

SEXUAL BEHAVIORS OF AFRICAN-AMERICAN MALE COLLEGE STUDENTS AND THE RISK OF HIV INFECTION

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A survey of the rates of sexually transmitted diseases and protective sexual behaviors among a population of African-American male college students demonstrates that although monogamy, avoidance of casual sexual activity, and the avoidance of the use of drugs and alcohol during sexual activity tends to decrease the risk of exposure to human immunodeficiency virus, consistent condom use is the only sexually related behavior that is significantly protective. (*J Natl Med Assoc.* 1992;84:864-868.)

Key words • AIDS • HIV • African-American males
• college students • adolescents

As the acquired immunodeficiency syndrome (AIDS) epidemic has progressed and as we have learned more about the epidemiology and pathophysiology of human immunodeficiency virus (HIV) infection, it has become clear that the African-American adolescent and young adult male is at increased risk for acquiring this disease.^{1,2} While only 14% of the young adults in our country are African American, they comprise 31.94% of the AIDS cases in their age group.³ In addition, 97.2% of all reported cases of AIDS among African-

American adolescents and young adults have been males.³ In the state of New Jersey, AIDS is the leading cause of death for men between the ages of 25 and 44.^{4,5} Furthermore, in seroprevalence studies of civilian applicants for military service, the Department of Defense reported that HIV seropositivity was 5.5 times greater for African-American males compared with white non-Hispanic males.⁶ In a Department of Labor report on the seroprevalence of Job Corps entrants, African-American males tested HIV seropositive four times more frequently than white males.⁶

The association between risky behavior and the acquisition of HIV is a well-established relationship.⁷⁻¹⁶ In the male population, HIV infection is transmitted only by exposure to blood products and through sexual contact. It is equally well-established that an individual can prevent acquisition of an HIV infection through the modification of the behaviors that expose that individual to the AIDS virus. Specifically, the public has been advised to avoid the use of illicit drugs and the sharing of needles, to restrict their sexual activity to monogamous relationships, to avoid casual sexual relationships, to avoid the use of drugs and alcohol during sexual activity, and to always use condoms while engaging in vaginal, anal, and oral sexual intercourse.

In response to their awareness of their risk for exposure to HIV infection, a group of African-American male students from a New Jersey university contacted the Adolescent and Young Adult Medicine Department of the Children's Hospital of New Jersey for assistance in developing an intervention program that would assist them in decreasing their jeopardy. We were aware that the effectiveness of such an effort with a transient population of young men who are preoccupied with the overwhelming number of activities and

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responsibilities inherent in college life would depend on the brevity and the specificity of the intervention. Therefore, in the preliminary phase of this project, the study described here was initiated to:

- identify the prevalence of the traditional at-risk sexual behaviors in this population of African-American male college students,
- determine the relative contributions of these behaviors to an increased risk of acquisition of a sexually transmitted disease (STD), and
- establish the effectiveness of modifications of these at-risk sexual behaviors as deterrents to infection with HIV and other sexually transmitted diseases.

METHODS

A focus group of African-American male college students met with the director of adolescent medicine services to develop and refine a 14-item risk assessment survey (Figure). Particular emphasis was placed on the accuracy of the interpretation of statements used to access the 14 variables. We decided to use STDs as an outcome variable that is representative of risk of exposure to HIV because of the established relationship between HIV and infection with other STDs.⁷

This survey was distributed to a convenience sample of black male students who were encountered on the college campus during a 2-week period. The data from the surveys were analyzed to determine the distributions of responses to specific risk items. The significance of the correlations between behavioral items and the outcome variables were analyzed with the chi square and *t* tests.

RESULTS

A total of 72 African-American male students completed the survey (Table). This number of responses represents approximately 60% of the total population of African-American males on this college campus. The average age of the population was 19.98 years, and 90.27% of the respondents were sexually active. Of these, 92.3% (60 of 65) were currently sexually active, which was defined as having at least one sexual experience within the last 6 months. The mean age for the sexually active students was 20.17 years, and the mean age for those currently sexually active was 20.27.

In the population of sexually active students, 96.9% stated that they were heterosexual. The average age of first sexual experience was 14.2 years, and the average number of sexual partners in a 6-month period was 2.15. In this group, 52.3% engaged in casual sex, and

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|---|
| <p>1. Age _____</p> <p>2. Resident _____ Nonresident _____</p> <p>3. Have you ever had sex? Yes _____ No _____</p> <p>4. Do you have sex with men _____ women _____ Both _____ ?</p> <p>5. How old were you when you first had sex? _____</p> <p>6. How many sex partners have you had in the past 6 months? _____</p> <p>7. During those 6 months, did any of your partners have other sex partners? Yes _____ No _____ Don't know _____</p> <p>8. Have you ever had sex with someone whom you have just met (casual sex)? Yes _____ No _____</p> <p>9. Do you ever use drugs or alcohol before you have sex? Yes _____ No _____</p> <p>10. Do you use condoms when you have sex? Always _____ Sometimes _____ Never _____</p> <p>11. Have you ever had a sexually transmitted disease? Yes _____ No _____ Don't know _____</p> <p>12. Have you ever used IV drugs (needles)? Yes _____ No _____</p> <p>13. Have you ever been raped or sexually abused? Yes _____ No _____</p> <p>14. Have you ever been tested for AIDS? Yes _____ No _____</p> <p>Comments: _____ _____ _____ _____</p> |
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Figure. Sexual behavior survey.

24.6% used substances in conjunction with sexual activity. Only 40% of the sexually active students reported that they used condoms consistently. Twenty percent of the sexually active students reported that they had had an STD.

Because there were individuals in the population who had had no sexual experiences in the last 6 months, we created a subset of currently sexually active black male students for further analysis. This currently sexually active group was comprised of 60 students with an average age of 20.27 years. This average age was not significantly different from that of the entire population. The average age of first sexual experience for this

TABLE. CHARACTERISTICS OF SEXUALLY ACTIVE AFRICAN-AMERICAN MALE COLLEGE STUDENTS

| Characteristic | Total No. Sexually Active* (%) | No. Currently Sexually Active† (%) | No. Monogamous‡ (%) | No. Nonmonogamous‡ (%) | P Value§ |
|--|--------------------------------------|--|---------------------------|------------------------------|----------|
| Mean age (years) | 20.17 | 20.27 | 20.40 | 20.13 | .6 |
| Heterosexual | 63 (96.9) | 58 (96.7) | 29 (96.9) | 29 (96.9) | 1.00 |
| Mean age of first sexual activity (years) | 14.2 | 14.27 | 15.4 | 13.13 | <<.01 |
| No. of sexual partners in last 6 months | 2.15 | 2.33 | 1 | 3.67 | <<.01 |
| Casual sex | 34 (52.3) | 33 (55.0) | 10 (33.3) | 23 (76.7) | .001 |
| Substance use with sexual activity | 16 (24.5) | 16 (26.7) | 9 (30.0) | 7 (23.3) | .5 |
| Consistent condom use | 26 (40.0) | 22 (36.7) | 11 (36.6) | 11 (36.6) | 1.00 |
| History of sexually transmitted diseases | 13 (20.0) | 13 (21.7) | 4 (13.3) | 9 (30.0) | .12 |
| IV drug use | 0 | 0 | 0 | 0 | |
| Raped or sexually abused | 2 (3.1) | 2 (3.33) | 1 (3.33) | 1 (3.33) | 1.00 |
| HIV test | 16 (24.6) | 16 (26.6) | 9 (30.0) | 7 (23.3) | .56 |

*n = 65.

†n = 60.

‡n = 30.

§P values are for monogamous versus nonmonogamous groups.

population, 14.27 years, also was not significantly different from that of the entire group of sexually active students. The average number of sexual partners in the last 6 months was 2.33, and 55% engaged in casual sexual activity while 26.7% used substances in conjunction with sexual activity. In this group, 21.7% reported that they had had an STD, and 36.7% reported consistent condom use. These rates were not significantly different from those of the entire population of students who were sexually active.

To determine the relative risk of the specified behaviors, the reported occurrence of an STD was correlated as a dependent outcome variable for each behavior. Casual sexual activity ($P = .2$), knowledge that sex partners had other sex partners ($p = .55$), use of substances with sexual activity ($P = .43$), number of sexual partners in the last 6 months ($P = .26$), and the age of first sexual experience ($P = .57$) did not have a significant effect on the frequency of STDs reported on our survey. However, the consistent use of condoms ($P = .015$) significantly affected the rate of STDs reported.

To further evaluate the significance of these risk factors, subsets of monogamous (one sex partner in the last 6 months) and nonmonogamous (more than one sex partner in the last 6 months) were created. These subsets were based on the observation that an increased number of sexual partners increases the risk of exposure to an

STD. There were 30 students in each of these groups. The average age of the monogamous students was 20.4 years (range: 17 to 25), and the average age of the nonmonogamous students was 20.13 years (range: 17 to 31). The difference in average age of first sexual experience between the monogamous and nonmonogamous groups was highly significant—15.4 versus 13.13, respectively ($P = <<.01$). The average number of sexual partners in 6 months for the nonmonogamous group (3.67) was significantly higher than the average number for the group of currently sexually active students ($P = <<.01$). The two groups also varied significantly in the rate of casual sexual activity—76.7% in the nonmonogamous group versus 33.3% in the monogamous group ($P = .001$). However, there was no significant variance in the occurrence of substance use in conjunction with sexual activity (23.3% for the nonmonogamous group versus 30% for the monogamous group, $P = .5$) or the reported rate of STDs (13.3% for the monogamous group versus 30% for the nonmonogamous group, $P = .12$). Interestingly, the rate of consistent condom use in both groups was identical—36.7%.

In the nonmonogamous group, those students who consistently used condoms significantly decreased their risk of STDs (9% consistent condom users versus 42% nonconsistent condom users, $P = .05$). However, there was no significant protective effect from fewer sex

partners ($P=.34$), later age of first sexual activity ($P=.9$), avoidance of substance use during sexual activity ($P=.57$), or avoidance of casual sexual activity ($P=.17$).

Finally, in the group of monogamous students, there was no significant variance in the rate of STDs with condom use ($P=.33$), casual sex ($P=.75$), and age of first sexual experience ($P=.61$). However, there was a tendency toward significance for substance use ($P=.06$).

DISCUSSION

The sexual transmission of HIV is directly related to a series of behaviors that also increase the prevalence of STDs.⁷ Traditional HIV risk reduction health education has emphasized the importance of monogamy, the elimination of casual sexual activity, the avoidance of the use of drugs and alcohol during sexual activity, and the consistent use of condoms. This survey demonstrated the high risk of this population: of those who were currently sexually active, 50% had had sexual intercourse with more than one partner in the past 6 months, 50% participated in casual sexual relationships, 26.6% used drugs and/or alcohol in conjunction with their sexual activity, and only 36.6% used condoms in a consistent manner.

The economy of time necessitates the development of messages that focus on the most effective behavioral modifications. Given that the reported incidence of STDs is an appropriate surrogate for the probability of exposure to HIV, our research suggests that the consistent use of condoms is the most important behavior to modify. Although those subjects who had more than one sexual partner in the past 6 months engaged in casual sexual activity, and/or used drugs or alcohol during sexual activity reported higher rates of STDs, the differences in their rates and those of subjects who avoid these behaviors did not approach significance.

Monogamy (one sexual partner in the last 6 months) decreased the incidence of reported STDs but not to a level of significance ($P=.118$). Our data suggest that this lack of difference may be related to the rate of condom use, which was identical in both the monogamous and nonmonogamous groups. The importance of consistent condom use is further supported by the significant difference in the rate of reported STDs between the group of nonmonogamous students who used condoms consistently and those who did not use condoms consistently (9% versus 42%, respectively; $P=.05$).

Casual sexual activity increased the rate of reported STDs (23.3% casual sexual activity versus 11.1% no casual sexual activity). However, this difference was not significant ($P=.073$). Unlike the monogamous and the nonmonogamous groups, the subjects who engaged in casual sexual activity used condoms less consistently than subjects who avoided casual sexual activity (27.2% versus 48.1%, respectively). Again, this difference was not significant ($P=.096$). Even in this group (casual sexual activity), the importance of condom use is further supported—the subjects who engaged in casual sexual activity and used condoms had a rate of STDs that was identical to the rate of subjects who reported that they did not engage in casual sexual activity—11.1%.

The use of drugs and alcohol during sexual activity is suspected to increase the risk of exposure to HIV and other STDs because they are thought to interfere with the consistent use of condoms. Although the subjects who reported that they used substances during sexual activity also reported that they used condoms less consistently than the subjects who did not use drugs and alcohol during sexual activity (23% versus 43.1%, respectively), this difference was not significant ($P=.083$). We also did not find a significant difference in the rate of reported STDs between the two groups, although those students who did not use drugs and alcohol reported a lower rate of infection than those who did use drugs and alcohol (18.18% versus 31.25%, respectively).

The most dramatic difference in the rate of reported STDs was found between the groups of students who reported that they used condoms consistently and those who reported that they did not use condoms consistently (4.5% versus 31.6%, respectively; $P=0.015$). Moreover, as indicated above, the protective effect of condom use tended to compensate completely for the harmful effects of the other risk factors.

CONCLUSION

These data indicate that the most powerful protective sexual behavior is consistent condom use. Furthermore, although other protective behaviors tend to decrease the risk of exposure, there is little protective benefit gained if they are not combined with consistent condom use. Therefore, we have concluded that given the economy of time and fiscal resources, our prevention approaches will focus exclusively on the consistent use of condoms.

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