<td>64.1</td>
<td>61.5</td>
<td>82.7</td>
</tr>
<tr>
<td>5. AIDS is caused by the same disease that causes herpes.</td>
<td>21.7</td>
<td>33.7</td>
<td>32.7</td>
<td>42.3</td>
</tr>
<tr>
<td>6. Symptoms of AIDS will usually appear within 12 – 24 hours after being infected.</td>
<td>15.2</td>
<td>42.4</td>
<td>37.5</td>
<td>51.9</td>
</tr>
<tr>
<td>7. Receiving a transfusion with blood infected by the AIDS virus is one way to get the disease.</td>
<td>64.1</td>
<td>72.8</td>
<td>87.5</td>
<td>89.4</td>
</tr>
<tr>
<td>8. You can get AIDS by sharing a needle with a drug abuser who has the disease.</td>
<td>88</td>
<td>92.4</td>
<td>88.5</td>
<td>97.1</td>
</tr>
<tr>
<td>9. Having sexual intercourse with someone who has AIDS is one way of getting the disease.</td>
<td>94.6</td>
<td>93.5</td>
<td>99</td>
<td>99</td>
</tr>
<tr>
<td>10. If you shake hands with someone who has AIDS you can get the disease.</td>
<td>92.4</td>
<td>93.5</td>
<td>97.1</td>
<td>99</td>
</tr>
</tbody>
</table>
Since students are not aware that there is no cure for HIV/AIDS, the true severity of the disease may not be evident.

Item four assessed knowledge about the causative agent of AIDS. The average score for the comparison group was 64.1% and 51.1% for the experimental group. At post-test, the scores improved for the comparison group to 82% and for experimental group to 61.5%. On item number five which assessed knowledge about the causative agent of AIDS, on average the comparison group scored 32% and the experimental group scored only 21%. While there was a modest improvement of scores for both study groups, their scores remained below 45% at post-test.

Item six pertained to the appearance of the symptoms of AIDS. The average score at pre-test for the comparison group was 37% and for the experimental group the average score was 15%. Once again, even though there was a modest improvement in the scores for this item, the average scores for both groups was less than 55% at post-test. The experimental group had an average score of 64% at pre-test and 72% at post-test on item seven which mentioned receiving infected blood from a blood transfusion as one way to get the AIDS virus. On items eight through ten which assessed modes of transmission of AIDS both groups consistently scored 88% and above at pre- and post-test.

The low scores on items three through seven indicate that students need more education/information about HIV/AIDS as being one of many sexually transmitted infections which is caused by a specific infectious organism. Students also need to be made aware that while there is no cure for HIV/AIDS medications are available that can fight the infectious organism and keep the immune system strong and that a person can
be infected with HIV for years before symptoms appear. Age appropriate education about sexuality and other sexually transmitted infections may also be necessary for the adolescent population to get a better understanding of themselves as they grow and mature. Several authors (Gilliam, Eke, Aymer & O’Neil, 2001; Jack, 2001; Voisin & Dillon-Remy, 2001) have suggested that a school-based, culturally appropriate, comprehensive model be taught to pre-adolescents and adolescents in all primary and secondary schools. In a study conducted by Kawai et al (2008) students who spoke to teachers about sexual activity were less likely to initiate sex than students who did not speak to teachers about sexual activity. Therefore, teachers can play an integral role in the communication and dissemination of information about sex, sexuality, and sexually transmitted infections.

C. Parent Adolescent Communication

The Parent-Adolescent Communication Scale is a 20 item scale developed by Barnes and Olson in 1982 which consists of two subscales: open family communication and problems in family communication. In my study the age of the student was negatively related to open family communication (r=.15) indicating that the younger student had more open family communication while older students had less open family communication. Age was positively associated with problems in family communication (r=.14), indicating that younger students had fewer problems with family communication and older students had more problems with family communication. When the two subscales of the Parent-Adolescent Communication Scale was combined age was negatively related to family communication (r=.18). While teachers may be a valuable resource to students to share information about sex, sexuality, and sexually transmitted
infections, parents should have a major role in educating their children about topics surrounding sex and share their values with their children. Based on the relationship between age and family communication, parents should advantage of the opportunity to communicate accurate value-based information to their children at an age when they may have more influence on their children than their peers.

There was a negative relationship between age and attitudes toward abstinence (p=.039). Younger students had a more positive attitude towards abstinence than older students. Additionally, there was a positive relationship between attitudes toward abstinence and intention to delay sexual initiation (p=.037). Students who had a positive attitude toward abstinence were more likely to delay sexual activity. McBride et al. (2005) noted that it was important as determined by community and local leadership focus groups that a medium should be established to enhance positive relationships and better communication between parents and children. This will also be valuable in Trinidad and Tobago because of the association between age and family communication, and attitudes and behaviors that can be potentially harmful to the adolescent.

Rotherman-Borus (2000) identified early adolescence as the time when positive social identities can be enhanced which may determine the adolescent’s sexual risk. Therefore, when parents are equipped with ways in which to enhance communication and relationships with their children at a younger age this may lead to positive/protective behaviors for the child.
D. Sexual Activity

Of the 196 students who participated in the study, at pre-test 33 (17%) of students had sexual intercourse; 15 (8%) of students in the intervention group and 18 (9%) of students in the comparison group. Of the 33 students who had sex previously, 18 were males and 15 were females. Two students did not respond to this item. Allen et al (2002) and Halcon, Beuhring, and Blum (2000) documented that some children in the Caribbean had their first sexual experience as early as 10 years of age. The 196 students who participated in the study were 11-18 years old and few of these students had sexual intercourse which is consistent with previous findings that there is some sexual involvement in adolescents.

At post-test, only 28 students admitted they had ever had sexual intercourse. Eggleston, Leitch, and Jackson (2000) documented the difficulty in obtaining adequate information about past sexual history due to the adolescent’s desire to provide socially acceptable responses. In my study, some students may have misread the question about sexual intercourse, have had sexual intercourse once or may have stopped having sexual intercourse so they responded that they did not have sexual intercourse at post-test.
CHAPTER 6
CONCLUSIONS AND RECOMMENDATIONS

A. Summary of Findings

This study was conducted to determine the effectiveness of an interactive HIV/AIDS educational intervention on the adolescent’s perceptions of susceptibility and severity of HIV/AIDS, compared to a comparison group who received a video-based education program. Also, the study examined whether providing information about assertiveness skills led to an intention to delay initiation of sexual activity.

The comparison group was older (14.7 years) than the experimental group (13.4 years) and this was significant (p=<.001). At post-test the comparison group maintained higher scores than the experimental group controlling for age, gender, and pre-test values (p=<.001). At post-test there was an increase in knowledge, perceived susceptibility to HIV/AIDS and self-efficacy when speaking about condoms, and intention to delay sexual activity (p=<.001) for the experimental group controlling for pre-test values, age, and gender. At post-test controlling for pre-test values, the comparison group had lower intention to delay sexual activity than the experimental group (p=.006).

B. Implications of Study for Health Education

HIV/AIDS is a major public health issue. Effective interventions based on a theoretical framework and can be duplicated as necessary to curb the spread of HIV within the United States and in other countries around the world. Over the last decade, HIV transmission has steadily increased in Trinidad and Tobago as in other Caribbean islands. Factors such as perceived susceptibility to HIV/AIDS, gender norms about
condom use and sexual behavior and self-efficacy for taking HIV/AIDS preventive actions are important in decreasing risky sexual behavior (DiClemente et al., 2004; DiLorio, Dudley, Kelly, Soet, Mbwara, & Potter, 2001).

Health educators can use current research to assist local and national government officials in Trinidad and Tobago in implementing HIV/AIDS educational interventions. Findings from this study can provide useful information to the Ministry of Education as they develop HIV/AIDS educational programs for in-school youth. HIV/AIDS educational programs in Trinidad and Tobago can be tailored to be interactive providing students with an opportunity to ask questions and role play situations they may encounter. The program must contain basic information about HIV/AIDS because the younger students may have heard about the disease and know how the disease is transmitted but may not be aware about myths surrounding HIV/AIDS. The Ministry of Education may want to include lectures about condoms, the benefits of abstinence, and the benefits of delaying sexual activity in an HIV/AIDS educational program since these content areas are important in providing youth with information that will allow them to make sound decisions and engage in protective behaviors.

C. Recommendations for Practice

The Ministry of Education and The Ministry of Health in Trinidad and Tobago should collaborate and develop an HIV/AIDS interactive educational program that includes basic facts about HIV including modes of transmission, risk factors, and the effect of HIV/AIDS on the health of individuals. Information on how to decrease the spread of HIV/AIDS including condoms and their proper usage would be beneficial. Assertiveness skills in speaking about topics and issues pertaining to sex and condom use
will provide additional information for the youth so they can make informed decisions before engaging in sexual activity. It should be determined whether a teacher or a health educator will present the information to students based on the comfort level of the presenter, the course load of teachers and the comfort of the students in asking questions about HIV/AIDS, sex, sexuality, and other sexually transmitted infections. In addition, the inclusion of HIV/AIDS education should be required in the school curriculum and not be considered an elective. DVDs may be a good tool to use for presenting factual information but not for encouraging behavior change.

Parents need to be included in the planning process so that HIV/AIDS education in the schools can become a reality throughout Trinidad and Tobago. It is necessary for trust to be established between The Ministry of Education and parents so that parents will feel comfortable allowing a teacher/health educator to share sensitive information with their children. Parent-teachers meeting may be a good place for school officials to share with parents their plans, goals and content of HIV/AIDS education.

D. Recommendations for Research

Further research is needed to determine if an educational intervention conducted in schools leads to sustained (2-3 year) positive attitudes toward abstinence, improved self-efficacy in communicating with peers about HIV/AIDS and condom use, and maintenance of intention to delay sexual initiation. Research can also be conducted with parents of pre-adolescent children. Parents can receive an educational intervention and the children can be followed over 2-3 years. This will provide information about whether the parents were able to share the information they received about HIV/AIDS with their
children and the effect of the shared information on the adolescent’s knowledge, attitudes and behaviors as it pertains to HIV/AIDS.

Future research will be necessary to determine the effect of parental involvement in HIV/AIDS intervention programs, the effect of church involvement in HIV/AIDS intervention programs and the effect of violence experienced by adolescents on their ability to avoid risky sexual behaviors.

E. Conclusion

This was the first documented study in secondary schools in Trinidad and Tobago to assess the effectiveness of an HIV/AIDS educational intervention. Both the intervention and the comparison group received education. The intervention group had interactive sessions with the student investigator whereby there was student participation/involvement during the lectures. The comparison group watched 3 DVDs about HIV/AIDS. The student investigator did not initiate conversation about the content of the DVD but if the students had questions they were answered.

It is important to differentiate between the experimental and comparison groups because the experimental group was younger than the comparison group and both groups received instruction; the former received interactive instruction and the latter received video-based instruction. Both groups improved in the areas of knowledge, perceived susceptibility about the disease and self-efficacy in speaking about condoms. The experimental group at post-test maintained the intention to delay sexual activity, while at post-test there was a decrease in the mean score on the intention to delay sexual activity for the comparison group.
While knowledge increased for both the experimental and comparison group, there was a difference between the interactive instruction and the video-based instruction as seen on the variable intention to delay sexual activity. In the future, an interactive HIV/AIDS educational intervention or a combined interactive/DVD intervention may prove to be the best method to instruct adolescents about this disease process especially if the goal is to effect behavior change and increase knowledge.
REFERENCES


Republic of Trinidad and Tobago, National AIDS Programme/Ministry of Health/EEC Project. (1995). Youth response survey: A national survey of knowledge, perceptions, and practices among 1,500 youth in Trinidad and Tobago, subsequent to IEC activities on AIDS.


The Republic of Trinidad and Tobago. (2006). Education sector policy on HIV and AIDS. Draft 2


Retrieved February 18, 2009, from  


Accessed 18 February 2009


2_en.pdf  

80


To: Modeste, Naomi N  
Department: Health Promotion & Education  
Protocol: The effect of an HIV/AIDS educational intervention on the sexual perceptions and practices of adolescents in Trinidad

Your request to extend the protocol indicated above has been reviewed administratively.

Extension Request: Approved  
Risk to research subjects: Minimal  
Approval period begins 19-Feb-2009 and ends 18-Feb-2010  
Stipulations of approval are:

Consent Form  
If this study was approved on the condition that a consent form is required AND subjects are still being enrolled, only the consent form bearing the IRB authorization stamp can be used. This will become your OFFICIAL consent form for the dates specified and should be used as the new master for making copies to give prospective subjects.

☐ Master consent form with up-dated authorized stamp is enclosed.  
☑ Updated consent form not required. Approval limited to data analysis or follow-up of currently enrolled subjects only.  
☐ Not applicable; IRB approved a waiver of informed consent, as noted above.

IRB Communications  
Please continue to notify the IRB in writing of any modifications or adverse events relating to the approved research protocol. Your assistance in providing the PI's name and the protocol's IRB # on all communications with the IRB about this project will expedite necessary communications.

Thank you for your cooperation in LLU's shared responsibility for the ethical use of human subjects in research.

Signature of IRB Chair/Designee: [Signature]

Loma Linda University Adventist Health Sciences Center holds Federalwide Assurance (FWA) No. 6447 with the U.S. Office for Human Research Protections, and the IRB registration no. is IORG226. This Assurance applies to the following institutions: Loma Linda University, Loma Linda University Medical Center (including Loma Linda University Children's Hospital, LLU Community Medical Center), Loma Linda University Behavioral Medicine, and affiliated medical practices groups.

IRB Chair: Rhodes L. Rigsby, M.D.  
Department of Medicine  
(909) 558-2341, rigsby@llu.edu

IRB Administrator: Linda G. Halstead, M.A., Director  
Office of Sponsored Research  
Ext 43570, Fax 80131, lhalstead@llu.edu

IRB Specialist: Mark Teslerman  
Office of Sponsored Research  
Ext 43042, Fax 80131, mteslerman@llu.edu
APPENDIX B: INFORMED CONSENT

Loma Linda University
School of Public Health

The Effect of an HIV/AIDS Educational Intervention on the Sexual Perceptions and Practices of Adolescents in Trinidad

Parent's Information and Consent Form

1. PURPOSE AND PROCEDURES
You are invited to allow your child to participate in a study evaluating the effectiveness of teaching strategies about HIV/AIDS. The study is being conducted in your child’s class as part of a student research project at Loma Linda University. Your child qualifies to participate because he/she is between the ages of 12-15 years and attends secondary school. Students will be divided into two study groups: one group will attend a 6-week course on HIV/AIDS information and prevention, and will be taught by the student researcher. The course will take place in the classroom and will last 45 – 60 minutes once per week for a total of six weeks. The other group will view a video on basic facts about HIV and how to decrease its spread and will be given the opportunity to ask questions about what they viewed. Students in both groups will complete a survey before and after the group activity, including questions about HIV/AIDS, sexual behaviors, and future sexual intentions.

2. RISKS
There is very little risk to your child. Your child may become tired while completing a survey or during the HIV/AIDS education series. If your child gets tired he/she would be asked to rest for 2 minutes and then continue.

3. BENEFITS
Your child may benefit from the study because he/she will gain knowledge about HIV/AIDS that will help in making sound decisions about sexual behaviors. A general benefit of the course is that it may assist the government in developing other HIV/AIDS education courses for children between the ages of 12 – 15 years old in Trinidad and Tobago. Another general benefit may be a decrease in the spread of HIV among adolescents between the ages of 12 – 15 years old thus improving productivity in the workforce in the next 5 – 10 years.

Initial________
Date________

Loma Linda University
Adventist Health Sciences Center
Institutional Review Board
Approved 11-20-01 Void after 11-15-2002
# N00042 Chair R. L. Riggs, M.D.
4. PARTICIPANT'S RIGHTS
Participation in the study is voluntary. Your child will not be forced to be a part of the study and can opt out at any time. If your child decides not to participate the Principal or Guidance officer will provide activities for him/her in another room. Whether or not your child participates or withdraws from the course will not affect his/her relationship in the school.

5. CONFIDENTIALITY
Participation in the study is confidential. Your child will not be asked to put his/her name on the surveys they complete. In addition, parents and school officials WILL NOT have access to the surveys that are completed by the students. Any published document will not identify the participating schools or your child’s name.

6. IMPARTIAL THIRD PARTY
If you wish to contact an impartial third party not associated with this study regarding any question or complaint you may have about the study, you may contact: Steve Williams, Manager of the Division of Student Support Services, Ministry of Education, 66 Pembroke St. Port of Spain, Trinidad. phone 625-7935 or 627-1271.

7. INFORMED CONSENT STATEMENT
I have read the contents of the consent form. I hereby give voluntary consent for my child to participate in the study. Signing this consent document does not waive my right nor does it release the investigators, institution or sponsors from their responsibilities. I may call Vanessa Jones MSNA from 8:00 am to 7:00 pm at 868-346-1468 if I have questions or concerns.

Initial

Date
The Effect of an HIV/AIDS Educational Intervention on the Sexual Perceptions and Practices of Adolescents in Trinidad

8. SIGNATURES
This protocol has been explained to my child at a level that he/she can comprehend and I give my consent for my child to participate in the study.

_________________________________________  ________________
Signature of parent or legal guardian               Date

_____________________________________________
Child's First and Last Name

Initial___________

Date___________
APPENDIX C: ASSENT FORM

Loma Linda University
School of Public Health

Loma Linda, California 92350
Fax: (909) 558-4083

Loma Linda University
Assent Form
The Effect of an HIV/AIDS Educational Intervention on the Sexual Perceptions and Practices of Adolescents in Trinidad

1. PURPOSE AND PROCEDURES
A six-week course on HIV/AIDS information is being conducted in your class. The course will include basic facts about HIV such as what is HIV and how to decrease the spread of HIV. You will receive the information by watching different videos. You will also be able to ask questions about information that you saw in the video. You are invited to participate in the course because you are between the ages of 12 – 15 years and attend secondary school. The course will take place in the classroom and will last 45 – 60 minutes once a week for a total of six weeks. You will be asked to complete a questionnaire on your ideas about sex and sexual behaviors.

2. CONFIDENTIALITY
Participation in the study is confidential. You will not be asked to put your name anywhere on the questionnaire but you need to write your initials and date of birth in the space provided. This will help the student investigator to be able to input the data in to the computer accurately. The student investigator is the only person who will have access to the questionnaires. Your parents, teachers, guidance officers, principals, and other school officials WILL NOT have access to the questionnaires. Any published information will not identify your school or your name.

3. PARTICIPANT'S RIGHTS
Participation in the study is voluntary. You will not be forced to be a part of the study. If you decide not to participate the Principal or Guidance officer will provide activities for you in another room. Whether or not you participate in the course will not affect your relationship with the school or your class.

Loma Linda University
Adventist Health Sciences Center
Institutional Review Board
Approved 2005

A SEVENTH-DAY ADVENTIST HEALTH SCIENCES INSTITUTION
( ) I have read the above statement and I wish to participate in the study.

________________________________________  ______________
Signature of student                             Date

( ) I have read the above statement and I DO NOT wish to participate in the study.

________________________________________  ______________
Signature of student                             Date

Loma Linda University
Adventist Health Sciences Center
Institutional Review Board
Approved: 12/3/2007
Void after: 12/31/2007
# 53204  Chair R L Richardson
APPENDIX D: SURVEY INSTRUMENT

SURVEY

I am interested in learning about your ideas on HIV/AIDS and issues that relate to sex. Answer each question on the survey honestly and to the best of your ability. If you are unsure about an answer it is okay to guess. **DO NOT** leave any questions blank.

Your answers will provide useful information about what adolescents your age think/know about HIV/AIDS and issues that pertain to sex.

Your answers **WILL NOT** be seen by your parents, teachers, guidance officers, principals, or other school officials. The information that you provide to Vanessa Jones MSNA will be kept private.

**DO NOT** PUT YOUR NAME ON THE SURVEY
YOUR ANSWERS **WILL BE KEPT CONFIDENTIAL**
Pre-Test

Name of School __________________________________________
Initials ______________________

1. Sex: Male □, Female □

2. Date of Birth: _______ / _______ / _______
   month   day   year

3. What is your race or ethnic background?
   Please check one only.
   African..................... □
   Indian........................ □
   Chinese..................... □
   Syrian/Lebanese............. □
   Caucasian................... □
   Mixed........................ □
   Other.. What?______________ □

4. Who do you live with?
   I live with both of my parents......□
   I live with my mother only....... □
   I live with my father only........ □
   I live with my mother and....... □
       my stepfather
   I live with my father and....... □
       my stepmother
   I live with my grandparents...... □
   I live with my aunt or uncle...... □
   I live with other relatives/ people. □
5. What is your parent's highest level of education?  
   Elementary school .................. □ 1  
   High school ......................... □ 2  
   Some college ......................... □ 3  
   Trade school ........................ □ 4  
   BA Degree ........................... □ 5  
   Master's Degree ..................... □ 6  
   Doctoral degree ..................... □ 7  

6. What is your parent's occupation?  
   Professional/Management ........... □ 1  
   Business owner ....................... □ 2  
   Skilled trade ........................ □ 3  
   Unskilled trade ....................... □ 4  
   Clerical .............................. □ 5  
   Housewife ............................ □ 6  
   Unemployed .......................... □ 7  

7. What is your religion?  
   Anglican ............................ □ 1  
   Baptist .............................. □ 2  
   Hindu ............................... □ 3  
   Islam ............................... □ 4  
   Pentecostal .......................... □ 5  
   Presbyterian ......................... □ 6  
   Roman Catholic ...................... □ 7  
   Seventh-day Adventist .............. □ 8  
   None ................................. □ 9  
   Other ............................... □ 10  

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Loma Linda University  
Adventist Health Sciences Center  
Institutional Review Board  
Approved 08/08/05  
Chair R L Rigby
8. How many times a week do you attend church?
   - Once a week □
   - Twice a week □
   - A few times per month □
   - A few times per year □
   - Never □

Please check ONLY ONE space for each question.

9. AIDS is not at all serious, it is like having the common cold.
   - True □
   - False □
   - Don’t know □

10. AIDS is a disease which destroys the body’s natural immunity against infection.
    - True □
    - False □
    - Don’t know □

11. There is no cure for AIDS.
    - True □
    - False □
    - Don’t know □

12. AIDS is caused by a virus.
    - True □
    - False □
    - Don’t know □

13. AIDS is caused by the same virus that causes herpes.
    - True □
    - False □
    - Don’t know □

14. Symptoms of AIDS will usually appear within 12-24 hours after being infected.
    - True □
    - False □
    - Don’t know □

15. Receiving a transfusion, with blood infected by the AIDS virus, is one way to get the disease.
    - True □
    - False □
    - Don’t know □

16. You can get AIDS by sharing a needle with a drug abuser who has the disease.
    - True □
    - False □
    - Don’t know □

17. Having sexual intercourse with someone who has AIDS is one way of getting the disease.
    - True □
    - False □
    - Don’t know □

18. If you shake hands with someone who has AIDS you can get the disease.
    - True □
    - False □
    - Don’t know □

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Adventist Health Sciences Center
Institutional Review Board
Approved 12/9/85
Chair R. J. Rigby
Please check ONLY ONE space for each question.

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<tr>
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<tbody>
<tr>
<td>19. People like me do not get HIV infections.</td>
<td>Agree □</td>
<td>Mildly □</td>
<td>Mildly □</td>
</tr>
<tr>
<td>20. I am very healthy so my body can fight off an infection.</td>
<td>Agree □</td>
<td>Mildly □</td>
<td>Mildly □</td>
</tr>
<tr>
<td>21. I am too young to get an HIV infection</td>
<td>Agree □</td>
<td>Mildly □</td>
<td>Mildly □</td>
</tr>
<tr>
<td>22. I am not worried that I might get an HIV infection.</td>
<td>Agree □</td>
<td>Mildly □</td>
<td>Mildly □</td>
</tr>
<tr>
<td>23. People my age are too young to get an HIV infection.</td>
<td>Agree □</td>
<td>Mildly □</td>
<td>Mildly □</td>
</tr>
<tr>
<td>24. People my age do not get HIV infections.</td>
<td>Agree □</td>
<td>Mildly □</td>
<td>Mildly □</td>
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Please check ONLY ONE space for each question.

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<tbody>
<tr>
<td>25. I feel confident in my ability to put a condom on myself or my partner</td>
<td>Strongly □</td>
<td>Agree □</td>
<td>Undecided □</td>
</tr>
<tr>
<td>26. I feel confident that I could use a condom successfully.</td>
<td>Strongly □</td>
<td>Agree □</td>
<td>Undecided □</td>
</tr>
<tr>
<td>27. I feel confident that I could gracefully remove and dispose of a condom when we have intercourse.</td>
<td>Strongly □</td>
<td>Agree □</td>
<td>Undecided □</td>
</tr>
<tr>
<td>28. I feel confident in my ability to put on myself or my partner quickly.</td>
<td>Strongly □</td>
<td>Agree □</td>
<td>Undecided □</td>
</tr>
</tbody>
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_Approved_  

Chair R. L. Rapoport
29. I feel confident I could suggest using a condom without my partner feeling “diseased”.
   Strongly □, Agree □, Undecided □, Disagree □, Strongly □, disagree

30. I feel confident in my ability to discuss condom usage with any partner I might have.
   Strongly □, Agree □, Undecided □, Disagree □, Strongly □, disagree

31. I feel confident in my ability to discuss condoms with a new partner.
   Strongly □, Agree □, Undecided □, Disagree □, Strongly □, disagree

32. It is important for me not to have sexual intercourse before I get married.
   Strongly □, Disagree □, Neutral □, Agree □, Strongly □, agree

33. Having sexual intercourse should be viewed as just a normal and expected part of teenage dating relationships.
   Strongly □, Disagree □, Neutral □, Agree □, Strongly □, agree

34. It is against my values for me to have sexual intercourse while I am an unmarried teenager.
   Strongly □, Disagree □, Neutral □, Agree □, Strongly □, agree

35. A teen who has had sexual intercourse outside of marriage would be better off to stop having sexual intercourse and wait until marriage.
   Strongly □, Disagree □, Neutral □, Agree □, Strongly □, agree

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Approved 2001
# 58009 Chair R. Wegley

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36. Teens who have been dating the same person for a long time should be willing to go along and have sexual intercourse if their partner wants to. □ Strongly disagree □ Agree □ Neutral □ Strongly agree

37. The risk of AIDS and other sexually transmitted diseases is reason enough for teenagers to avoid sexual intercourse before they're married. □ Strongly disagree □ Agree □ Neutral □ Strongly agree

38. It is all right for teenagers to have sexual intercourse before they're married if they are in love. □ Strongly disagree □ Agree □ Neutral □ Strongly agree

39. Having sexual intercourse is something only married couples should do. □ Strongly disagree □ Agree □ Neutral □ Strongly agree

40. Even if I am physically mature, that doesn't mean I'm ready to have sex. □ Strongly disagree □ Agree □ Neutral □ Strongly agree

41. I think it is OK for kids my age to have sex. □ Strongly disagree □ Agree □ Neutral □ Strongly agree

42. People who do not want to have sexual intercourse should have the right to say "NO." □ Strongly disagree □ Agree □ Neutral □ Strongly agree

43. My sexual values and beliefs agree with those of my parent(s). □ Strongly disagree □ Agree □ Neutral □ Strongly agree

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Institutional Review Board
Approved 12/14/95

# 50002 Chair R L Riegler, MD
**Please check ONLY ONE space for each question.**

<table>
<thead>
<tr>
<th>Question</th>
<th>Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Disagree</th>
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<tbody>
<tr>
<td>44. AIDS is a health scare that I take very seriously.</td>
<td></td>
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<tr>
<td>45. There is a good chance I will get AIDS during the next five years.</td>
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<tr>
<td>46. In the future I will always be able to practice safe sex.</td>
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<tr>
<td>47. I know how to have safe sex.</td>
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<tr>
<td>48. A person who gets AIDS has a good chance of being cured.</td>
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<td>49. I plan on being very careful about who I have sex with.</td>
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<td>50. It doesn’t bother me if others make fun of me because I believe in having safe sex.</td>
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<tr>
<td>51. I have a high chance of getting AIDS because of my past history.</td>
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<td>52. There is still time for me to protect myself against AIDS.</td>
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<td>53. Using condoms would be a sexual turn off to me.</td>
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<tr>
<td>54. My partner will know I really care about him/her if I ask to use condoms.</td>
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<tr>
<td>55. Before I decide to have intercourse, I will make sure we have a condom.</td>
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<td>56. Carrying condoms with me every day is a habit I can keep.</td>
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<tr>
<td>57. AIDS is the scariest disease I know.</td>
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<tr>
<td>58. I will have safe sex even if people make fun of me for it.</td>
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</tbody>
</table>
59. I feel almost sure that I will get AIDS.

60. I am not doing anything now that is sexually unsafe.

Please check ONLY ONE space for each question.

61. Have you ever......
   .....talked to a girl you like, if you’re a boy?
   .....talked to a boy you like, if you’re a girl?
   Have you ever.....

62. .....kissed a girlfriend on the lips, if you’re a boy?
   .....kissed a boyfriend on the lips, if you’re a girl?

63. Have you ever.....
   .....tongue kissed (French kissed)?

64. Have you ever......
   .....touched a girl’s vagina, if you’re a boy?
   .....touched a boy’s penis, if you’re a girl?

65. Have you ever had sexual intercourse?
   (By sexual intercourse, I mean putting a penis in a vagina).

66. Up to this time, I have chosen not to have sexual intercourse.
Curriculum Outline

Session 1 - Basic facts about HIV
- What is HIV?
- What is AIDS?
- What is the difference between HIV and AIDS?
- Persons at risk of contracting HIV

Session 2 - How to decrease the spread of HIV?
- Abstinence – definition of abstinence and how this can help to decrease the spread of HIV
- Latex condoms versus non-latex condoms
- When should condoms be used?

Session 3 – Demonstration on how to put on a condom and assertiveness skills
- Use model to demonstrate how to put on and take off condoms correctly
- Saying no to unwanted sexual advances
- Use assertiveness skills to ask partner to use condoms

Session 4 – Return demonstration on how to put on a condom and assertiveness skills continued
- Provide an opportunity for students to have hands-on experience putting on and taking off a condom
- Small group activity which will allow students to use assertiveness skills on how to say NO to unwanted sexual advances
- Small group activity which will allow students to use assertiveness skills in asking their partner to use condoms
- Role playing activity on the effective and ineffective use of assertiveness skills
23rd March, 2007

Professor Naomi Modeste
Health Promotion and Education
Loma Linda University
CALIFORNIA.

Dear Professor Modeste,

Mr. Roland Maharaj forwarded your letter to me for my response to you. At present, the implementation of HIV/AIDS activities in the education system falls under the Division of Student Support Services, which I manage. We welcome research on HIV/AIDS and would be willing to facilitate your student’s research. Our Co-ordinator for HIV/AIDS is Ms. Patricia Downer and you can liaise with her at the above address to advance your plans.

Steve Williams
Manager, SSSD

MANAGER
STUDENT SUPPORT SERVICES
APPENDIX F: CORRESPONDENCE FROM PATRICIA DOWNER

MINISTRY OF EDUCATION
STUDENT SUPPORT SERVICES DIVISION
66 Pembroke Street
Port of Spain
Tel/Fax: 625-7935
627-1371

Ms. Naomi M Modeste, Dr. Ph
Professor and Chair
Health Promotion and Education
School of Public Health
Loma Linda University
California 92350
United States of America

Dear Ms. Modeste:

Re: Letter dated 26th March 2007

Thank you for choosing the Ministry of Education in this country to conduct research work. It is indeed an opportune time for such an undertaking. The Ministry of Education through the Student Support Services Division has embarked upon efforts to mainstream HIV/AIDS in the school and other Ministry of Education workplaces.

The Ministry, has so far established an HIV/AIDS Co-ordinating Unit with a Focal Point in the person of myself. We at the Ministry of Education are in the process of completing our HIV/AIDS Policy document with the expectation of embarking on full programming in the near future.

We recognise that there is a dearth of research on our two target populations i.e. students and staff of our workplace and we do welcome any effort to conduct research work among the aforementioned populations.
However, we do have a few stipulations:

1. Clarification as to exactly what is the scope of the research work that the student intends to undertake
2. A copy of the research proposal so that due study can be given to it to ensure that the process of study is consistent with the Ministry of Education policy guidelines, philosophy and vision
3. The requirement of the Ministry of Education in facilitating the whole process
4. Assurance of the shared ownership of the findings to inform further policy development and programming in relation to HIV/AIDS for the education sector

Thank you for your kind co-operation and again thank you for having considered the Ministry of Education for your student’s research project.

Yours truly,

Patricia Downer
HIV/AIDS Co-ordinator
Ministry of Education

cc: Steve Williams
Manager
Student Support Services Division
January 04, 2008

Dr. PH Naomi Modeste
Professor/Chair
Health Promotion and Education
Loma Linda University
Loma Linda
CALIFORNIA

Dear Dr. Modeste,

Re: Research Among Students of Schools in the East/West Corridor:

I wish to acknowledge receipt of your letter of November 06, 2007 and to convey covering approval for Ms Vanessa Jones, one of your doctoral students, to conduct her research in Trinidad.

In furtherance of her project, however, Ms Jones must liaise with the Director of School Supervision who can be contacted at telephone number 623-9335 and the School Supervisors of the three (3) educational districts - (i) Port of Spain and Environs, (ii) St George East and (iii) North East - from which the proposed sample will be drawn. This is necessary in order that greater detail is provided.

The Office of the Director of School Supervision can provide you with the telephone contact numbers for the educational districts.

We look forward to receiving the findings of this potentially beneficial work.

Yours Respectfully,

[Signature]

Peter O’Neil (Mr.)
Chief Education Officer

cc: DSS
    SS III, POS & Env. ED
    NEED
    St George East ED