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Background

- A novel education program that merges theater and medicine to reach adolescents with a message of human immunodeficiency virus (HIV) and sexually transmitted disease (STD) prevention.

- To appear as peer educators, medical students and actors were selected to deliver dramatic scripts that weave specific educational information into seven different fictitious characters that contracted HIV or an STD as an adolescent. Followed by a candid question and answer session.

- Core educational content integrated into the scripts include: modes of HIV/STD transmission, risk behaviors, casual contact, the importance of being tested, protected sexual behavior and abstinence.

Research Objectives

The study objectives were to assess whether participation in the program was associated with

1. increased knowledge and knowledge retention regarding HIV/STD transmission prevention
2. a reduction (or delay in intention to participate) in high risk sexual transmission behaviors.

Methods

- Subjects

Three hundred 8th grade students from an urban school scheduled to participate in the education program were asked to volunteer for the study.

- Surveys

Three written surveys with identical items were administered at baseline (BL), immediately following the program (post), and 2 weeks later. Surveys were completed anonymously.

Demographics: Age, grade, ethnicity, sex

Knowledge:

12 true / false items, examples:

Not having sex is one way to avoid getting HIV?

HIV treatment is expensive and has many side effects?

Can you get an STD from oral sex?

Sexual Risk Behavior and Intentions:

Ever had sex (oral, anal, or vaginal)- yes or no

100 mm Visual Analog Scale- likelihood scale: No chance to Absolutely

More than one sex partner this year

Will not have sex until I get married

Will use a condom if have sex

Results

- **Demographics**
 - 56.3% were male
 - 236 participants completed the initial BL survey
 - 73.5% were Caucasian, 7.7% were African American, and 6.4% were Hispanic/Latino.
 - Mean age, years: 13.0±0.50

Knowledge scores (out of 12 possible)			
	Baseline	Immediately post	2 week post
Mean ± SD	6.17 ± 2.69	9.95 ± 2.26	9.50 ± 2.42
Sample number	222	214	212

HIV/STD knowledge increased as the mean score increased from 51% at BL to 83% immediately post and remained increased at 70% 2 weeks post (p 's < 0.0001).

- **Assessment of behaviors**

49 out of 236 participants (21%) reported having oral, anal or vaginal sex

Mean age of first time sex, years: 11 ± 3.29

Condom use during most recent sex: 55.1%

Of those that were sexually active, only 30% reported consistent condom use

- **Assessment of intentions**

Statement of intention scores (0%-100% chance)			
	Baseline (mean ± SD)	Immediately post (mean ± SD)	2 week post (mean ± SD)
Plan to have >1 sexual partner this year	38.1 ± 36.9	35.0 ± 37.5	31.1 ± 31.5
Plan to use a condom	85.6 ± 26.7	87.4 ± 27.9	88.6 ± 22.7
Plan to be tested for HIV/ STDs this year	21.2 ± 29.6	24.8 ± 30.0	21.4 ± 30.0
Plan to not have sex until older or married	64.1 ± 38.1	62.6 ± 40.0	66.6 ± 35.8

There was not a significant change in mean scores regarding intention to decrease (or delay) high risk transmission behaviors (p 's > 0.10).

Sample knowledge statement scores (% correct)			
	BL	Post	2 week post
Not having sex is one way to avoid getting HIV?	67%	92%	88%
HIV treatment is expensive and has many side effects?	34%	75%	70%
You can get an STD from oral sex?	52%	83%	77%
HIV can be cured?	46%	87%	80%

Discussion

- This data suggests that the innovative HIV and STD prevention program is an effective means of increasing and maintaining adolescent knowledge regarding HIV and STDs. Although participants did not report a decreased intention to engage in high risk sexual behaviors, this may be due to the many other environmental factors that impact risk behavior not controlled for in this study, for instance lack of insurance or ability to pay, lack of transportation, lack of access to condoms or to HIV/STD testing centers and concerns about confidentiality.

Why does it matter?

- According to the United States Centers for Disease Control and Prevention:
 - Young persons, aged 15-24 years represent only 25% of the sexually active population; however, they acquire nearly half of all new STDs.
 - In 2009, as with previous years, women aged 15-19 years had the highest rate of chlamydia and gonorrhea compared with any other age or sex group.
 - From 2008 to 2009, the rate of chlamydia in men, ages 15-19 years, increased 5.0% from 700.3 cases per 100,000 to 735.5 cases per 100,000.
 - In 2006, an estimated 5,259 young people, aged 13-24, in the 33 states reporting to CDC were diagnosed with HIV/AIDS, representing about 14% of the persons diagnosed that year.

Conclusions

- This program has shown to be an effective and valuable means of increasing and maintaining adolescent knowledge regarding HIV and STDs.
- As HIV and STDs proves to be a relevant issue in adolescent lives, strong efforts to minimize their risk for contracting HIV or STDs must be made available. Concerns for proper education and funding for such novel educational programs, such as the one studied above, remains an issue of utmost importance.
- This study calls for educational programs that follow the ever changing adolescent culture and match it with creative and innovative programs in order to reach and protect its members.

Limitations

1. Limited generalizability: a specific age group and population was targeted in this study
2. Although efforts were made to keep survey questions neutral and unbiased, questions were not validated
3. Self-report method of data collection can cause issues with intentional deception, poor recall, or misunderstood questions
4. Inability to match BL participants with follow-up survey participants and vice versa

References

- Centers for Disease Control and Prevention. *HIV/AIDS Surveillance Report*, 2006. Atlanta: US Department of Health and Human Services, Centers for Disease Control and Prevention; 2008;18:11
- Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance 2009*. Atlanta: U.S. Department of Health and Human Services; 2010.