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African American College Freshman Students' Knowledge, Attitudes, Beliefs, and Behaviors Related to HIV: A Preliminary Investigation

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ABSTRACT

Purpose: To assess African American college freshman students' knowledge, attitudes, beliefs, and behaviors related to HIV. **Method:** A descriptive exploratory design with survey methodology was used to carry out the study. The participants were a convenience sample of 222 African American college freshman students with an average age of 18 years. The Maine HIV Prevention Community Planning Group questionnaire was used to elicit information from participants. **Results***:* The majority of respondents were knowledgeable about HIV prevention and transmission (M = 9.36 on a maximum of 10, SD = .951). Their knowledge score was positively and statistically associated with whether or not they are likely to use a condom the next time they have sex (r = .18, p = .007) at an alpha of .01. The knowledge scores did not correlate with age, HIV risk, and the number of sexual partners. The respondents' high level of HIV knowledge and their positive attitudes towards sexual health did not prevent them from engaging in risky sexual behaviors. The respondents identified schools (48.2%) and social gatherings (34.7%) as their two main venues for meeting sexual partners. They also listed television (86.6%) and school programs (70.3%) as their two main sources of HIV information. **Conclusion:** The findings indicated that further examination of the design of HIV intervention programs for African American college students may be necessary in order for the interventions to be effective. Health professionals and educators should then be concerned about the students' sexual behaviors and determine what can be done to improve their sexual health.

INTRODUCTION

In the United States, young African Americans are experiencing the highest rates of the HIV infection. During 2001-2005, a total of 184,991 people were diagnosed with HIV/AIDS in the United States; of these cases, African Americans were overrepresented in the proportion of young people under the age of 25 years with HIV/AIDS diagnoses.[5] African American college students as a subpopulation are likely to contract the infection. Studies have shown that college students are engaging in unhealthy sexual activities, and condom use is underutilized despite efforts to increase its use.[1-4] Factors such as the influence of alcohol, other drugs, as well as multiple sexual partners might contribute to this risk.[6,7]

There is a current emphasis to conduct research on college students with the ultimate goal of reducing the spread of HIV.[3,4] Researchers recommended more research on various samples of college students in a variety of academic settings.[3] To date, the Knowledge, Attitude, Belief, and Behavior framework, the Health Belief Model, and HIV testing have been used as frameworks for predicting sexual behaviors and for planning HIV interventions.[2,4,6,8-10,12-16] This study builds upon the existing literature. Thus, the purpose of this study was to assess the level of HIV knowledge, types of attitudes and beliefs, and HIV behaviors among African American college freshman students. This researcher is hoping that the preliminary findings will be beneficial for educators and health professionals when designing HIV prevention programs.

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METHODS

A descriptive exploratory study with survey methodology was conducted at a historically black university. The Institutional Review Board approved the study and its procedures. The researcher visited the classrooms and invited the freshman students who were enrolled in UNI 101- Introduction to University Life to participate in the study. The students were given a packet containing an informational letter and a questionnaire. The informational letter described the study procedures. The students were asked to read the letter and they were given the opportunity to ask questions before giving written consent to participate in the study. The students who gave written consent completed the questionnaire. A convenience sample of 222 African American college freshman students with an average age of 18 years (range = 17-34) were recruited for the study.

A self-reported 48 item questionnaire was adapted from the Maine HIV Prevention Community Planning Group. Permission was granted to use the questionnaire for this study. The questionnaire was previously used in a statewide survey for populations at risk for HIV. The planning group piloted the instrument before it was administered to the target population. In addition to eliciting background information, the questionnaire assessed participants' knowledge, attitudes, beliefs, and behaviors associated with HIV. Minor modifications were made to the background information section to reflect the present study. The final instrument consisted of 39 items.

The participants provided background information about their age, race, academic classification, sexual orientation, and HIV status. The participants' knowledge level of HIV prevention and transmission was measured on a 10-item scale with possible scores ranging from 0 to 10. The response options were true and false, and they were scored as 1 = correct and 0 = not correct.

The participants' attitudes and beliefs were defined in terms of 13 statements about overall risk, influence of friends, friend's risk, and personal risk. Overall risk was measured with one statement and it was rated on a 3-point scale (1 = no risk, 2 = some risk, and 3 = a lot of risk). The influence of friends on decisions about reducing HIV risk was measured with one statement and it was rated on a 3-point scale (1 = not at all, 2 = somewhat, and 3 = a lot). The perceptions of friends' risk and personal risk were measured with 11 items and were rated with a range of response categories from strongly disagree to strongly agree.

Eleven items were used to measure the sexual risk behaviors of participants. The items addressed monogamous relationships, payment for sex, needle sharing, HIV testing, sexual practices, intent to use condoms, intent to practice safer sex when drinking, venues for meeting sexual partners, and sources of HIV information.

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 15.0. Descriptive tests such as frequencies, percentages, mean, median, and standard deviation were used to describe knowledge, attitudes, beliefs, and behaviors associated with HIV. Pearson product-moment correlation coefficient (r) was used to describe the relationship between HIV knowledge score and the intent to use a condom, risk of getting the AIDS virus or being re-infected with the virus, age, and number of sexual partners. The Alpha level was set at 0.01 to determine statistical significance.

RESULTS

Characteristics of Respondents. The respondents (n = 222) were African American college freshman students. Their average age was 18 years, with an age range from 17 to 34. The majority (91.9%) of the respondents identified their sexual orientation as straight, 5.0% stated that they were bisexual, and 3.1% said they were gay. A total of 140 (63.0%) respondents stated that their HIV status was negative; four (1.8%) respondents indicated that their HIV status was positive; 67 (30.2%) said they did not know their HIV status; five (2.3%) stated that they did not want to know their HIV status; and six (2.7%) did not disclose their HIV status.

Level of HIV Knowledge. Table 1 indicates that the majority of the respondents were knowledgeable about HIV prevention and transmission. Of the respondents, 126 (57.8%) answered all of the 10 knowledge questions correctly and 93.7% of the questions were answered correctly. The mean score and standard deviation (M = 9.36 on a maximum of 10, SD = .951) further validate the high level of HIV knowledge among the respondents. The respondents' overall knowledge score was positively and statistically associated with whether or not they are likely to use a condom the next time they have sex (r = .18, p = .007) at an alpha level of .01. Knowledge score did not statistically correlate with respondents' risk of getting the AIDS virus or being re-infected with the virus (r = .009, p = .895*);* age (r = .040, p = .560); and number of sexual partners (r = .039, p = .607).

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Table 1: Percentage Correct on HIV Knowledge and Transmission

True/False Questions	Frequency	Percentages
Most people who transmit HIV/AIDS look unhealthy	208	95.4
Anal sex without a condom is high risk for getting HIV	205	94.0
A person can be exposed to the HIV in one sexual contact	208	95.9
Condoms make sex completely safe.	200	91.7
Most people who catch HIV get sick quickly	207	95.0
Pre-ejaculatory fluid carries HIV	207	95.0
A person must have many different sex partners to be at risk for HIV	196	89.9
We don't have to worry about HIV because of the new HIV drugs	217	99.5
It is more important to take precautions against HIV in large cities than in small towns	182	84.3
Sharing needles and works spread HIV	212	97.2

Attitudes and beliefs regarding HIV. The participants were asked to indicate their risks for getting the AIDS virus or being re-infected based on their sexual activity in the previous 6 months. A total of 155 (69.8%) respondents stated that they had no risk of contracting the AIDS virus or being re-infected; 56 (25.2%) respondents said that they had some risk; three (1.4%) indicated that they had a lot of risk; and eight (3.6%) did not answer the question. The participants were asked to indicate how much do friends influence their decisions about reducing their risk for HIV. A total of 102 (45.9) respondents stated "not all"; 59 (26.6%) said "somewhat"; 56 (25.2%) stated "a lot"; and 5 (2.3%) did not answer the question.

Table 2 displays the respondents' perceptions of their friends' risk and personal risk for getting HIV. In presenting the findings, the response categories were collapsed by combining strongly disagree with disagree and strongly agree with agree. Fifty percent of the respondents strongly agreed or agreed that their friends always use condoms when they have sex and 91.8% reported that their friends believe that it's okay for a woman to ask her partner to use a condom. Only 37.4% of the respondents strongly agreed or agreed that their friends are likely to have unsafe sex after drinking alcohol or taking drugs. The respondents' personal risk perception was high with the majority (74.7%) reporting that they were concerned about becoming HIV positive. A total of one hundred and ninety-eight (89.6%) participants strongly disagreed or agreed that they would be willing to take chances by having risky sex; 26.2% strongly agreed or agreed that they have already taken chances by having risky sex; and 68.2% strongly disagreed or disagreed that they were less likely to get infected from someone who's on HIV drugs than from someone who's not on them.

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Table 2: Respondents' Perceptions of Friends' Risk and Personal Risk for Getting HIV

Statements	Strongly Disagree or Disagree %	Neutral %	Strongly Agree or Agree %
My friends always use condoms when they have sex	20.5	29.5	50.0
My friends say they have safer sex much more than they actually do	26.2	31.3	42.5
My friends believe it's okay for a woman to ask her partner to use a condom	2.7	5.5	91.8
My friends believe the chance of getting HIV is quite small	60.9	23.6	15.5
My friends are likely to have unsafe sex after drinking alcohol or taking drugs	32.4	30.1	36.5
My friends are likely to have unsafe sex if they think their sexual partner is really good looking	47.5	27.6	24.9
My friends are likely to have unsafe sex when they are feeling down or stressed out	53.6	34.5	11.9
I'm not very concerned about becoming HIV positive	74.7	17.2	8.1
I'm willing to take chances by having risky sex	89.6	8.1	2.3
I've already taken chances by having risky sex	61.2	12.6	26.2
I'm less likely to get infected from someone who's on HIV drugs than from someone who's not on them	68.2	28.6	3.2

Sexual Behaviors. The participants were asked to respond to 11 statements regarding their sexual behaviors. A total of 120 (54.1%) respondents stated they were not exclusively partnered and of these respondents, 73 reported that they had sex in the preceding 6 months. Ninety-eight respondents (44.1%) indicated that were exclusively partnered, and 4 (1.8%) did not respond. Of the 98 respondents who described themselves as exclusively partnered, 34 (34.7%) reported that they were with their current partner for more than 12 months, 16 (16.3%) for 7 to 12 months, 23 (23.5%) for 4 to 6 months, 24 (24.5%) for 8 months or less, and one (1%) person did not respond. A small percentage (1.5%, n = 3) of respondents indicated that they had sex for payment in the previous 6 months, and three (1.6%) indicated that they shared equipment for taking drugs.

One hundred and twenty two (55.0%) respondents reported that they have not been tested for HIV, 30 (13.5%) were tested within the last 0 to 3 months, 21 (9.50%) were tested within the last 4 to 6 months, 26 (11.7%) were tested within the last 7 to 12 months, 15 (6.7%) were tested longer than 12 months, and 8 (3.6%) did not respond. In the previous 6 months, 144 (73.9%) respondents had vaginal sex with a condom and the median number of sexual partners was 5.5, with a range of 1-20. Ninety-four (48.4%) respondents indicated that they had vaginal sex both with and without a condom and the median number of sexual partners were 2.5, with a range of 1-5. The majority (88.5%, n = 193) of respondents believed that they are "likely" or "very likely" to use a condom when they have sex, and 76.9% indicated that they believe that they would practice safer sex even after drinking.

The respondents were asked to indicate the venues for meeting their sexual partners and their various sources of HIV information. The five main venues for meeting sexual partners were schools (48.2%), parties and social gatherings (34.7%), sporting events (19.8%), the workplace (18.9%), and night clubs/discos (16.7%). Table 3 lists the main sources of HIV information for respondents. The respondents identified five main sources of HIV information as television (86.5%), school programs (70.3%), radio (59.5%), teachers and doctors' offices (51.8%), and the internet (48.6%).

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Table 3: Sources of HIV Information for Respondents

Source	Percentage
Television	86.5
School programs	70.3
Radio	59.5
Teachers	51.8
Doctor's office	51.8
Internet	48.6
Health clinic	46.4
Friends	44.1
Family	42.3
Books	35.6
General newspaper	34.2
Health department	32.9
AIDS service organizations	27.0
Church groups	23.9
Sex partner	20.3

DISCUSSION

In this study, the majority (91.9%) of the respondents identified themselves to be heterosexual, a finding that is consistent with those of other studies.[6,14,16] The data showed that the respondents' HIV knowledge was quite high (M = 9.36 on a maximum of 10). This finding was not surprising because high level of HIV knowledge among college students is well documented in the literature.[2,4,13] However, this knowledge did not significantly correlate with the risk of getting the AIDS virus or being re-infected with the virus or with the number of sexual partners. Likewise, age had no relationship with HIV knowledge. For the most part, the data showed that knowledge of HIV prevention and transmission significantly correlated with the intention to use condoms (r =.18). This value indicated a weak relationship. Other studies found that HIV knowledge is not a predictor of change in sexual behavior.[2,3,9]

More than half (51.8%) of the respondents reported that their friends influenced them "somewhat" to "a lot" about decisions regarding HIV risk reduction. The respondents seemed to have accepted their friends as a source for transmitting social norms. Since these norms could be both positive and negative, they are worth exploring. The majority of the respondents had a positive view toward condom use and safer sex practices. These findings implied that these respondents are aware of and in agreement that the HIV infection is a serious condition, they are aware of their vulnerability, and they believe that sexual health is important. There is empirical evidence that alcohol use, particularly binge drinking, increases the chances of engaging in unfavorable behaviors, such as unplanned and unsafe sex,[7,17] It was of much concern to learn that only a small percentage (32.4%) of respondents either "strongly disagreed" or "disagreed" that their friends are likely to have unsafe sex after drinking alcohol. Likewise, most of the respondents in this study perceived themselves as exercising good judgments about sexual health even when they are drinking. An explanation for this belief could be that freshman college students do not view alcohol as a threat to well-being but rather as a positive way of reducing the stress of their first year of experiences in college.[17] College-based interventions should be developed and implemented to counteract such misperceptions.

Less than half (44.1%) of the respondents reported that they were in monogamous relationships. This rate is lower than those reported in prior studies in which investigators reported that the majority of the students were in monogamous relationships.[4,9]

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The 73 respondents who indicated that they were sexually active in the previous 6 months and not exclusively partnered are putting others at risk for HIV. It was encouraging to note that only a very small percentage of respondents engaged in sex for payment and shared equipment for taking drugs.

This study and other studies revealed that a low percentage (41.4%) of college students was being tested for HIV.[6,11,14] Given the severity of the HIV infection, there is room for improvement. Although only 41.4% of the respondents were tested for HIV, 63% claimed that they were HIV negative. The assumptions might be that the respondents who were never tested and claimed that they had a negative HIV status were either practicing sexual abstinence or safe sex.[16] The notion of not being concerned about HIV testing because safe sex is being practiced could be detrimental.[14] Hence, interventions that are designed to reduce the spread of the HIV infection should include HIV testing. In the preceding 6 months, the number of sexual partners for 94 respondents who had vaginal sex with and without a condom was lower (median = 2.5, range 1-5) than the 144 respondents who had vaginal sex with a condom (median = 5.5, range 1-20). Nonetheless, both groups exhibited unsafe sex practices. Therefore, interventions are needed to reduce the number of sexual partners to one other person and to promote sexual abstinence.

Schools were identified as the number one venue for meeting sexual partners, and television followed by school programs were listed as the two main HIV source of information. These findings have implications for program planners when deciding on how and where to deliver HIV interventions. Parents should play an important role in the sexual health of their children. However, the results of this study did not support this concept because the family was listed as the number nine source of HIV information. This can be partially explained with reasons, such as some parents might feel that they are not equipped to discuss HIV prevention with their children, and others may believe that it is better for their children to receive HIV information from health professionals and educators. Although efforts to prevent the spread of HIV are active on some of the campuses of universities and colleges, this intervention might be too late for some target populations.[6] Therefore, researchers might consider placing more emphasis on the home as an intervention delivery channel for HIV prevention.

In summary, this study provided information about the knowledge, attitudes, beliefs, and behaviors about HIV in a sample of African American college freshman students. Two main limitations were identified in this study. First, generalization to other samples of African Americans is not possible because the study participants were a convenience sample and a homogenous group with specific characteristics needed to carry out the study. Second, the survey was a self-reporting instrument. Despite these limitations, the study provided important information that has implications for educators and health professionals (such as concerns about the sexual behaviors of students and determining what can be done to improve sexual health). The data showed that knowledge is a determinant of the intention to use condom in the future, although weak. Also, the data corresponded with other studies in which researchers found that knowledge, attitudes, and beliefs regarding HIV do not necessarily lead to desirable sexual behaviors.[2,3,4,16] It seems that knowledge, attitudes, and beliefs about HIV is not the solution for improving sexual health among college students. Thus, a closer look of other theories and factors may explain the students' behaviors. It is possible that it is the students' attitudes and beliefs about sexual practices that make the difference in regulating their behavior. A more extensive study is needed to build upon this preliminary investigation to include testing the utility of Ajzen and Fishbein's theories of Reasoned Action and Planned Behavior in understanding risky sexual behaviors. Since a variety of factors may influence sexual health, it is therefore recommended to add other variables (such as Christianity and social norms). The literature shows that African Americans have referred to Christ for affirmation in health-related matters.[18-20] It is recommended that other studies include research questions about Christian teachings on sexual behaviors to help explain why some students engage in more risky sexual activities than others.

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