
The AIDS Prevention Magic Show: Avoiding the Tragic with Magic

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Synopsis.....

Teenagers are a crucial target group for interventions concerning acquired immunodeficiency syndrome (AIDS) and human immunodeficiency virus (HIV). Experimenting with their burgeoning sexuality and increased ability to obtain drugs, they are prime candidates for AIDS prevention and education strategies.

The intervention described in this paper is a 30-minute magic show, presented by Cyrus (or Iris) the Virus, a sinister but entertaining character portrayed by any health educator willing to spend a few hours learning the magic tricks. The tricks explain why sharing needles and choosing sexual partners based on appearance alone can result in AIDS.

Cyrus also uses magic to communicate the ways that AIDS is not transmitted, how to refuse sex, and how to use condoms correctly. The show, as well as increasing the audience's knowledge about HIV, attempts to induce behavioral change by increasing participants' perceived self-efficacy—a predictor of healthful behavior. Still in its pilot phase, the show has been seen by 281 students ages 10–15 years. Viewers rate the show highly, and preliminary analysis suggests that perceived self-efficacy has been significantly improved.

LESS THAN 1 PERCENT of reported acquired immunodeficiency syndrome (AIDS) cases occur among adolescents ages 13–19 years; approximately 20 percent of cases occur in persons 20–29 years (1). Because the average incubation period of the human immunodeficiency virus (HIV) is about 8 years, many AIDS patients 20–29 years likely became infected as adolescents (2).

Teenagers are initiating sexual intercourse at younger ages than ever before (3). About one-third of males, age 15 years, and one-fifth of females, age 16 years, report having had sexual intercourse, according to tabulations from 1988 National Survey of Family Growth's public use data tape (4). Among 15-year-old males, 25.6 percent of whites, 68.8 percent of blacks, and 31.2 percent of Hispanics reported having had sexual intercourse. For females, 18.9 percent of whites and 31.2 percent of blacks reported sexual intercourse before their 16th birthday. (The percentage is not reported for Hispanic females because of small sample size.)

By age 19, almost all teenagers in the survey

engaged in some form of sexual intercourse with rates of 85 percent for whites, 96 percent for blacks, and 82 percent for Hispanics. Adolescent sexual activity frequently occurs without any form of protection, as indicated by the estimated annual rate of 1 million teen pregnancies (ages 15–19), of which almost half result in childbirth (5).

The infrequent use of condoms among sexually active teenagers is disturbing. At a health clinic in San Francisco, only 2.1 percent of female and 8.2 percent of male adolescents claimed to use a condom every time they had sexual intercourse (6). Studies of teenagers at family planning clinics report the use of condoms in 27 percent of interactions with primary partners (7) and 9–15 percent of interactions with nonprimary partners (8). It is not surprising, therefore, that the most common infections among adolescents are sexually transmitted diseases (9).

Literature Review

In recent school-based studies in New York,

Wisconsin, and Texas, teenagers correctly answered more than 90 percent of the questions about the fatality of AIDS, modes of transmission, and possible preventive measures (10–12). However, from 31 to 57 percent of them incorrectly answered items about contracting AIDS from mosquitoes, donating blood, coughing, toilet seats, French kissing, and casual contact. Blacks and Hispanics were less knowledgeable in this regard than whites.

While the magic show described in this paper addresses these deficiencies, adequate knowledge alone does not change health behavior (13). In studies of female adolescents, condom use was unrelated to knowledge of AIDS or other sexually transmitted disease (14), to perceptions of oneself at risk for HIV, or to consideration of condoms as an effective method in preventing pregnancy (15). These findings illustrate the urgent need to develop new ways to get adolescents to practice healthy sexual behavior.

The “Theory of Reasoned Action” (16) claims that short-term behavior is predicted best by intentions to act that are influenced by both general attitudes towards the action in question and by social expectations or normative beliefs such as peer pressure. Attempting to test this model, a study of 325 sexually active adolescents in San Francisco, ages 14–19, found that positive attitudes toward condoms were associated with intention to use (17). Importantly, intention to use condoms was significantly associated with later usage. Studies of women in Pennsylvania attending a contraceptive health clinic (18) and sexually active Dutch adolescents, ages 15–19, also found positive attitudes to be associated with condom use (19).

Bandura’s “Theory of Self-Efficacy” also provides a conceptual framework for initiating safe sex practices. It suggests that actions are determined by efficacy expectations, that is, convictions that one can successfully complete given behaviors (20). The study in the Netherlands found condom use to be related to perceived self-efficacy of both boys and girls, that is, they felt they knew how to use them.

A recent study by British researchers questioned 571 reported virgins, ages 16–20, about their intentions to use condoms. Self-efficacy, approximated by perceived control of choice of partner and condom use within a sexual encounter, was related to the intention to use condoms (21). This study and others that emphasize creative skills training (22–25) suggest that the perceived ability to negotiate effectively is associated with

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safer sex practices.

As stated, the San Francisco study found intention to use condoms to be associated with later usage, and a significant finding in the study of Dutch adolescents was that condom use at first intercourse was predictive of future condom use. This finding indicates the importance of reaching youths before their first intercourse. Indeed, many youngsters viewing the magic show are probably virgins, and are therefore very suitable audience members.

Lawrance and coworkers (26) developed the Self-Efficacy Scale for AIDS which they administered to 58 pregnant teenagers, most of them African Americans, at an alternative school in Chicago. On a scale that ranged from 1 (never) to 4 (always), respondents’ mean scores for perceived ability to request condom use was 2.52, inquire about prior anal intercourse 2.36, and buy or get condoms 2.69. These results suggest the urgency of increasing perceived self-efficacy regarding AIDS prevention in teenage populations. In sum, AIDS prevention among adolescents requires accurate knowledge of transmission routes, the skills to practice safe sex or abstinence, and the intention to use them.

Project Objectives

Some innovative approaches to AIDS education (27) have included puppets (28), theater, gospel music, presentations at Tupperware parties (29), rap songs, videos, and comic books (30). A previously unexplored medium especially suitable for this age group is magic. The magic show described in this paper is designed to reach any group of youngsters, ages 11–14, in an informative, visual, and interactive manner. Specifically, the goals are to

1. Provide information to teenagers about AIDS in an entertaining way.
2. Dispel misconceptions about transmission.
3. Practice refusing sex.
4. Teach skills to practice safer sex.
5. Increase perceived self-efficacy to perform preventive behaviors successfully.

AIDS Survey

We would like to find out what you think about AIDS.

1. First, a little bit about YOU! You don't have to put your name on this paper, just the last letter of your last name: _____
2. What grade are you in? _____
3. Write the month, day, and year you were born.
Month: _____ Day _____ Year: 19 _____
4. What race or ethnic group are you?
African American _____
Hispanic/Latino _____
White _____
Other (write in) _____

Circle the answer that you think tells how often the statement is true.

5. If a mosquito bites someone with AIDS and then bites you, you can get AIDS.
Never Almost never Not sure
Always Always
6. You can get AIDS from giving blood.
Never Almost never Not sure
Always Always
7. You can tell when someone has AIDS because they look so sick.
Never Almost never Not sure
Always Always
8. The condoms (rubbers) that best prevent AIDS are made of latex.
Never Almost never Not sure
Always Always
9. List all of the ways to get AIDS you can think of.

Circle the best answer below.

10. Imagine someone is pressuring you to do something you don't want to do, like if someone is pressuring you to have sex and you don't want to. How easy or difficult would it be for you to tell that person you don't want to have sex?
Very difficult Sort of difficult Not sure
Sort of easy Very easy
11. What about the other girls in your class? In general, how easy or difficult do you think it would be for them to tell the other person they don't want to have sex?
Very difficult Sort of difficult Not sure
Sort of easy Very easy
12. Imagine you want to have sex with someone but do not have any condoms. How easy or difficult

would it be for you to go to the store and buy condoms?

Very difficult Sort of difficult Not sure
Sort of easy Very easy

13. What about the other girls in your class? In general, how easy or difficult do you think it would be for them to go to the store and buy condoms?

Very difficult Sort of difficult Not sure
Sort of easy Very easy

14. Imagine you bought some condoms, you are about to have sex with someone, and you want to use the condoms. How easy or difficult would it be for you to unwrap and correctly put on the condom?

Very difficult Sort of difficult Not sure
Sort of easy Very easy

15. What about the other girls in your class? In general, how easy or difficult do you think it would be for them to unwrap and correctly put on the condom?

Very difficult Sort of difficult Not sure
Sort of easy Very easy

16. Imagine you just finished having sex with someone and you or your partner is still wearing the condom. How easy or difficult would it be for you to correctly take off the condom and throw it away?

Very difficult Sort of difficult Not sure
Sort of easy Very easy

17. What about the other girls in your class? In general, how easy or difficult do you think it would be for them to correctly take off the condom and throw it away?

Very difficult Sort of difficult Not sure
Sort of easy Very easy

Please circle either "Y" for yes or "N" for no.

18. Have you ever bought condoms? Y N
19. Do you carry them with you? Y N
20. Do you have some with you right now? Y N
21. Do you know anyone who has AIDS? Y N
22. Do you have any close friends who have AIDS? Y N
23. Do you have any relatives who have AIDS? Y N
24. Do you personally know anyone who has died from AIDS? Y N

Contact the author for information about obtaining the AIDS Prevention Magic Show (tricks, script, instructions, video of an actual show.)

Methodology

The pilot population was a "convenience sample" composed of 266 boys and girls in seven inner-city Chicago after-school programs, and the participants were, therefore, self-selecting. Cyrus (or Iris) the Virus, the character played by the health educator, begins by introducing himself (or herself) and informing audience members that they are about to participate in a special presentation. A 10-minute pretest including five questions pertaining to AIDS knowledge and eight questions pertaining to self-efficacy is completed prior to the start of the show (see the box).

The magic show lasts about 30 minutes. The script is followed closely so that points can be covered sequentially each time, but it is flexible enough to respond to students' questions and ideas while the show is in progress.

The show begins with a trick called Silly Silks. Cyrus teaches that sharing needles transmits HIV; he (she) makes a red handkerchief, representing blood, disappear from a syringe and appear between two white handkerchiefs tied together, representing two friends sharing needles. Other needle-based routes of transmission, such as tattoos and ear-piercing, are mentioned, and misinformation regarding blood donations, clinical tests, and transfusions are addressed.

Next is "Missing in Action," a card trick consisting of pictures of five racially diverse youths. Four pictures show "AIDS" printed on the back, while the fifth has "HEALTHY." Participants learn by trial and error as cards are eliminated that they cannot guess who is healthy by looking at the faces on the cards. When the last card is flipped, it also has "AIDS" printed on it, indicating the risk to people who guess their partners' health status based on appearance. Then, "Read Between the Lines,"—black and white pictures in a coloring book—show ways AIDS cannot be transmitted. Flowers made of colored condoms are waved over the book, and the pictures become colored. Another wave of the flowers changes the pictures to yet one more way AIDS is not spread—the pictures turn into the words "USE CONDOMS."

To improve perceived self-efficacy at refusing sex, "Just Say No, No, No!" is rehearsed with youngsters by repeating three statements to use when refusing sex, printed on condom-shaped cards. When placed in an envelope and later removed, the third card bears a different response—the only one possible when one is out of condoms (envelope shown is empty); it says, "No, no, no." In "Condominum," the last trick, Cyrus dis-

cusses how to buy, store, put on, take off, and dispose of a condom, meanwhile pulling a condom from behind the ear of a volunteer and later penetrating but not bursting an inflated condom with a 16-inch needle. After questions are fielded, viewers complete a 10-minute posttest consisting of the same items on the pretest.

Significance of the Project

Knowledge is a necessary but not sufficient condition for behavior change. Cyrus the Virus not only teaches the facts about AIDS, but also insists that audience members rehearse messages to refuse sex. This exercise is done with humor to keep the audience relaxed and interested. Condom usage is matter-of-factly discussed, and correct input from viewers is sought and positively reinforced to bolster self-confidence and thereby improve perceived self-efficacy, a much stronger predictor of behavioral change.

The magic show does not emulate other attempts to boost perceived self-efficacy which consists of labor-intensive counseling and discussion sessions about sexuality and decision making (26). Although such approaches may be ideal, the intervention using magic is cost-effective, practical, and brief enough to be conveniently worked into anyone's health curriculum.

Finally, the medium of magic is not difficult to learn and provides variety for health educators, whose enthusiasm at presenting will be readily communicated to their audiences. In return, the youngsters have consistently reciprocated with interest and rapt attention.

Ways In Which the Project Is Innovative

Magic is an innovative medium with several advantages in a classroom. First, it is entertaining. Indeed, the show receives an average rating of 4.24 on a five-point scale as rated by the audience (1 = sucks, 5 = awesome). Asked what they like best about the show, students frequently identify a particular trick.

Second, magic is participatory. While most performance art is a passive experience for the audience, Cyrus the Virus can actively engage students as participants in the show.

Third, magic is humorous. The process of teaching sensitive subjects benefits from the introduction of tasteful humor, which can diffuse the tension often present in discussions of emotionally charged issues such as AIDS.

Fourth, magic is understandable to people of all literacy levels. Cyrus reads aloud the few written words that do appear in the show, so effective communication does not require a certain reading level.

Fifth, magic is fully transportable and self-contained, making it a plausible medium at homes for runaways, relief shelters, or other locations that attract hard-to-reach populations not enrolled in the school system and without access to the health care system.

Sixth, although the author has 11 years of experience entertaining children with magic, the tricks have been designed to work either automatically or with minimal practice. The author is currently preparing a simple self-instructional manual.

Summary of Evaluation Methods

With the proliferation of AIDS education and intervention programs, the need for program evaluation has become paramount (31, 32). To assess the ability of the magic show to meet the five goals cited previously, two modalities are being used: process evaluation and outcome evaluation. The former refers to the ongoing analysis of the content of the program. An early version of the show was performed for and assessed by a health education class at the University of Illinois School of Public Health and many modifications were made on the basis of their feedback. Outcome evaluation attempts to measure the extent to which the intervention effectively reaches the target audience.

As mentioned previously, immediately before and after the show questionnaires are administered to determine AIDS knowledge and perceived self-efficacy at performing AIDS preventing behaviors. Viewers also rate the show and answer questions about what they like most and least and what they learned.

Analysis of pretest and posttest scores, using *t*-tests for paired observations, shows that viewers correctly answer AIDS knowledge questions significantly more often after the show. Importantly, perceived self-efficacy is significantly improved in two of the four categories. Students' responses suggest greater confidence at refusing sex and putting on condoms. Lack of change regarding the purchase of condoms may simply reflect a lack of money to do so. A new awareness of proper condom removal may make students feel less confident about a procedure they took for granted. More practice at this skill may be what is necessary. Importantly, the initial data suggest that the youngsters are processing the infor-

mation in terms of intention to act. Following are the knowledge and self-efficacy scores before and after the show (see items 5-24 in the box, page 000):

Budget Estimate and Justification

Variable	Before	After	Difference	P-value
Knowledge score:				
Mosquitoes ¹	2.52	1.62	.90	<.001
Donate blood ¹	3.06	2.77	.29	.005
Look sick ¹	2.36	2.11	.25	.007
Latex condom ²	3.55	3.94	.39	<.001
Self-efficacy scores:				
Refuse sex.....	3.6	3.95	.26	.003
Buy condoms.....	3.47	3.41	-.06	.524
Put on condoms.....	3.61	3.96	.35	<.001
Take off condoms...	3.72	3.79	.07	.446

¹Correct = 1. ²Correct = 5.

NOTE: 5 = greatest perceived self-efficacy; 1 = least perceived.

Because the magic show is a volunteer endeavor undertaken through the Rush Community Service Initiatives Program at Rush Presbyterian St. Luke's Medical Center's Department of Preventive Medicine, the only tangible expenses have been materials for the tricks. Due to the project's charitable nature, much of the artwork was reimbursed at substantially less than market value.

A modest investment is sufficient to reproduce magic shows elsewhere. The time involvement is as follows: time for learning tricks, 4 hours; time spent setting up and performing, 1 hour. Using the artwork already produced, the tricks could be created at an estimated cost of

Category	Cost
Silly Silks.....	\$ 15
Missing in Action.....	45
Read Between the Lines.....	12
Just Say No, No, No.....	20
Condominum.....	20
Total.....	\$ 112

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