

epi-bio among the epidemiologists. Whether epidemiologists should continue to be concentrated in a centralized unit such as the office of the State epidemiologist or dispersed among specific program areas is an issue that deserves further study.

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Drug Use and Sexual Behavior of Indigent African American Men

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Synopsis

A total of 108 African American men in a free lunch program with histories of drug abuse were surveyed to determine the relationships among drug use, sexual activity, AIDS prevention practices, and perceived risk of AIDS.

Of the 108, 69.5 percent were homeless and only 12 percent were currently receiving drug abuse treatment. More than half of the participants had injected drugs, and 38 percent had shared needles. Among the 80 percent who were sexually active, 40 percent reported using condoms every time they had sex. Respondents in monogamous relationships tended to use condoms less frequently. Those who shared needles were more likely to have sex with IV drug users and had more sexual partners. Respondents who used crack used condoms less frequently. Those with multiple partners were more likely to engage in anal intercourse. Three-quarters perceived themselves at risk of AIDS.

Findings underscore the need for community-based strategies to engage high-risk populations beyond the reach of drug treatment and AIDS prevention programs.

Although African Americans represent only 12 percent of the U. S. population, they account for approximately 28 percent of AIDS cases reported in adults (1). Of the African American adults with AIDS, 46 percent are intravenous (IV) drug users, compared with 15 percent of white Anglo adults with AIDS (2).

This demographic portrait of AIDS points up the need for understanding attitudes and behavior in the realms of sexual activity and drug use among African American men. A recent study of 149 male IV drug users found that almost half of African American participants had not been in drug treatment over the past 5 years, whereas only 20 percent of the white respondents had not received treatment (3). In another study of 500 IV drug users, a street sample evidenced a substantially higher sero-

positivity (33 percent vs 12 percent) than a comparison group in treatment (4).

Some studies indicate that IV drug users have made substantial changes in response to concerns about AIDS (5-9). Changes in sexual behavior have been less evident than altered patterns of needle use (10,11). Our own research, conducted on two samples of methadone patients, found low rates of condom use (12,13). We also found that sexual risk-taking was correlated with drug use and with negative attitudes toward condom use and sexual negotiation. Des Jarlais and coworkers concluded from their findings that it appears relatively easy to institute condom use within a casual sexual attachment but more difficult to introduce condoms into an established relationship (14).

The linkages among high-risk drug use, sexual

activity, and risk reduction in untreated populations have yet to be investigated extensively. Our study examines the association between these risk variables among male African American drug users who are not in treatment.

Method

Subject recruitment and setting. Study participants were recruited from a free meal program located in the northern part of New York City. Approximately 75 percent of those in the program were African American men. Most were food stamp recipients who spent their days on the street and their nights in shelters, doorways, subways, or other people's apartments. Subjects were referred to our study by staff members of the meal program on the basis of whether or not they had a history of drug abuse. According to the staff members, 60 percent of those in the meal program were drug users. They were paid a small fee to participate in our study.

Measures. Using an interview schedule, trained interviewers obtained behavioral, psychological, and demographic data in private, anonymous interviews. Participants were asked about their sexual behavior during the preceding 3 months and before that, their recent and past drug use, their preventive practices to reduce the likelihood of contracting or transmitting AIDS, and their perceived risk of AIDS.

Data analyses. Descriptive statistics are reported for each variable of interest. Mann-Whitney U statistics were used to test group differences with variables that had highly skewed distributions such as the number of sexual partners, the frequency of vaginal, anal, and oral sex, and needle sharing. Chi square statistics were used with categorical variables.

Results

Demographics. The mean age of the subjects in the study was 37 years; the standard deviation (SD) equaled 8, with a range of 21 to 59 years. Ten percent were employed part- or full-time. Public assistance was the major source of income (54 percent). Two-thirds reported they had been graduated from high school or received a GED degree, and almost one fourth indicated that they had attended college. Only 8.4 percent were married or living with a significant other; 56.1 percent indicated that they were never married; and 35.5

Selected risk behaviors among 108 indigent African American men drug users in New York City

Behavior in past 3 months	Number	Percent
Drug use:		
Marijuana.....	59	54.6
Heroin.....	14	13.1
Cocaine.....	64	59.3
Crack.....	52	48.1
None.....	16	14.8
Number of sexual partners:		
0.....	20	18.7
1.....	37	34.6
2-5.....	37	34.6
6-10.....	6	5.6
11 or more.....	7	6.5
Missing.....	1	0.9
Reported condom use in vaginal intercourse:		
Everytime.....	34	31.5
Most of the time.....	11	10.2
Sometimes.....	7	6.5
Rarely.....	11	10.2
Never.....	44	40.8
Missing.....	1	0.9

percent were divorced, separated, or widowed. Minor children were claimed by 45 percent of the respondents.

Living arrangements. The bulk (69.5 percent) of the participants were homeless; 35.2 percent resided either in the street or in a shelter; and 34.3 percent lived in someone else's apartment. Those who were living on the street or in a shelter had spent an average of 2.5 years (SD = 1.17) without a home.

Drug use history. All subjects reported past use of marijuana, heroin, cocaine, crack, or combinations of drugs (see table). Asked about the previous 3 months, 27.8 percent indicated using one of the four substances, 31.5 percent used two, and 25.9 percent used three or more. The remainder (14.8 percent) reported using none of these substances recently. Only 12 percent reported being treated currently for drug abuse, including 7.5 percent who were enrolled in methadone maintenance.

Nearly all (97.2 percent) had used marijuana sometime, and 58.3 percent of respondents reported use during the last 3 months. The great majority (92.6 percent) reported that they had used cocaine in the past, and 51.9 percent reported use during the last 3 months. Three-quarters (76.9 percent) had used crack in the past, and 42.6 percent reported use over the last 3 months. Past heroin use was admitted by two thirds (65.7 percent), and 13.1 percent claimed use over the last 3

months. Half (49.1 percent) had used speedballs in the past, and 9.3 percent used such a mixture of cocaine and heroin during the last 3 months.

Respondents began to use marijuana at an average age of 16.2 years (SD = .4) and continued use for a mean of 16.4 years (SD = .9). At an average age of 19.2 years (SD = 5.9), they began using heroin and continued use for a mean of 11 years (SD = 6.0). Cocaine use began at an average age of 22.6, (SD = 8); mean length of use was 11.2 years (SD = 6.9). Respondents began using crack at age 33 (SD = 1.0) and continued to use crack for a mean of 3.5 years (SD = 2.7).

High risk drug use. More than half (52 percent) of the respondents reported injecting drugs in the past, and 13 percent did so during the last 3 months. Among those who reported IV drug use, 58 percent indicated that they had used speedballs, 6.9 percent IV cocaine, 9.7 percent heroin, and 25.4 percent injected other drugs. Twenty-four percent of these men reported overdosing, 12 percent more than once. Of the total sample, 38 percent had shared needles in the past for an average of 9.2 years; 18.5 percent rented used needles; and 35.9 percent reported they had borrowed needles.

Self-reported HIV antibody testing. Among the 44.4 percent of respondents who indicated that they had taken the HIV antibody test, 11.4 percent indicated that they were HIV positive; 77.3 percent said they tested negative, and the remainder did not receive the results. A smaller proportion (18.7 percent) indicated that their sexual partners had taken the HIV antibody test. A total of 39 (36.4 percent) had close friends who died from AIDS.

Sexual behavior. The group's reported sexual orientation was 91.6 percent heterosexual, 4.6 percent homosexual, and 3.7 bisexual. Of the total, 80 percent were sexually active during the last 3 months, 79 percent practiced vaginal sexual intercourse, 53.3 percent oral sex, and 25.2 percent anal sex. Of the total sample, 15 (14 percent) claimed to have only one sexual partner over the last 9 years. The percentage who reported having sex with an IV drug user was 41. Among the sexually active, 97.6 percent had sex with a partner whose sexual history was unknown. The number of sexual partners ranged from 0 to 25 (mean = 2.8; mode 1); 19 percent reported no sexual partners; 35.2 percent had one; 35.2 percent indicated 2-5 partners; 5.7 percent had 6-10 partners; and 4.8 percent had more

than 10 sexual partners.

Those who injected drugs were more likely than those who did not to have sex with an IV drug user ($\chi^2 = 4.755$, $df=1$, $P < .029$). Needle sharers were more likely to have sex with IV drug users than those who did not share needles ($\chi^2 = 30.385$, $df=1$, $P < .000$). A positive relationship was found between number of sexual partners and frequency of sharing needles ($r = .3565$, $P < .05$). Those who recently practiced anal or oral sex reported more sexual partners ($U = 661$, $P < .0002$; $U = 812$, $P < .000$).

Preventive sexual practices. Subjects reported various preventive actions to reduce the likelihood of contracting HIV:

1. knowing sexual partners' histories,
2. reducing the number of sexual partners,
3. staying with a regular partner,
4. abstaining from oral sex,
5. abstaining from anal sex,
6. abstinence from vaginal, anal, and oral sex,
7. using condoms,
8. masturbation, and
9. asking whether or not sexual partners had been tested for HIV.

Abstinence from anal sex and use of condoms were reported most often.

Among sexually active subjects, 40 percent stated they had used condoms every time they had vaginal intercourse in the last 3 months, 12.9 percent used condoms most of the time, 8.2 percent sometimes, and 38.8 percent did not use condoms at all during vaginal intercourse. Respondents who were in monogamous relationships tended to use condoms less frequently ($U = 387$, $P < .006$). Among the 58 men who had recent oral sex, 86 percent never used condoms; of the 27 who had anal sex, 77.8 percent never used condoms.

The men obtained condoms from several sources, such as physicians, hospitals, friends, someone on the street, grocery stores, and pharmacies. Many (41 percent) indicated that they bought condoms at least once over the last 3 months. Nearly all (95 percent) wanted access to free condoms. Nearly half (44.9 percent) stated that they carried condoms in their pockets all the time. Only 31 percent, however, were able to produce a condom upon request.

Correlates of condom use. As expected, subjects who carried condoms on their person reported a

higher frequency of condom use than those who did not ($U = 470, P < .003$). Also as expected, those who claimed that they bought condoms used them more frequently than others ($U = 264, P < .000$).

Of the sexually active not using condoms regularly, 60 percent claimed condoms reduce sensation, 55 percent said they were embarrassed to use condoms with someone who lives in the neighborhood or whom they have known for several years as a partner, 45 percent believed condoms do not prevent AIDS, 40 percent believed condoms can break easily, and 35 percent said they were unable to get condoms. Frequency of condom use was unrelated to use of heroin, cocaine, speedballs, or marijuana, but crack users used condoms less often than other subjects ($U = 448, P < .045$).

Perceived AIDS risk. A total of 76 percent of the participants perceived themselves at risk of AIDS; half (50.6 percent) believed that this risk was great.

Discussion

This study has two methodological limitations. First, the sample selection raises questions about the generalizability of the findings, and it cannot be assumed that the selected participants in this study are representative of all participants in similar settings. Second, self-reported data are subject to biases related to social desirability and fear of disclosing sensitive information. Considered along with these caveats, findings may have implications for developing AIDS prevention interventions among male drug users not enrolled in drug treatment programs.

Most of the drug users in this sample provided ample evidence that they were more than occasional users of illegal substances. Except for crack, respondents used these substances for an average of 9 years or more. More than half injected drugs in the past; more than a third had shared needles.

Four of five participants were sexually active during the past 3 months. Condom use was very low during anal and oral sex, but among subjects who had recent vaginal intercourse, 40 percent claimed to use condoms consistently. Condom use was less frequent among respondents in monogamous relationships. Barriers to condom use cited most often by infrequent or nonusers were that condoms reduce sensation and that it was embarrassing to use a condom with a familiar sexual partner. Findings revealed significant relationships between high-risk drug use and risky sexual behavior.

Intervention needs. Findings suggest that attitudinal, interpersonal, and socioeconomic influences determine high-risk drug use and sexual risk-taking. More research is needed to explain further the multiple factors underlying the apparent linkage between risk taking behavior and the refractive problems of addiction, poverty, and homelessness. Although altering both drug use and high-risk sexual behavior may seem beyond the scope of any single program, there is considerable overlap between the attitudes and skills needed to adopt safer sex measures, reduce high-risk drug use, and seek drug treatment.

In designing such multifaceted interventions, three core components should be considered. First, social skills training can help clients to negotiate safer sex, resist sharing needles, and communicate interest in seeking drug treatment (15). Second, efforts to enhance self-efficacy can help clients to perceive themselves as capable of practicing safer sex, resist high risk drug use, and become drug free (16). Third, cognitive skills and problem solving are needed to identify high-risk situations and adopt alternative courses of action (17-19).

The challenge remains: finding practical strategies that are sufficiently intensive yet deliverable in nontraditional settings. With few exceptions, efforts delivered outside of health, educational, and addiction treatment settings have relied heavily on information and dissemination of materials such as condoms and bleach. Although such efforts may have some utility, it is unlikely that information and paraphernalia alone will lead to large scale changes in risk behavior among disenfranchised populations.

Public health providers must design and carry out interventions that will alter risk-taking and motivate this disenfranchised population to seek addiction treatment. Prevention advocates need to continue to develop, implement, and assess the efficacy of strategies suitable for nontraditional settings. Soup kitchens, shelters, and related programs for indigent and homeless persons can provide nonthreatening settings for launching prevention programs and, at the same time, might also facilitate referrals to housing, health, and mental health services, and other basic services so obviously needed by this population. Many such demonstrations and field trials are being supported by the Centers for Disease Control, the National Institutes of Health, the Alcohol, Drug Abuse, and Mental Health Administration, and other public and private entities at the national, State, and local levels.

Our findings demonstrate that AIDS, drug abuse, and homelessness are overlapping problems that do not fit neatly into research or service agencies organized around single problems. More than ever, there is a continuing need for multi-faceted research and intervention strategies to address these complex and interrelated scourges.

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