COMPARING AN STD EDUCATION PROGRAM TO HIV SCREENING FOR AFRICAN AMERICAN ADOLESCENTS AT AN URBAN HIGH SCHOOL

Sharron Y. Hightower

JOANN MANTY, DNP, Faculty Mentor and Chair

JUDITH TRECHUK, PhD, Committee Member

APRIL SANCHEZ, MD, Committee Member

Patrick Robinson, PhD, Dean, School of Nursing and Health Sciences

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Department of Nursing

225 South 6th Street, Minneapolis, MN 55402

Capella University

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Abstract

Globally, human immunodeficiency virus (HIV), acquired immunodeficiency diseases (AIDS) and sexual transmitted diseases (STDs) are pressing issues that need evidenced-based interventions. Data show that African-American adolescents are a higher rate than any other ethnic group. To address this public health problem, it is imperative to incorporate strategies for adolescent HIV/STD education prevention programs. The purpose of this project was to examine the relationship between a HIV education intervention program and participation in HIV and STD screening with 132 African American students in grades 9 through 12 at an urban high school. The project employed quantitative data from the Coordinated School Services (CSS) pre-test and post-test that adhered to the Centers for Disease Control and Prevention (CDC) guidelines. Data supported the implementation and maintenance of the HIV STD education programs.

Keywords: African Americans students, HIV, AIDS, STDs, educational programs and interventions, Coordinated School Service, urban high school, prevention, testing

Comparing an STD Education Program to HIV Screening for African American Adolescents at an Urban High School

Introduction

The statistics regarding the prevalence of the human immunodeficiency virus (HIV) among Blacks are overwhelming. According to the Centers for Disease Control and Prevention (CDC), in 2012, the occurrence of HIV among African Americans in the United States was significantly higher than the prevalence of HIV among other racial groups. The CDC (2012a) reported:

> The rate of new HIV infections in African Americans appears to be 8 times that of whites based on population size. Gay and bisexual men account for most new infections among African Americans; young gay and bisexual men aged 13 to 24. Thus, African Americans are the ethnic group most affected by HIV. Compared with other races and ethnicities, African Americans account for a large proportion of new HIV infections, those living with HIV, and those ever diagnosed with Acquired Immune Deficiency Syndrome. (p. 1)

Furthermore, African American youth in the United States continue to be severely affected by HIV infection. In 2014, Black youth represent more than half (57%) of all new cases (CDC, 2014). There is a need to address a new society with effective HIV prevention education. The CDC explained that the world population cannot afford to lose the next generation to this devastating and stoppable disease. Black youth are notably overwhelmed by the HIV epidemic. One-third (34%) of novel infections involved young people aged 13 to 24 (CDC, 2014). Young African American men who have sex with men (MSM) and African American women are especially vulnerable because the rate of new diseases among young African American males

aged 13 to 24 is 11 times greater than the rate of new infections among young White males (CDC, 2014).

Compared with the total United States adolescent population, African American adolescents are at an increased risk for negative health, academic, and social outcomes because of the consequences of risky sexual behaviors. More than 65% of African American high school students report experiences with sexual intercourse, and African Americans have a substantial or suspiciously larger prevalence of certain conditions or behaviors across their life-spans compared with other ethnic populations (CDC, 2013a).

One of the most important missions of public health is to educate society. Catalanto, Gavin, and Markham (2010) noted several gains in sex education that may reduce risky behaviors. These programs can influence teen pregnancy, absenteeism and the exposure to STDs. Evidenced based sex education is not enough. Adolescents need entry to the health care system (Catalanto et al., 2010).

Black young people are more likely to contract HIV/AIDS than are any other youth group. Sales and DiClemente (2010) noted that African American youth are disproportionately affected. The study explained that young adults do not use protection and had been exposed to several partners. After conducting a systematic peer review of medical, public health, and social science journals, the authors found several sexual risk-reduction programs for young people in the United States. These sexual risk-reduction programs were devised to work in a variety of settings such as communities, schools, clinics, prisons, detention centers, or inpatient substance abuse treatment facilities (Sales & DiClemente, 2010).

Description of the Problem

The scale of the human immunodeficiency virus (HIV)/acquired immune deficiency syndrome (AIDS) epidemic has surpassed expectations since its discovery 20 years ago. According to Piot, Bartos, Ghys, and Schwartlander (2014), globally, in 2014, an approximated 36 million people were living with HIV, and some 20 million people had already died from HIV/AIDS. The answer to AIDS must be on a level commensurate with a global imperative. Since AIDS is at catastrophic proportions civil assemblage is paramount (Piot et al, 2014). AIDS changed the way in which epidemiologic, behavioral research, and health interventions were designed and implemented. As of 2008, 33.4 million adults and children were living with HIV/AIDS worldwide; half (15.7 million) were women, and 2.1 million were children (Merson, Black, & Mills, 2012).

In 2012, the CDC projection of recent HIV cases in the United States indicated that HIV continued to be an acute health issue; in 2010, a noted 47,500 people became ill with the disease. In America, the ethic group most affected are African Americans (CDC, 2012 a). New estimates from the CDC showed that African Americans continued to present with the greatest burden of HIV in America. Although African Americans represent an estimated 14% of the American population, they accounted for approximately 45% of new AIDS cases in 2010 (CDC, 2012 a). In 2010, by age13 to 24, 38% of new HIV infections among Black males were higher than the percentage of new infections among Hispanics (25%) and Whites (16%) in the same age group. In 2010, Black females accounted for 13% of all new HIV infections in the United States and women accounted for nearly 64% of all newly diagnosed infections (CDC, 2012 a). African Americans have the highest incidence of HIV than does any other ethnic group.

As adolescents continue to engage in risky behaviors, they are vulnerable to STI and HIV infections. Similarly, in a survey conducted by the local health department, adolescents from a State of Tennessee school district reported a higher incidence rate for STDs than the national adolescent rate. In 2012, the city's metropolitan statistical area (MSA) had the highest incidence of chlamydia, gonorrhea, and syphilis than did the MSAs in the nation.

In 2014, the HIV/AIDS incidence rate among the total population in the State of Tennessee was 47.7 per 100,000 persons (as stated in the board of education healthcare management plan for 2014). This rate was 2.8 times the HIV/AIDS incidence rate among the total population in Tennessee. Data from the board of education healthcare management plan for 2014 supported the importance of providing HIV prevention services to youth aged 15 to 19.

To address this public health problem, it is imperative to incorporate strategies and prevention programs that will search for new interventions to educate, protect, and teach youth about sexual transmitted diseases (Sales & DiClemente, 2010). According to Kirby (2002), implications for educational interventions include (a) condom use; (b) more centralized curriculum benefiting adolescents who are at higher risk of HIV infection, such as males who have unprotected sex with males; (c) unprotected heterosexual intercourse; and (d) drug use, which includes needle sharing. These programs can be conducted in a variety of settings such as schools, detention centers, communities, churches, youth serving agencies, housing projects, homeless shelters, family planning clinics, and STD clinics (Kirby, 2002). Educational interventions are needed to address the lack of knowledge or information about HIV/AIDS/ STDs and testing for these diseases.

Kirby (2002) contended that approximately 60 studies support several developments on the significance of these programs to decrease sexual risk-taking among adolescents. There is no

evidence to suggest that STI health education and prevention programs cause detriment. The studies concluded that the programs did not increase sexual activity. Although the programs did not increase sexual activity, not all programs can change adolescents' risk-taking behavior. Efforts are needed to educate parents and communities about effective programs that provide clinical strategies on condom use (Kirby, 2002).

Target Population

The target population consists of African-American students aged 14 to 18 in grades 9 to 12 at an urban high school. In all, 72% and 7% of the children who live in the city are African American and Hispanic/Latino, respectively (as stated in the board of education healthcare management plan for 2014). According to the board of education, the school population consists of 98% African American students, 1% Hispanic American students, 0.5% Asian American students and 0.5% European American students (as stated in the board of education healthcare management plan for 2014). In the school district, a high percentage of children living in poverty (94%) are African American or Hispanic/Latino (as stated in the board of education healthcare management plan for 2014). The district enrolls the majority of these low-income children.

Environment

With the exception of five schools, 209 schools are categorized as Title 1 schools with at least 40% poverty. Across the district, 94,376 of 112,025 students (84.25%) are economically disadvantaged (as stated in the board of education healthcare management plan for 2014). In the district, a high percentage of children who live in poverty (94%) are African American or Hispanic/Latino (as stated in the board of education healthcare management plan for 2014). The target school for this project is located in one of the poorest districts in the State of Tennessee (as stated in the board of education healthcare management plan for 2014). The local health

department identified the zip code of the school as the area with the greatest incidence of STDs, HIV, and AIDS. The district's student population and the city's child population are predominantly African American (85.8%) with a growing number of Hispanic/Latino students (5.9%) (as stated in the board of education healthcare management plan for 2014).

DiClemente, Crosby, and Wingood (2002) explained that misconceptions about preventing the sexual transmission of diseases are common in the United States. A recent analysis of more than 3,000 adolescents and adults who attended sexual transmitted infections (STI) clinics indicated that misconceptions included that 46% believed that douching may protect from sexually transmitted infections, 39% believed urinating after sex was protective, 20% believed oral contraception was protective, and 16% believed washing the genitals after sex was protective. The study indicated that more than 16,000 adolescents, approximately 32% of the females and 40% of the males who had ever used condoms believed the receptacle tip of the condom should be pulled tightly over the head of the penis (DiClemente et al., 2002).

Providing STD/HIV related prevention knowledge to adolescents has become a common practice. Interventions are designed to reduce risky behaviors and constitute a substantial amount of the information that is conveyed to students in school based STD/HIV prevention programs (DiClemente et al., 2002). Knowledge about STD/HIV is the basis for perceiving susceptibility and severity and guiding subsequent protective behaviors once the corresponding skills are acquired. The absence of accurate STD/HIV prevention knowledge or the existence of misconceptions about preventive behaviors may be counterproductive to preventive efforts that hinder the adoption of effective protective behavior (DiClemente et al., 2002). The authors noted that these gaps in understanding represent missed opportunities to motivate and guide adolescents' STD/HIV preventive behavior. The low proportions of correct responses for five of

the eight items linked to preventive behavior are especially concerning because misconceptions about any of these five items may lead to the adoption of sexual practices that may increase the risk of STD/HIV infection.

Purpose of the DNP Project

The purpose of this project was to examine African Americans at a school-based clinic that participated in a STD/HIV/AIDS educational program to increase their knowledge and address their risky sexual behavior and health preventions via HIV testing and screenings.

Significance of the DNP Project

The significance of the capstone project was to reduce the gaps concerning African American adolescents in the health care area of HIV/AIDS prevention knowledge. Nurses must empower students. The risk of acquiring a sexually transmitted infection (STI) is one of the most significant and immediate risks to the health and well-being of adolescents (DiClemente et al., 2002). From an economic and social standpoint, these infections continue to exact a consequential toll on adolescents and society. Perhaps the greatest concern is that STIs significantly increase adolescents' risk of acquiring HIV infection. Given the likelihood that many adolescents who become infected with HIV may remain unaware of their statuses for years, substantial opportunities for transmission and decrease in effective responses to therapy exist. The primary prevention of HIV infection among adolescents is an important public health priority (DiClemente et al., 2002).

Project Question

Are African American adolescents at an urban high school who participated in the HIV/AIDS educational intervention program more likely to take the HIV/AIDS screening test than are students who did not participate in the educational intervention program?

PICOT

P: (Target population or problem) - African American adolescents

I: (Intervention) - school-based educational STD (sexual transmitted disease) intervention program

C: (Comparison) – students participating in the educational intervention program to non-participants (students without education)

O: (Outcomes to be measured) – After participation in the educational program, students will volunteer for the HIV screening, become aware of their HIV status, and learn preventive strategies to avoid contracting STDs and HIV

T: (Timeframe) – 3 months (1 hour, 3 times a week)

How did you determine this was a need at your organization/site of project implementation?

The administrator of the clinic stated that most of the students' reasons for clinic visits involved sexual related issues and risky behaviors. Statistics from the local health department list the school as the zip code with increased incidence of HIV/AIDS.

National Health Education Standards

The National Health Education Standards comprise the information that adolescents should retain following a quality educational intervention. The written standards include performance indicators that provide a foundation for curriculum improvement, didactic

commitment, and the evaluation of student and skills in health education for pre-K through grade 12 students. The standards are resource guides that allow school districts to implement health education programs. School systems can utilize the HECAT to identify their curriculum needs. The board of education healthcare management plan for 2014 site employed these tools as resources. The HECAT provides guidance, appraisal tools, and resources for school-based health education curricula. (CDC: Division of Adolescent and School Health., 2012).

Stakeholders

As the study by Jenniskens et al. (2012) indicated, stakeholders understand health priories, diseases, gaps, and problems require a commitment from the total health care community. The stakeholders at the clinical site were receptive to the topic and supported HIV knowledge and empowerment. The stakeholders included the principal, the parents, the teachers, the students, the coordinated school health staff, the clinic site director, the nurse practitioners, the registered nurses, the medical assistants, the health department, the medical school staff, and a local hospital. The role of the stakeholders was to support the curriculum of the school system and the guidelines of the CDC, the HECAT, and the Michigan model. Collaborative communication among all stakeholders was an essential skill, which was required for success of the project.

Consensus on health priorities is in need of a more comprehensive health system strengthening, which requires a strong vision as to what the term means, joined with a clear strategy and commitment from national and international decision makers to achieve stated goals. Prospective studies and action research, which are accompanied by pilot programs, are recommended as deliberate strategies for health system strengthening (Jenniskens et. al., 2012). Stakeholders were involved in all aspects of the project implementation.

Implementation Plan for EBP

The President's Emergency Plan for AIDS Relief (PEPfAR) is the United States' global commitment to fighting HIV and AIDS. In under developed countries maternal and child issues are a priority. In a world of multiple competing priorities and a vast range of major- medical needs, PEPfAR has been successful in terms of benefits to maternal and child health in economically disadvantaged countries (Walensky & Kuritzkes, 2010).

Research must follow the connection between social determinants and HIV infection. Structural interventions concentrate on developing nations. Activities that provide structural interventions for HIV prevention contain: (a) legal responsibilities, (b) environmental changes, (c) preventing harmful social norms, (d) social and political change, and (e) involvement in communities (Adimora & Auerbach, 2010).

Many studies noted that adolescents engage in risky sexual behaviors, which disproportionally affect African American adolescents. Providing STD/HIV related prevention knowledge has become a common practice for interventions that are designed to reduce risky behaviors. Despite the response by the school and community, data indicate that significant gaps exist in teaching STD/HIV prevention knowledge (DiClemente et al., 2002). The following gaps affect HIV prevention for adolescents:

- Gaps in adolescents' motivations to practice safe sex. Adolescents underestimate their risk of HIV infection and have misconceptions about HIV/AIDS.
- Gaps in adolescents' confidence and skills about condom use. Adolescents lack the confidence and/or skills that are required to practice safer sex effectively (DiClemente et al., 2002).

The National Initiative to Improve Adolescent Health (NIIAH) is a collaborative effort to improve the health, safety, and well-being of teenagers and young people. The NIAH is led by two federal agencies: The Division of Adolescent and School Health and The Maternal and Child Health Bureau. The goals of the National Initiative follow: (a) to elevate national, state, and community focus on, and commitment to, the health, safety, positive development, and well-being of adolescents, young adults, and their families; (b) to increase access to quality health care and safety education; (c) to address the influence of social determinants on health, safety, and well-being; (d) to improve health and safety outcomes in such areas as mortality, and unintentional injury; and (e) to eliminate disparities in health, safety, and well-being among adolescents and young adults (CDC, 2012b). The 2013 Tennessee Youth Risk behavior survey indicated some possible solutions for high school students include better health education, more comprehensive health services, supportive policies, and more family involvement. Parental involvement in Tennessee was 33% (as stated in the board of education healthcare management plan for 2014).

Literature Review

Augustine (2010) explained that youth of color are at disproportionate risks of negative sexual health outcomes. The percentage of high school students who reported they had sexual intercourse with four or more people during their life was highest among Black students (28.6%) and American Indian/Alaskan Native students (23.4%) (Augustine, 2010). Programs may be effective for youth of color if they address the following issues (a) promote reproductive justice; (b) promote gender-specific interventions; (c) support structural interventions; (d) use peer influence within social networks; (e) promote partner reduction, monogamy, and partner communication; and (f) tailor programs to communities served (Augustine, 2010). Researchers

continue to identify cultural competency as an important element in creating programs for racial/ethnic and sexual minority youth. The program planners must identify evaluated sexual health programs, which take into account the cultural, community, and social norms of youth of color and address relevant information in a culturally appropriate manner (Augustine, 2010).

In a systematic review of school-based sexual health education programs in Nigeria, Amaugo, Papadopoulos, Ochieng, and Ali (2014) noted that in Nigeria, HIV/AIDS is a significant public health threat. To combat this issue, school-based sexual health education has become a vital resource. The research studies implemented provided data that exhibited changes in outcomes following the educational programs. The positive changes included increased knowledge, healthier attitudes and safer sexual health behaviors.

The Healthy People 2020 (2015) evidence-based resources were identified by subject matter experts at the U.S. Department of Health and Human Resources. The evidence-based tools have been measured and classified according to a set of select criteria. The criteria noted gender, race, and ethnicity inequalities in new HIV infections. In all, 45% of new HIV viruses occur in African Americans, 35% in European Americans, and 17% in Hispanics. Improving access to quality health care for people extremely affected by HIV, such as populations of color and gay and bisexual men, is a significant public health program for HIV prevention. Strategies to treat HIV/AIDS include lowering new HIV infections, increasing HIV testing, combating HIV risk, and increasing access to care and elaborating on health outcomes for persons living with HIV (Healthy People 2020, 2015).

Haberland (2015) noted that curriculum-based sexuality and HIV education is the backbone of strategies to prevent STIs, HIV, and unwanted pregnancy among adolescents. The inclusion criteria used 22 interventions: 10 addressed gender or power, and 12 did not. The

programs that looked at gender or power were five times more effective than those that did not. Evidence linked abuse, disparities in sexual relationships, and partner violence with harmful sexual and reproductive health outcomes. The study concluded that gender and influence should be addressed and considered a key characteristic of effective sexuality and HIV education programs (Haberland, 2015).

Prado, Lightfoot, and Brown (2013) contended that ethnic minority youth continued to be extremely affected by the HIV epidemic. Past HIV preventive interventions have been promising, but large-scale interventions are needed. Social experts such as psychologists can have a vital impact on prevention strategies (Prado et al., 2013).

Gustafson (2005) noted that school-based health centers (SBHCs) were filling a gap in health care needs for many children in the United States. These centers provide services to an underserved population of adolescent children by focusing on provision of health care services and the promotion of health through population-based education programs. SBHC schools are finding that physical, mental, and dental health issues are being addressed during the school day. SBHC's mission is to contribute to the health of children by providing access to primary health care and preventive health care services.

Rachlis et al. (2013) explained that community-based care (CBC) can increase access to key services for people affected by HIV/AIDS through the mobilization of community interests and resources and their integration with formal health structures. According to Taft and Nanna (2008), nurses should understand health policy and be better prepared to engage in influencing policy. Nurses are affected by ethical decisions on the local, state, national, and international levels. Being aware of ethical decisions may provide opportunities for advancing nursing practice, education, research, and positive patient outcomes.

Project Design/Description and Methods

The project received approval from Capella University's Institutional Review Board. Implementation of the project began in 2014 from October to December. After the adolescents and their parents signed the consent forms, the students were trained for one hour, three times a week for three months. The main stakeholders remained involved in all aspects of the study. Students in grades 9 through 12 received a pre-test and post-test in their health, health sciences, and physical education classes. Students in these classes received the education intervention component. The entire staff in the school-based health clinic assisted and accommodated the health department with student HIV/STD screening. All students who volunteered to be tested for HIV/STD received a questionnaire from the local health department. Depending on collected data from the school, the school clinic, and the health department, more students may participate in the program, which may result in a decrease in risky behavior. Students' pre-test and post-test scores/results were analyzed using the Data-Link program. This program is used by the district to analyze the students' test scores and align the analysis with the curriculum and common core standards. This descriptive cross-sectional project used an eight item questionnaire developed by the CDC and modified by the school district's Coordinated School Health Department, which tests students' knowledge of STD/HIV/AIDS. In this project, adolescents in grades 9 through 12 answered an 8-item questionnaire before and after the 10-week educational intervention and were asked to volunteer for the HIV/AIDS screening test after the educational intervention. The health department performed the screening tests in the school-based clinic. The testing coincided with World AIDS Day in December 2014 (see Appendix A).

Project Intervention

The intervention provided to the students was an educational program on HIV/AIDS. It was a collaborative project between the Department of Coordinated School Health, the high school, the health department, the medical school, and a local hospital. The duration of the intervention was 10 weeks (3 days per week). Strategies included seminars, lectures, role-play, simulations, guest speakers, videos, and web sites. After the intervention, the students were given the opportunity to be tested for STDS and HIV/AIDS. The goal of the intervention was to empower students with information about STDs and HIV/AIDS and provide the option to take the STD/HIV/AIDS screening test. The theme for World AIDS Day is Know Now, Live Longer. The district, the health department, and community-based organizations committed to coordinating a local response to help stop the AIDS epidemic among youth (as stated in the board of education healthcare management plan for 2014).

Data Analysis

The sample consisted of African American adolescents, aged 14 to 19 in grades 9 through 12 who attended an inner-city high school with a total population of 483 students. A final sample of 132 student questionnaires was obtained. The students were enrolled in health and wellness classes, physical education classes, and health science classes. Three teachers taught the STD/AIDS curriculum. According to the district's demographics, the school is an inner city college preparatory school with an ethnic composition of 98% African Americans and 2% Latino/Spanish Americans. Select students were enrolled in the college prep program (as stated in the board of education healthcare management plan for 2014).

The district employs the Data-Link program, which was developed by the Apperson Educational System to help students and teachers by providing important data on student

assessment. The Data-Link program was employed for the assessment analysis of the pre-test and post-test answers. The population had a sample size of 132 students. Their mean age was 15.3 +/- 1.52. The sample consisted of 69% females and 31% males. One hundred percent of the students were African Americans including 52 tenth graders, 47 eleventh graders, 21 twelfth graders, and 13 ninth graders. The majority of the students were age 16 (37.1%) followed by age 15 (34.1%). See Tables 1 and 2.

The program provided an analysis of the pre-test and post-test items, the pre-test and post-test detailed items, and the pre-test and post-test class proficiency. The reliability or validity of the instrument was not confirmed. Permission to use the instrument was obtained in a scheduled meeting with the Division of Coordinated School Health in June 2014.

After approval for the project was obtained from the Institutional Review Board, a meeting was scheduled with the high school principal to obtain permission and explain the purpose and nature of the project. After the principal agreed to implement the project, students were asked to volunteer for the project. Informed consent was obtained from the teachers, parents, and students. During registration for the 2014-2015 school year, forms were distributed to parents and students for completion. Students were allowed one week to return the forms. Each participant was assigned a code number to ensure anonymity. The students completed their questionnaires in health and wellness, physical education, and health science classes where teachers monitored the questionnaires. Upon completion, 132 forms were placed in a sealed envelope and used for statistical analysis.

Data indicated teens are concerned about their health. Nurses must understand the factors that influence children and develop health promotion interventions to address the increasing number of HIV/AIDS cases among African American youth. The post-test scores for each

question were higher than the pre-test scores for each question. All students who participated in the educational intervention volunteered for the STD/HIV/AIDS screening test. In all, 168 students participated in the screening, which included 132 students who participated in the program and 36 non-participants. Any student could volunteer for the screening test. The students did not have to be enrolled in the selected classes to be tested. Thirty-six students (21%) who were not in the selected classes volunteered to be tested. Flyers were distributed and advertised around the school to inform students about the test date, and the testing date was announced over the public address system for a month prior to the testing. Two cases of chlamydia and zero cases of HIV virus, gonorrhea, or syphilis were observed (as stated in the board of education healthcare management plan for 2014). All students were given their results in confidence. The students with positive results were notified and provided treatment. The analysis of the Data-Link pre-test and post-test for the eight questions are shown in Table 3.

The post-test results showed an increase in the percentage of the 8 questions that were answered correctly. In the pre-test questions, 6, 7, and 8 were the most missed questions. The scores doubled in the post-test for question 6 and almost doubled for questions 7 and 8. The most missed question was 7, which asked, “How many people under 25 get HIV infection each year?” (see Appendix B and C).

Summary

Adolescence is a stressful and trying developmental time. Youth are balancing identity, sexuality, and social responsibilities. This period for the adolescents is a challenge for their families, their health care providers, and their community. The project examined African American adolescents in grades 9 through12 at an urban high school with a school-based clinic. The project compared the HIV screening tests for students who participated in the educational

intervention program and students who volunteered to participate in the STD/HIV/AIDS screening test. Twenty-one percent of the students who participated in the STD/HIV/AIDS screening test were not in the education intervention program. Three-hundred-fifty-one students could have taken the test. Of the 351students who were not in the education intervention, 36 (10.3%) students took the test, and 89.7% could have taken the test. The project attempted to address risky sexual behaviors and empower youth by providing information via an educational program with the intention that the students would volunteer for the STD/HIV/AIDS screening test after the educational intervention. All student participants took the screening tests. The students who participated in the education intervention had a higher percentage of correct responses than did the students who did not participate. The eight item post-test questionnaire showed an increase in knowledge of content in all questions. A direct correlation was observed between the students who participated in the education intervention and the students who correctly responded to the test questions. Students are concerned about their health when they are empowered with knowledge about the STDs, HIV, and AIDs and preventive efforts.

A limitation of the project was the need for better communication and advertising. All teachers were encouraged to make information available to students. Teachers and health care professionals must reach common ground on health care issues to satisfy the health needs of adolescents effectively.

Factors that could impede prevention programs and projects are unavailable funds. In addition, changing people's health behavior and addressing cultural beliefs have been tough challenges as they pertain to prevention efforts. Encouraging safe sex, contraception use, and abstaining from cultural norms may be seen as changing roles for men and women; moreover, these behaviors may upset religious beliefs in some societies (Merson et al., 2012).

The objectives are to reduce HIV infection rates and establish effective vaccines. It is critical to focus on behavioral prevention efforts that are based on the best available scientific evidence. The Institute of Medicine has called for evidence-based decision making across all public health sectors. In addition, the Institute of Medicine recommended that HIV-prevention efforts use interventions of proven efficacy to avert as many new infections as possible. In accordance with the Institute of Medicine, the CDC emphasized evidence-based behavioral interventions as part of its national HIV-prevention strategic plan and recommended that health departments and community-based organizations implement evidence-based behavioral interventions. Ethical challenges include societal influences, racial disparities, negative outcomes, and policies. A collaborative effort is needed, which engages multiple partners. Providing STD/HIV related prevention knowledge has been a common practice for interventions designed to reduce risk behaviors (CDC, 2012 b).

Education is promoted as a viable means to change behavior that will lead to positive patient outcomes. Schmidt and Brown (2011) concluded that considerations should be given to possible extraneous variables. Choosing outcomes that appropriately fit an innovation is vital. Outcomes should be considered for their significance and scope and should be measured using specific quantitative criteria, called indicators. The four major factors to consider are patient populations, organizational priorities, mandated reporting, and team selection.

Conclusions

Local school districts have total discretion over the best approach to teach abstinence and contraception. Tennessee has a statewide policy regarding sexuality and sex education with parental permission. In the area of sexuality and sex education, the CDC reported some adolescents may remain unwilling to embrace behavior to reduce risk-taking. Therefore,

collaboration with parents, health officials, and school systems should provide AIDS education programs that focus on behavior (CDC, 2013c).

Providing STD/HIV/AIDS-related prevention knowledge to adolescents should be a common practice. Interventions designed to reduce risky behaviors need to be conveyed to students in school-based STD/HIV prevention programs (DiClemente et al., 2002). Resources that can provide guidance for educators and health care professionals are the National Education Standards and the HECAT. Community members must participate in the health of their community so that positive patient outcomes can be realized. Community-directed interventions enhance health care delivery (Katabarwa et al., 2005).

Health education is a critical component of a school's coordinated approach to improve the health of students. A health education curriculum is the primary means by which schools deliver health education (CDC, 2012b). Prevention education may be the single most powerful tool against HIV/AIDS transmission. . The purpose of this project was to examine the relationship between a HIV and STD education intervention program and participation in HIV and STD screening. This project evaluated an educational intervention program with 132 African American students in grades 9 through 12 at an urban high school. Students who attended HIV/ STD education obtained HIV/STD testing at a higher rate than those who did not attend the education sessions. Data supported the implementation and maintenance of the HIV/STD education programs. Health care professionals must be committed to backing projects that are promising for decreasing adolescent risk-taking behaviors concerning unsafe sex through well-designed interventions (Kirby, 2002).

References

Adimora, A. A., & Auerbach, J. D. (2010). Structural interventions for HIV prevention in the United States. *Journal of Acquired Immune Deficiency Syndromes (1999)*, *55*, S132–S135. doi:10.1097/QAI.0b013e3181fbcb38

Amaugo, L. G., Papadopoulos, C., Ochieng, B. M., & Ali, N. (2014). The effectiveness of HIV/AIDS school-based sexual health education programmes in Nigeria: A systematic review. *Health Education Research, 29*, 633-648.doi:10.1093/her/cyu002

Augustine, J. (2010). *Youth of color: At disproportionate risk of negative sexual health outcomes.* Retrieved from http://www.advocatesforyouth.org

Catalano, R., Gavin, L., & Markham, C. (2010). Future directions for positive youth development as a strategy to promote adolescent sexual and reproductive health. *Journal of Adolescent Health, 46*(3, Suppl), S92-S96. doi:10.1016/j.jadohealth.2009.12.026

CDC: Division of Adolescent and School Health. (2012). *Health education curriculum analysis tool.* Retrieved from http://www.cdc.gov.

Centers for Disease Control and Prevention. (2012a). *Adolescent health.* Retrieved from http://www.cdc.gov/adolescenthealth

Centers for Disease Control and Prevention. (2012b). *National initiative to improve adolescent health.* Retrieved from http://www.cdc.gov/healthyyouth/adolescenthealth/nationalinitiative/index.htm

Centers for Disease Control and Prevention. (2013a). *Black or African American populations*. Retrieved from http://www.cdc.gov/minorityhealth/populations/REMP/black.html

Centers for Disease Control and Prevention. (2013b). *Characteristics of an effective health education curriculum.* Retrieved from http://www.cdc.gov/healthyouth

Centers for Disease Control and Prevention. (2013c). *Tennessee youth risk behavior survey.* Retrieved from http://www.cdc.gov/healthyouth

Centers for Disease Control and Prevention. (2014). *Healthy and responsible relationships.* Retrieved from http://www.cdc.gov.

DiClemente, T., Crosby, R., & Wingood, G. (2002). Education for HIV/AIDS prevention: HIV prevention for adolescents: Identified gaps and emerging approaches. *Prospects, 32*, 136-157.

Gustafson, E. (2005). History and overview of school-based health concerns in the U.S. *The Nursing Clinics of North America, 40*, 595-606.

Haberland, N. A. (2015). The case for addressing gender and power in sexuality and HIV education: A comprehensive review of evaluation studies. *International Perspectives on Sexual and Reproductive Health, 41*(1), 31-42. Retrieved from http://doi.org/10.1363/4103115.

HIV. (2015, July). Retrieved from http://www. healthypeople.gov/2020/topics-objectives/topic/hiv/objectives.

Jenniskens, F., Tiendrebeogo, G., Coolen, A., Blok, L., Kouanda, S., Sataru, F., & Plummer, D. (2012). How countries cope with competing demands and expectations: Perspectives of different stakeholders on priority setting and resource allocation for health in the era of HIV and AIDS. *BMC Public Health*, *12*(1), 1071-1077. Retrieved from http://www.bmcpublichealth.biomedcentral.com

Katabarwa, N. M., Habomugisha, P., Richards, F. O., & Hopkins, D. (2005). Community directed interventions strategy enhances efficient and effective integration of health care delivery and development activities in rural disadvantaged communities of Uganda. *Annals of Tropical Medicine and Parasitology, 10*, 312–321.

Kirby, D. (2002). *HIV transmission and prevention in adolescents. HIV InSite*. Retrieved from http://www.hivinsite.ucsf.edu

Merson, M. H., Black, R. E., & Mills, A. J. (2012). *Global health: Diseases, programs, systems, and policies* (3rd ed.). Sudbury, MA: Jones & Bartlett Learning.

Piot, P., Bartos, M., Ghys, N., & Schwartlander, W. (2014). *The global impact of HIV/AIDS.* Retrieved from http://www.nature.com/nature/journal doi:10.1038/35073639

Prado, G., Lightfoot, M., & Brown, C. H. (2013). Macro-level approaches to HIV prevention among ethnic minority youth: State of the science, opportunities, and challenges. *The American Psychologist*, *68*, 286-299. doi:10.1037/a0032917.

Rachlis, B., Sodhi, S., Burciul, B., Orbinski, J., Cheng, A. H., & Cole, D. (2013). A taxonomy for community-based care programs focused on HIV/AIDS prevention, treatment, and care in resource-poor settings. *Global Health Action, 6*, 1-16. doi:10.3042/gha.v6i0.20548.

Sales, J., & DiClemente, R. (2010). *Adolescent STI/HIV prevention programs: What works for teens?* Retrieved from http://www.actforyouth.net/resources/rf/rf_sti_0510.pd

Schmidt, N. A., & Brown, J. M. (2011). *Evidence-based practice for nurses: Appraisal and application of research* (2nd ed.). Sudbury, MA: Jones & Bartlett.

Taft, S., & Nanna, K. (2008). What are the sources of health policy that influence nursing practice? *Policy Politics Nursing Practice, 9,* 274-287. doi:10.1177/1527154408319287

Tumusiime, P., Gonani A., Walker O., Asbu, E., Z., & Awases, M. (2012). *Health systems in sub-Saharan Africa: What is their status and role in meeting the health Millennium Development Goals?* Retrieved from http://www.aho.afro.who.int/en/ahm/issue/14/reports/health-systems-sub-saharan-africa-what-their-status-and-role-meeting-health

Walensky, R. P., & Kuritzkes, D. R. (2010). The impact of the President's emergency plan for AIDS relief (PEPfAR) beyond HIV and why it remains essential. *Clinical Infectious Diseases, 50*, 272-275. Retrieved from http://cid.oxfordjournals.org.

Table 1

Age Distribution of Students' Sample (n = 132)

Age	Number	Percent of Sample
14	2	1.5%
15	45	34.1%
16	49	37.1%
17	22	16.6%
18	10	7.6%
19	4	3%

Table 2

Grade Designation of Students in Sample (n = 132)

Grade	Number	Percent of Sample
9th	13	9.8%
10th	52	41%
11th	47	36%
12th	21	16%

Table 3

Data-Link Pre-test and Post-test

Questions	Pre-Test Results	Post-Test Results
Question 1	Pre-test: 81%	Post-test: 84.85%
Question 2	Pre-test: 41.67%	Post-test: 60.61%
Question 3	Pre-test: 80.12%	Post-test: 90.15%
Question 4	Pre-test: 31.06%	Post-test: 87.12%
Question 5	Pre-test: 67.42%	Post-test: 71.97%
Question 6	Pre-test: 17.42%	Post-test: 36.36%
Question 7	Pre-test: 25%	Post-test: 45.45%
Question 8	Pre-test: 36.36%	Post-test: 53.03%

Appendix A: Questions 1-8 (PRE-TEST & POST-TEST)

Understanding HIV and AIDS

Pre-Test

Student ID #_____

Date_____

1. HIV causes
   A. Syphilis
   B. AIDS
   C. The common cold
   D. Pneumonia
2. HIV is transmitted by
   A. Toilet seats and mosquitoes
   B. Tears, urine, and sweat
   C. Kissing and shaking hands
   D. Blood and sex fluids
3. Which statement is true?
   A. Anyone can be infected with HIV
   B. Only drug users get HIV
   C. People under 25 don't get HIV
   D. People in small towns rarely get HIV
4. Medications to treat HIV
   A. Can cure the disease
   B. Slow down the disease
   C. Don't have much effect
   D. Only work for men
5. HIV attacks the
   A. Heart
   B. Sex organs
   C. Immune System
   D. Lungs
6. An HIV test shows that you have
   A. AIDS
   B. HIV
   C. A healthy immune system
   D. Healthy blood
7. How many people under 25 get HIV infection each year?
   A. Very few
   B. About a quarter of new cases
   C. About half of all new cases
   D. About three-quarters of all new cases
8. Which activities can spread HIV?
   A. Unprotected sex, sharing needles, breast feeding a baby
   B. Eating in a restaurant where people with HIV work
   C. Playing sports with a person with HIV
   D. Sneezing, coughing, and spitting

Appendix B: Pre-test Data Analysis

Exam Item Analysis Report									Exams Graded: 132	
Instructor: Teacher A, B, C			Total Possible		8			Class Average:	3.67-48.39%	
Exam Name: Pre-Test			Highest Score:		8-100.00%			Class Median:	3.0-37.50%	
Exam Date: Tues, Oct 21, 2014			Lowest Score:		0-0.00%			KR20:	0.644	
Correct answers are shown in bold and italics						Blanks	Multiples	Point Biserial	Correct	Percent Incorrect
Q1	A (10,7.6%)	***B (107,81.1%)***	C (2,1.5%)	D (8,6.1%)	E (0,0.0%)	√		0.18	107,81.1%	18.9%
Q2	A (4,3.0%)	B (0,0.0%)	C (2,1.5%)	***D (55,41.7%)***	E (0,0.0%)	√		0.58	55,41.7%	58.3%
Q3	***A (115,87.1%)***	B (5,3.8%)	C (4,3.0%)	D (1,0.8%)	E (0,0.0%)	√		0.25	115,87.1%	12.9%
Q4	A (11,8.3%)	***B (41,31.1%)***	C (4,3.0%)	D (3,2.3%)	E (0,0.0%)	√		0.56	41,31.1%	68.9%
Q5	A (2,1.5%)	B (33,25.0%)	***C (89,67.4%)***	D (2,1.5%)	E (0,0.0%)	√	√	0.06	89,67.4%	32.6%
Q6	A (26,19.7%)	***B (23,17.4%)***	C (7,5.3%)	D (4,3.0%)	E (0,0.0%)	√		0.47	23,17.4%	82.6%
Q7	A (7,5.3%)	***B (33,25.0%)***	C (50,37.9%)	D (35,26.5%)	E (0,0.0%)	√		0.02	33,25.0%	75.0%
Q8	***A (48,36.4%)***	B (3,2.3%)	C (3,2.3%)	D (5,3.8%)	E (0,0.0%)	√		0.64	48,36.4%	63.6%

Appendix C. Post-test Analysis Report

Exam Item Analysis Report									**Exam Graded: 132**	
Instructor: Teachers A, B, C		Total Possible:		8			Class Average:		4.86-60.80%	
Exam Name: Post-Test		Highest Score:		8-100.00%			Class Median:		5.0-62.50%	
Exam Date, Tues, Feb 3, 2015		Lowest Score:		2-25.00%			KR20:		0.544	
Correct answers are shown in bold and italics						Blanks	Multiples	Point Biserial	Correct	Percent Correct
Q1	A (9,6.8%)	***B (112,84.8%)***	C (2,1.5%)	R (8,6.1%)	E (0,0.0%)	√		0.07	112,84.8 %	15.2%
Q2	A (4,3.0%)	B (0.00%)	C (2,1.5%)	***D (80, 60.6%)***	E (0,0.00%)	√		0.58	80,60.6%	39.4%
Q3	***A (119,90.2%)***	B (58,43.9%)	C (4,3.0%)	D (1,0.8%)	E (0,0.0%)	√		-0.02	119,90.2 %	9.8%
Q4	A (10,7.6%)	***B (58,43.9%)***	C (4,3.0%)	D (3,2.3%)	E (0,0.0%)	√		0.51	58,43.9%	56.1%
Q5	A (2,1.5%)	B (32,24.2%)	***C (95,72.0%)***	D (1,0.8%)	E (0,0.0%)	√		-0.03	95,72%	28.0%
Q6	A (20,15.2%)	***B (48,36.4%)***	C (5,3.8%)	D (2,1.5%)	E (0,0.0%)	√		0.33	48,36.4%	63.6%
Q7	A (4,3.0%)	***B (60,45.5%)***	C (43,32.6%)	D (24,18.2%)	E (0,0.0%)	√		0.05	60,45.5%	54.5%
Q8	***A (70,53.0%)***	B (3,2.3%)	C 3,2.3%)	D (5,3.8%)	E (0,0.0%)	√		0.50	70,53.0%	47.0%