Exploration and Critical Analysis of Evaluation of HIV/AIDS Prevention Program in New York City

(Evaluation of HIV/AIDS Prevention Program)

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Abstract:
HIV/ AIDS is still one of the major public health crises in the United States despite the declining rates and the rapid breakthroughs in the recent times. The transmission and devastating effects of HIV/AIDS and other Sexually Transmitted Diseases can be prevented through practical and cost effective means to save lives. The purpose of this study is to evaluate the effectiveness of condom distribution program as a preventive measure to stop the spread of HIV/AIDS among young Black male 13-24 in New York City. In New York City, young Black males ages 13-24 are particularly hard hit by the HIV/AIDS epidemic. Studies have shown that consistent condom use among this population will reduce the spread of HIV and STDs (Renaud et al., 2009).

Keywords: *HIV Intervention, Condom, HIV Program Evaluation, HIV/AIDS Disease, HIV/AIDS Epidemic*

1. Introduction

The HIV epidemic in the United States continues to be a major public health crisis. An estimated 1.1 million Americans are living with HIV, and 1 out of 5 people with HIV do not know they have it (Healthy people.gov). HIV continues to spread, leading to about 56,000 new HIV infections each year. Further, New York City (NYC) has the largest epidemic of human immunodeficiency virus (HIV) in the U.S., with nearly 100,000 people living with the virus (Renaud, Bocour, Irvine, Bernstein, Begier, Sepkowitz,….& Weglein, 2009). Among racial and ethnic minority populations in the United States, HIV/AIDS is particularly devastating as Blacks and Hispanics account for 57% of all cases reported to the Center for Disease Control and Prevention since the beginning of the epidemic (Painter, Ngalame, Lucas, Lauby, & Herbst, 2010). Condoms are a practical, efficacious, and cost-effective means to reduce the transmission of HIV and other sexually transmitted diseases (STDs). Distribution and social marketing of condoms

have been estimated to save millions of dollars because of infections averted (Renaud et al., 2009, p. 482). The purpose of this study is to evaluate the effectiveness of condom distribution program as a preventive measure to stop the spread of HIV/AIDS among young Black male 13-24 in New York City.

2. Problem Background

HIV disease is still among the leading five causes of deaths among New Yorkers. The HIV/AIDS pandemic has had a particularly devastating effect on young people throughout the world. Those aged 15 to 24 years account for half of all new HIV infections ((Jemmont, Jemmont, Fong & Morales, 2010). Racial and ethnic minority populations, particularly, Blacks and Hispanics, are disproportionately represented in the HIV/AIDS epidemic. According to Painter et al (2010), Blacks in particular, have borne the burden of the epidemic since the late 1980s, and have accounted for nearly half of all HIV/AIDS cases diagnosed since 2000. The alarming data indicate that an urgent need for innovative and effective approaches to prevent HIV infection in this population (Painter et al., 2010). In New York City, young Black males ages 13-24 are particularly hard hit by the HIV/AIDS epidemic. Further, each year, 2.5 to 3 million adolescents are infected with sexually transmitted diseases (Stryker, 1994). Although adolescents account for less than 1% of AIDS cases nationally, 21% of all individuals diagnosed with human immunodeficiency virus (Stryker, 1994). In order to reduce the rate of HIV and STDs among this population, the New York City Department of Education in partnership with the Department of Health and Social Services, initiated the school-based condom distribution program in New York City public schools.

Studies have shown that consistent condom use among this population will reduce the spread of HIV and DTDs (Renaud et al., 2009). However, despite rising rates of sexually transmitted infections (STIs) and unintended pregnancy, school-based sexuality education remains controversial in the United States relative to other industrialized nations. Large, national studies have shown that most parents in the United States favor sexuality education approaches in schools that provide scientifically and medically accurate information on sexual health issues, including condom use; still, a minority of opponents has claimed that discussing condom use in and of itself will increase risky sexual behaviors (Dodge, Reece & Herbenick, 2009).

3. Literature Review

The review of the literature includes searches of relevant documents and peer-reviewed journals and articles in the University of Phoenix library. Further, books, governmental reports and articles on evaluation on HIV/AIDS prevention programs were also reviewed for comparison. Key words such as HIV, AIDS, STDs, condoms, prevention, education and effectiveness were searched. Different types of evaluation models were reviewed to determine which one would provide the researchers best result in evaluating the effectiveness of condom use in preventing HIV/AIDS among young Black males. Based on review of various types of evaluation models, researchers decided to use logic model to evaluate the effectiveness of condom use as a preventive strategy to reduce the incidence of HIV/AIDS among Black male ages 13-24. According to Healey & Zimmerman (2010), the logic model allows the evaluator to begin with program goals and go forward to outcomes or to reverse the process and go backwards from outcome to goals in order to discover the reasons for success or failure of the effort. If the initiative failed, it becomes easier to discover the reasons for failure, and if the program was successful, the initiative needs to be shared with others and written as a best practice for future use by other health promotion programs.

4. Theoretical Framework

At this juncture, the specific program under consideration in this study is sexuality education on the use of condoms to prevent HIV and sexually transmitted diseases (STDs) among young Black male, ages 13-24

in New York City Public schools. The evaluation theory behind similar programs is Effect theory. According to Issel (2009), the effect theory consists of the explanations of how the programmatic interventions affect the causal factors and moderating factors of the health problem and describes the relationship between the programmatic interventions and the desired immediate and long-term outcomes for program participants. The effect theory consists of the following three theories namely, causal, intervention and impact.

4.1 Causal Theory

Factors are those causal elements that influence whether the health problem will manifest itself, given the presence of the required antecedents. Depending on the health problem, causal factors might be exposure to the health hazard, susceptibility, or the virulence of the hazard (Issel, 2009). Further, there are four key elements to be considered in developing causal theory. They include the existing factors, causes, mediating factors and moderating factors.

4.2 Intervention Theory

According to Issel, (2009), "interventions are those actions that are done intentionally to have a direct effect on persons with the health problem."(p.181). In other words, interventions are the verbs that tell what is being done to make a change in program recipients. In the case of the program under study, interventions include the hours of counseling and video demonstration on how to use condoms properly, availability of free condom in the nurse station or school cafeteria, and training of peer counselors who teaches other students on the need to engage in safer sex practices. Interventions are the heart of all health programs, because without intervention, no program can be implemented and, hence successfully evaluated. It is also note worthy to use interventions that evidence-based in scientific knowledge. As stated above, consistent condom use among adolescents have been proven to reduce the number of unwanted pregnancies as well as reduce the incidence of STDs (Stryker, 1994).

4.3 Impact Theory

Program planners usually use impact and outcomes interchangeably. However, the best way to distinguish between impact and outcome is that while outcome refers to immediate effect
of the intervention on the target population, impact refers to long-term or cumulative effects attributable in part to the programmatic intervention (Issel, 2009). The purpose of the interventions among other things is to change behaviors, attitudes, knowledge and perceptions of the target population. It is important to note that behaviors are hard to change. However, a program planner can measure the impact of an intervention based on the reduction in the number of who are treated for STDs as well as reduction in unwanted or unplanned pregnancies among the target population.

5. Program Evaluation: Goals and Objectives

The goal and objectives of the evaluation program is to determine whether the intervention (condom use) achieve the stated objectives of reducing the transmission of HIV and STDs among young Black male in New York public school system. Further, the intended public health goal of the HIV prevention program through school-based condom initiatives is to aid in preventing the spread of HIV and STDs among the vulnerable population (Yeatman, 2007). In terms of stakeholders, the only difference between the program and similar programs is the involvement of the students' parents as stakeholders. The other similar program that evaluates the effectiveness of condom use is the Philadelphia Health Management Corporation (PHMC). The PHMC used process-monitoring data to improve intervention strategy in preventing HIV in a juvenile justice setting. PHMC evaluated the effectiveness of negotiating condom use

through their theater-based preventing AIDS through Live Movement and Sounds (PALMS) (Painter et al, 2010).

PALMS uses improvisational plays to increase participants knowledge about HIV prevention and the ability to address a range of HIV risk-related issues, including peer pressure to have multiple sex partners. PALMS also provide participants with role on how to effectively negotiate condoms with sex partners. Although, several studies have shown that most parents in the United States favor sexuality education approaches in schools that provide scientifically and medically accurate information on sexual health issues, including condom use; still, a minority of opponents have claimed that discussing condom use in and of itself will increase risky sexual behaviors (Dodge et al., 2009). Therefore, as program planner, it is essential to involve both the parents and students in the education and discussion on the effectiveness of condom use to prevent the spread of HIV and STDs among the students. This is because involving the stakeholders and program staff in the development of the program objectives and goals can be useful in gaining their support, stimulating good ideas, and reaching a consensus on what will constitute the program (Issel, 2009).

5.1 Evaluation Model Design

5.1.1 Quasi-Experimental Design

The design of the evaluation is the grand scheme that delineates when and from whom data are collected (Issel, 2009). In other words, a design method indicate the way in which the data are collected as part of the evaluation, and typically consists of strategies such as surveys, interviews or observations. Further, purpose of selecting a design is to come as close as possible to a design that is free of bias. The current evaluation model design is based quasi-experimental design. Quasi-experimental design involves selecting groups, upon which a variable is tested, without any random pre-selection processes. In the proposed plan, students will be selected arbitrarily, and divided into two groups, the experimental and controlled group. One group of students would receive counseling, education, and watch video demonstration of how to effectively use condoms during sexual act. The controlled group will not be counseled, educated, or watch video demonstration of condom use. Data was collected from students' attendance records, medical records, questionnaires, and surveys. Further, students will be interviewed on their frequency of condom use during sexual encounters. Baseline data was collected from students before and after the intervention to determine the effect of the intervention. The purpose of this method of data collection is to ascertain if there is connection between the outcome and the intervention.

Furthermore, participating students are young Black male ages 13-24, who are sexually active. The groups of adolescents male are the target population. The sampling of participants is based on the response from the surveys, questionnaires, and interviews conducted. The services of classroom teachers and peer counselors would be sought to recruit potential participants as not all students will be recruited. Since not all students will participants in the evaluation process, the program planner would select about 300 to 400 participants from the pool of interested participants and observe the students for a period of one year to evaluate the effects of the
intervention.

5.2 Evaluation Methods

5.2.1 One Group, Time Series

This design involves collecting data from the same group at several time points before the program and the same data have been collected at several time points after the program (Issel, 2009). This design is also known as a single time series design because only one group is used;

The advantage of the one group, time series design method is that it useful in evaluating programs that are delivered to only one distinct aggregate, such as a school that will be included in the program and evaluation, and for which the same data have consistently been collected over time. The evaluation will involve capturing both quantitative and qualitative data that will be useful for the effectiveness of the evaluation.

6. Data Analysis and Reporting

Before analysis can begin, the data need to be transformed into a format amenable to manipulation and analysis. Data collected from surveys, questionnaires and interviews will be analyzed to determine the effect of the intervention on the outcomes and impact. The statistical software that will be used is called EPI INFO. EPI INFO is actually recommended by the Center for Disease Control and Prevention for most health care intervention programs. EPI INFO is good software to use because it is user friendly and is useful when relative risks and odds ratios needed to be calculated. Epi info provides for easy data entry form and database construction, a customized data entry experience, and data analyses with epidemiologic statistics, maps, and graphs for public health professionals who may lack an information technology background (Epiinfo.cdeplex.com).

Epi Info is used for outbreak investigations; for developing small to mid-sized disease surveillance systems; as analysis, visualization, and reporting (AVR) components of larger systems; and in the continuing education in the science of epidemiology and public health analytic methods at schools of public health around the world (epiinfo.codeplex.com). The limitations of Epi info is that it may be difficult for an evaluator who lacks statistical data knowledge to understand Epi info. Using Epi info is cost-effective than manually input data for evaluation. Apart from saving time, it also provides an evaluator with an accurate statistical data, which may not be possible by manually entering the data.

6.1 Economic Evaluation

The CDC (1995) argues that decision makers in public health are faced with the need to consider the costs and effectiveness of these choices when it comes to offering preventive services to Americans (Healey & Zimmerman, 2010, p. 497). Further, Issel (2009), asserts that "cost of a program will always be an issue during planning and implementation, and it might be an issue for evaluation". Consequently, program planners, managers, and evaluators ought to have a basic understanding of the types of program analyses that focus on costs and the relationship of cost to an outcome. The purpose of economic evaluation is to enable program managers to compare the costs of two or more intervention with the outcome so that program with the least costs that achieve the same outcome will be funded because of limited resources.

In the case of condom distribution program, the stakeholders (teachers, students, counselors, parents, administrators, and the Commissioner of education) will be involved in the decision making process on the program. This knowledge of economic evaluation will enable them not only to critique the program, but also to actively participate in the conceptualization and execution of the more complex economic analyses. There are four different types of economic analysis used by program planners and evaluators. They are cost analysis, cost effectiveness analysis, cost benefit analysis and cost utility analysis.

6.2 Cost Analysis

Cost analysis is a form of economic analysis that includes the cost of total illness estimates, including direct and indirect costs of the problem. It represents an economic evaluation technique that involves the systematic collection, categorization, and analysis of program costs (Healey & Zimmerman, 2010).

6.3 Cost Effective Analysis (CEA)

Cost effectiveness analysis always compares the costs of two programs against one type of impact that is measured the same way in both programs (Issel, 2009). In other words, CEA answers the question of whether program A or program B has more effect for the dollars expended. CEA compares the costs of an intervention with the resulting improvement in the students' behaviors, attitudes and knowledge.

6.4 Cost Benefit Analysis (CBA)

CBA is a type of economic analysis that compares both costs and benefits in dollar terms. According to Healey & Zimmerman (2010), if a program demonstrates a net benefit after computations, the program is considered to provide a good economic value and should be continued or, perhaps, expanded. The purpose of a CBA is to determine which of two different programs will have the greater social benefit, given separate costs. This type of analysis answers questions regarding whether the benefits gained are worthwhile to society, given the costs (Issel, 2009).

6.5 Cost Utility Analysis (CUA)

CUA measures the outcome of health programs in terms of the potential participants' preference for the health outcome (Issel, 2009). This type of cost-effectiveness analysis that uses years of life saved. CUA is not very popular among health care planners because it is more complex than the other three types of economic analysis. Data from the cost effectiveness analysis is used to evaluate the effectiveness of the school-base condom distribution program. This is because it is easier to compare the cost of the program with a similar program that targets all New Yorkers to engage in safer sex practices. Moreover, using CEA offers the most benefit for the plan. The limitation of this plan is the lack of resources to extend the program to all middle and secondary schools in New York City.

The two programs that were compared used evidence-based interventions and strategies to prevent HIV/AIDS and STDs among young adults both in the school system and the juvenile justice setting. However, the New York City school-based condom initiative was cost effective than the Philadelphia Health Management Corporation (PALMS) program (Painter et al, 2010).

7. Ethical, Equity and Leadership Considerations

Ethics remains a foremost concern in health care. According to Issel (2009), ethics is the discipline or study of rights, morals, and principles that guide human behavior. Issues become ethical when basic human rights are involved or when dilemmas arise as to what might be the moral and principled course of action. Further, ethical issues are most likely to surface with regard to the need to have participants in the evaluation provide informed consent. Because the evaluation of the school-based condom initiatives involve children and adolescent (ages 13-24), the issue of informed consent is of great significance to the credibility of the evaluation and to assure that participants participate in the program voluntarily without coercion. Moreover, evaluators have a responsibility to program participants and to evaluation participants to explain how the evaluation has the potential to harm them and future program participants. For example, some of the schoolteachers are also parents whose informed consents must be sought by the program evaluator.

Consequently, informed consents from the parents of the students will be requested in order to lend credibility to the evaluation. According to Issel (2009), informed consent is the agreement to voluntarily and willingly participate in a study based on a full disclosure of what constitutes participation in the study and what are the risks and benefits involved in participating. Because minority population, particularly

Blacks and Hispanics are disproportionately represented in the HIV/AIDS epidemic, the issue of costs of prevention activities, such as condom initiative program can be an ethical issue. Although prevention and behavior change are vital, but access to treatment is an ethical imperative, particularly in urban areas such as New York City and developing countries where the epidemic is most prevalent (Hall, 2007).

Furthermore, one of the biggest programs that were designed to prevent and treat people with HIV infection is the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), which over the past few years has provided an unprecedented $15 billion to fight the international HIV/AIDS pandemic (Barney, Buckingham, Friedrich, & Sar (2010) . On January 28th, 2003, President George W. Bush introduced PEPFAR during his State of the Union address. According to President Bush, this comprehensive plan would prevent 7 million new AIDS infections, treat at least 2 million people with life-extending drugs, and provide humane care for 10 million people suffering from or impacted by AIDS. This level of assistance is unprecedented, and is the largest commitment by any nation to combat a single disease in human history (Barney et al, 2010). Despite PEPFAR's mission and good intent, its policies promote controversial prevention activities that were seen as antithetical to social work ethical values. Social workers have a plethora of reasons to care about PEPFAR and about international HIV/AIDS prevention policy, not the least of which are ethical mandates as articulated in the National Association of Social Workers (NASW) *Code of Ethics* (1999) and by the International Federation of Social Workers (2004) (Barney et al, 2010).

In the United States, where HIV/AIDS was first identified among gay men, issues of stigma have been a consistent barrier for public health officials addressing the crisis (Barney et al, 2010). Efforts to curtail the HIV/AIDS pandemic both in the United States and in international arena have also been inhibited by stigma and prejudice. This prejudice has taken many forms, including the unquestioned perception that HIV/AIDS originated in Africa, and that minority and impoverished groups, including Blacks and Hispanics in the United States who are disproportionately affected by the disease somehow promote its spread (Barley, 2010).

The problem of ethics is also related to the issue of equity in health care. In the United States, one of the major barriers to effective HIV/AIDS prevention is the gulf between the rich and the poor in terms of access to appropriate health care. Access to HIV interventions, particularly for Blacks and other minority groups, are characterized by extreme inequalities, including place of residence, race, gender and sexuality (Simms, 2011). In addition to disparities by risk group, there are also severe racial/ethnic disparities in the U.S. HIV epidemic, with blacks bearing the heaviest burden. While prevention efforts have helped maintain stability in the level of HIV infection among blacks overall since the early 1990s, the ongoing toll in many black communities across the nation is staggering. Therefore, prevention strategies such as condom use through peer education has proven to be effective in reducing HIV/AIDS transmission among vulnerable population.

The disparity and inequality is staggering when one considers that although blacks represent 12 percent of the U.S. population, they account for nearly half (45%) of new HIV infections (cdc.gov). Further, among African Americans, black MSM are the hardest-hit subpopulation. Studies have found that almost 50 percent of black MSM are infected in some cities, including New York City (cdc.gov). Heterosexual transmission also accounts for a substantial proportion of the black HIV epidemic, with black women most affected. Black heterosexual women represent 14 percent of all new HIV infections in the United States, and black heterosexual men account for 6 percent. Therefore, the prevention strategy such as

condom initiative programs in New York City Public schools would go a long way in reducing the transmission of HIV/STDs among young Black male ages 13-24 years.

At this juncture, it is pertinent to assess the significance of leadership in program evaluation. No successful evaluation could be conducted without an effective leadership. Since program evaluation in most cases involves interacting and collaborating with other stakeholders for relevant information, a transformational leadership skill is required in order to be an effective evaluator. According to Paarlberg & Lavigna (2010), transformational leadership is a process that motivates employees by appealing to their higher ideals and moral values. Further, transformational leaders influence followers by elevating their goals beyond their own self-interest and providing them with the confidence to achieve their goals. It is a form of leadership style that is characterized by idealized influence, intellectual stimulation, and inspirational motivation (Paarlberg & Lavigna, 2010). Evaluating HIV/AIDS prevention program requires a transformational leader who would communicate a compelling vision that arouses strong emotions, and serves ethical and principled role model (Paarlberg & Lavigna, 2010).

A transformational leader would work in close collaboration with stakeholders and communicate with program managers to ensure that program goals and objectives achieved. It is pertinent to note that communication is a multidimensional, interactive process; consequently, to be as effective as possible, evaluation reports must be multidimensional and interactive (Issel, 2009). Without careful consideration of the process of communication, even well-crafted evaluation reports will not be understood, and, when not understood, the information they contain cannot. Consequently, an effective leader must be able to interact with stakeholders and communicate his or her findings to organizations. Last, one of the characteristic of transformational leaders is their ability to elevate the interests of their employees, generate awareness and acceptance of the group mission, and look beyond their own self-interest to the greater good of the larger group (Paarlberg & Lavigna, 2010). The HIV/AIDS prevention program requires a leader who communicates a value-based organizational ideology, manifested through mission, vision, and strategy and positively influence parents, students, and other stakeholders' behavior.

8. Implementing and Monitoring Strategies

The implementation and monitoring strategies of the HIV/AIDS prevention would be guided by the Program Evaluation and Monitoring System (PEMS). PEMS is a national data reporting system developed to strengthen the capacity to monitor and evaluate CDC-funded HIV prevention program (Thomas, Smith, & De-Aguero, 2006). Further, PEMS includes a standardized set of HIV prevention data variables and definitions, a secure Web-based software for data entry and management, guidance on how to plan and conduct evaluation, data collection and evaluation training as well as software implementation support services (Thomas et al, 2006). Although data collection and management require substantial work and investment in people and systems to obtain the full benefits of these efforts, data that are timely and complete can inform ongoing service delivery. The data can also contribute to program and community planning and help agencies demonstrate to stakeholders how the organization is performing (Thomas et al, 2006). The data can be used to defend or expand existing program, and mitigate resource constraints by strengthening applications for additional funding.

The use of PEMS data to monitor performance is needed to foster program success. For example, the reduction in HIV and STDs among the student population, are critical indicators of program performance and accomplishments. Further, PEMS data provide a strong foundation to bring a program closer to its intended goals, serves the needs of the students, and the community, and provides a means for organizations to fulfill their reporting mandates and funding obligations (Thomas et al, 2006). Last,

PEMS data enable the CDC to monitor HIV prevention efforts in a consistent, efficient and effective manner across the United States (Thomas et al, 2006).

9. Conclusions

The HIV epidemic in the United States continues to be a major public health crisis. An estimated 1.1 million Americans are living with HIV, and 1 out of 5 people with HIV do not know they have it (Healthy people.gov). HIV continues to spread, leading to about 56,000 new HIV infections each year. Further, New York City (NYC) has the largest epidemic of human immunodeficiency virus (HIV) in the U.S., with nearly 100,000 people living with the virus (Renaud, Bocour, Irvine, Bernstein, Begier, Sepkowitz,…..& Weglein, 2009). In New York City, young Black males ages 13-24 are particularly hard hit by the HIV/AIDS epidemic.

Studies have shown that consistent condom use among this population will reduce the spread of HIV and DTDs (Renaud et al., 2009). Quasi-experimental design can be used to assess the effectiveness of the HIV prevention program with both quantitative and qualitative methods adopted as evaluation method. The use of cost effectiveness analysis offers the most benefit for the plan. Furthermore, a transformational leader is required to effectively communicate with relevant stakeholders in order to achieve the objectives of the evaluation. Last, Program Evaluation and Monitoring System (PEMS) can also be used as one of the implementation and monitoring strategies.

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