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Correlates of STI prevention knowledge among African American girls

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Abstract

Purpose—To identify significant factors that distinguish African American girls who have high STI prevention knowledge from those lacking such knowledge.

Methods—We recruited a sample of 715 African American girls from 3 public health clinics in downtown Atlanta. Using A-CASI technology we assessed for age, self-mastery, employment status, attendance at sex education classes, socioeconomic status and STI prevention knowledge.

Results—High numbers of girls did not know that birth control pills did not protect women against the AIDS virus; that females are more susceptible to contracting STIs; and that condoms needed to be used continuously while having penile-vaginal penetration. Logistic regression findings indicated that being younger, having greater self-mastery, and being employed significantly predicted high STI knowledge.

Conclusions—Health educators may especially target African American girls who are younger, unemployed and experiencing low self-mastery for more tailored STI health education.

Keywords

STI prevention knowledge; African American girls; Gender and power

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In the United States (U.S.), African American adolescent girls, especially those residing in the south, are at a higher risk than white peers for contracting sexually transmitted infections (STIs) [1]. Low STI prevention knowledge might be one of the many factors contributing to such disparities given that African American youth report lower STI prevention knowledge compared to their white peers [2]. Theoretical models on health promotion identify correct prevention knowledge as a critical component to adopting STI protective behaviors [3,4]. Although high STI prevention knowledge alone does not automatically predict reduced STI behaviors, the lack thereof can significantly advance disease acquisition and transmission. Unfortunately, few studies have examined correlates of STI prevention knowledge among African American girls. Gender and power-related concepts [5] might offer insights into factors associated with STI prevention knowledge among girls.

According to one application of this theory, the sexual division of power can be manifested by conservative policies that limit the availability of school sex education, which can have negative health consequences especially for girls given their increased biological vulnerability [6]. Additionally, exclusion from the workforce and being younger are theorized to cause females to rely more on males for STI prevention knowledge, which can advance poorer sexual health outcomes.

Guided by this theory we examined whether: (1) age, (2) attendance at sex education classes, (3) employment status, and (4) self-mastery were independently associated with the quality of STI prevention knowledge among African American girls, controlling for family socioeconomic status in all analyses.

Methods

Recruitment

Participants were recruited from three public health clinics in downtown Atlanta, Georgia. Eligible participants were African American females between the ages of 15 to 21 years who reported having had sexual activity in the previous 60 days. Written informed consent was obtained from all adolescents, with parental consent waived for those younger than 18 years because of the confidential nature of clinic services. The University institutional review board approved all study protocols.

Measures

The sexual STI prevention knowledge variable was constructed from 11 questions that are summarized in Table 1. Each individual response was binary coded, with “1 indicating a correct answer” and “0 representing a wrong answer or don’t know response.” For interpretive and analytic purposes, a dichotomous variable for low and high STI prevention knowledge was created based on a median split of 9 (SD=0.50) (mean 8.11, mode 9).

Correlates—Age was assessed in actual years. Employment status was assessed by one item: “Do you have a job?” Self-mastery was based on four items (e.g., “I have little control over the things that happen to me”). Participants responded to each question on a four-point scale with “1 strongly disagree” and “4 strongly agree”. Cronbach’s alpha for items on this scale was 0.63. Attendance at sex education programs was based on two questions that evaluated “ever taken a class that discussed birth control, STDs, and human immunodeficiency virus (HIV) prevention?” or “ever taken a class that discussed abstinence?” [0=no, 1=yes]. Family socioeconomic status was assessed by receipt of public aid services for Temporary Assistance for Needy Families (TANF), Supplemental Security Income (SSI), food stamps, or Section 8 housing subsidies in the past 12 months. [0=no, 1=yes].

Results

Sample

The analytic sample comprised of African American females ages 15 to 21 (N=715). The mean age was 17.8 (SD=1.7). Most of the respondents (94.1%) had attended a sex education class. Slightly less than one-third (30%) of the respondents were employed. Approximately half (52.2%) had received public aid. The mean score for self-mastery was 11.1 (SD: 1.58).

Approximately 51% (n=363) reported high STI prevention knowledge. On individual items, the number of correct answers ranged from 2.1% to 78.7% (Table 1). Spearman's correlations were found between higher STD knowledge and being older, having higher mastery, and being employed. Four variables (i.e., age, employment status, sex education classes, and self-mastery) met the criterion cutoff which was $p \leq 0.05$. These were entered into the regression model predicting high versus low STD knowledge (Table 2). Three retained significance: Age (AOR = 1.14; 95% CI= 1.04-1.24), self-mastery (AOR = 1.13; 95% CI=1.03-1.24), and having a job (AOR = 1.99; 95% CI=1.41-2.81) were positively related to STI prevention knowledge.

Discussion

Notably, high numbers of girls did not know that birth control pills did not protect women against the AIDS virus; that females are more susceptible to contracting STIs; that STIs could not only be passed through open sores or lesions; and that condoms needed to be used continuously while having penile-vaginal penetration. In addition, one-third of the sample did not know whether it was safe to use oil-based lotions with condoms. This is troubling, given that improper lubricants can cause condoms errors, which is one of the strongest predictors of STI acquisition [7,8]. Similarly, more than 95% of respondents did not know that condoms did not cause men physical pain and almost one-third of the participants did not understand that the presence of an STI increases HIV acquisition risk. Clearly, the above findings are critical information that health educators must strongly emphasize and reinforce when discussing STI/HIV prevention among this population. Girls already face power inequities in romantic and sexual relationships [9]. However, girls who experience more self-mastery might feel in greater control of their lives and subsequently seek out more STI prevention knowledge and vice-versa. Moreover, findings indicated that having a job, being older, and higher self-mastery were significant correlates to high STI prevention knowledge. Girls who are employed may tend to be more knowledgeable in general. Employment may also expose girls to a network of more educated friends, which may also enhance sexual information. Older girls had higher STI prevention knowledge, perhaps because they may be more sexually experienced. Study findings are limited by the use of convenience sampling and cross sectional data. Additionally, most participants attended sex education classes, which did not allow us to adequately test the relationship of this variable to STI knowledge. Overall findings suggest that health educators may utilize empowerment approaches and especially target African American girls who are younger, unemployed, and experiencing low self-mastery for more tailored STI health education.

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Table 1

Frequency of correct responses to measures of STI prevention knowledge

Measures of STI Prevention Knowledge	Frequency (%)
Qn1: Birth control pills protect women against the AIDS virus.	15 (2.1%)
Qn2: Most people who have AIDS look sick.	82 (11.5%)
Qn3: Men are more susceptible (or likely) to get an STD infection than women.	135 (18.9%)
Qn4: Having an STD can increase the risk of getting HIV.	454 (63.5%)
Qn5: If a man has an STD, he will have noticeable symptoms.	268 (37.5%)
Qn6: STDs can cause infertility, spontaneous abortions and still births.	563 (78.7%)
Qn7: STDs can only be passed through open sores or lesions.	101 (14.1%)
Qn8: If a man pulls out before orgasm, condoms don't need to be used to protect against HIV.	26 (3.6%)
Qn9: Vaseline and other oils should be used to lubricate condoms.	127 (17.8%)
Qn10: Condoms cause men physical pain.	15 (2.1%)
Qn11: Most people who carry the AIDS virus look healthy.	362 (50.6%)

Table 2

Logistic regression predicting high STD knowledge (N=715)

Variable	Odds Ratio
Age	1.14 (1.04, 1.24) **
Employment Status	1.99 (1.41, 2.81) ***
Self-Mastery	1.13 (1.03, 1.24) *
Family Aid (Control)	1.17 (1.00, 1.36) *

*
p ≤ .05;**
p ≤ .01;***
p ≤ .001