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QUALITATIVE/QUANTITATIVE RESEARCH AMONG DRUG-USING MSM

Drug and Sexual Risk in Four Men Who Have Sex with Men Populations: Evidence for a Sustained HIV Epidemic in New York City

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ABSTRACT *The objective of this article was to examine drug and sexual risk in four salient groups of men who have sex with men (MSM) in New York City (NYC): (1) nonhomeless young MSM (YMSM), (2) homeless YMSM, (3) adult MSM Speed users, and (4) HIV-positive "POZ Party" MSM. Lifetime and current exposure to drugs, drug injection, and selected drug–sex interactions are highlighted in each group. Data derive from recently completed field-based, ethnoepidemiological studies that used venue-oriented/targeted sampling and semistructured interviews. Across all four groups, findings show that both drug and sexual risk remain prevalent in the MSM population in NYC. This is especially troubling given the already high background prevalence of HIV and other sexually transmitted diseases in NYC and the widespread suffering and death already wrought by HIV/AIDS among MSM. These findings suggest that available public health interventions today are, in many respects, failing to reach, engage, and affect critical risk groups within the NYC MSM population.*

KEYWORDS *Drug abuse, HIV, MSM, Sexual risk.*

INTRODUCTION

New York City (NYC) has reported 122,758 cases of AIDS through the end of 2000. Although NYC represents only a small fraction of the overall US population (roughly 3%), it bears the burden of 17% of the total number of AIDS cases in nation as a whole. HIV remains the leading cause of death among New Yorkers between the ages of 25 and 44 years.[1] Men who have sex with men (MSM) have figured prominently in the history of the NYC HIV epidemic from its inception, and MSM continue to be represented in a substantial number of new infections.[2–5] Although the number of people dying from AIDS in NYC has steadily declined in the last decade, in association with the availability of effective antiretroviral treatment since 1996, the spread of HIV infection continues at an alarming rate, particularly in young adult populations of MSM. Evidence suggests that drug use plays an important role in recent increases in the incidence of HIV/sexually transmitted diseases

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(STDs) in MSM populations in the United States, particularly among young MSM.[6–10] Yet historically, and until very recently, much of the research conducted among MSM populations in NYC has focused on sexual risk. There has been comparatively little attention given to the role of drugs and, notably, to the interaction between drug use and sexual risk practices associated with transmission of HIV infection.

Data described in this article span four different subpopulations and derive from two separate ethnoepidemiological research projects conducted in NYC over a period of roughly 4 years (2000–2004). Each project had a distinct set of goals and analytic objectives, and each used different research instrumentation to assess drug and sexual risk practices. Although these differences constrain formal data comparisons across the four groups, it is nonetheless possible to reflect on the implications of the overall patterns that emerge among them, particularly as they relate to future research and HIV-prevention activities. The two research projects comprised of (1) young MSM (YMSM) with a history of stable housing, (2) YMSM who are homeless or have had unstable housing, (3) adult MSM who use methamphetamine (Speed), and (4) adult MSM who attend a distinct type of sex party venue that is scripted for the exchange of sex among HIV-positive MSM. Each of the four groups provides a partial view of the drug-use and sexual risk scene among NYC's large and diverse MSM population. Collectively, the data advance our understanding of drug and sexual risk among MSM and thereby hold promise for the development of more effective outreach and HIV intervention strategies for this population.

METHODS

The four study groups derived from two mixed-methods, community-based field studies of targeted MSM subpopulations in NYC. The two studies used venue-oriented targeted sampling approaches[11,12] and a combination of applied field methods tailored for "out-of-treatment" and often "hidden" populations, including ethnographic observation, open-ended qualitative interviews, and structured survey techniques. The data are limited to information collected through a structured survey format, primarily using close-ended questions constructed for the purpose of illuminating one or more of the specific objectives of a particular study, questions that were typically refined in and through prior formative ethnographic research in each of the subpopulations.

The aims and subject recruitment protocols of each study and the characteristics of each of the four samples, including demographics, drug use, and sexual behaviors, are briefly described below.

Study group 1 and study group 2 are from a research project on the drug and sexual risk behaviors of YMSM in NYC (N=569). Data were collected between August 2000 and May 2001. Using a targeted sampling plan that was developed in and through formative ethnographic research, we recruited subjects from a variety of natural settings where YMSM often congregate, including public parks, bars, dance clubs, public sex settings, and street hangouts. Although recruitment was concentrated in central Manhattan, sampling venues also included YMSM venues in upper Manhattan, Queens, and Brooklyn. Eligible participants were males between 17 and 28 years of age who reported sexual contact with a male partner within the previous 6 months. Participants completed a structured survey that covered numerous domains, including sexual behaviors and drug use. Sampling procedures and study instrumentation were reviewed by National Development and Research Institutes's Institutional Review Board before the initiation of the research

and were approved as in compliance with local and federal requirements governing the protection of human subjects.

Study group 1 included YMSM (N=320) who reported living in relatively stable housing arrangements at the time of the interview and had no prior history of housing instability (e.g., runaway experience).

Study group 2 (N=249) included YMSM who reported some type of housing instability, such as living in a shelter or runaway facility, having been asked to leave home, self-identifying as currently "homeless," or describing an unstable housing arrangement even if they did not self-identify as homeless (e.g., sleeping on the streets, in a park, on a subway train, or in an abandoned building).

Study group 3 was comprised of adult MSM methamphetamine (Speed) users who participated in a separate study of the relationship between use of methamphetamine or Speed and high-risk sexual practices. Data were collected between August 2003 and March 2004. Participants were recruited with palm cards and study fliers distributed in MSM venues, including coffee shops, bars, clubs, and service organizations, and with study advertisements in a local newspaper and a weekly gay entertainment magazine. A "snowball," chain-referral recruitment strategy was also used so that participants could refer others to the study. Eligible participants were men between the ages of 18 and 55 years who had sex with another man in the past 6 months and who had used some form of Speed in the last 6 months. Participants (N=109) completed a semistructured survey that assessed multiple domains, including drug use and recent sexual activity.

Study group 4 was from one of the sampling venues accessed for the MSM Speed Study. Specifically, it included HIV-positive MSM who attended a particular type of sex party, known as a POZ Party. Given the unique nature of this venue, it was necessary to use a special intercept instrument to recruit and interview study participants. Data were collected between July and December 2003. A brief screener interview was administered to all attendees at the entrance to the venue; 96% (N=115) completed a brief, structured questionnaire that included information on lifetime and current drug use and on recent sexual activities (including sexual exchanges in settings other than POZ Parties). Although they were both part of the MSM Speed Study, the participants in each of study groups 3 and 4 are unique (i.e., nonduplicative).

Data were collected using slightly different measures and involved small-to-modest sample sizes, with the result that formal between-group comparisons were not possible. These limitations notwithstanding, these data serve to highlight the role that drug use plays in the continuing HIV epidemic among MSM in NYC and may direct our attention to some of the specific problems for which additional research is required.

RESULTS

Group 1/Nonhomeless YMSM

The mean age of the nonhomeless YMSM sample was 21.8 (SD=2.9) (Table 1). The sample is distributed across three main racial groups, including White, Black, and Hispanic, with a small number of subjects identifying as Other (11%). Although we did not explicitly ask about HIV status, we did inquire about whether youth had been tested for HIV infection; and in this context, over 4% spontaneously disclosed having HIV infection. More than 15% indicated that they had received treatment for an STD in the past year. This is probably an underrepresentation of the actual prevalence of STDs among the respondents because many STDs go unrecognized and untreated.

TABLE 1. Characteristics of four risk groups

	Nonhomeless YMSM	Homeless YMSM	MSM Speed users	HIV-positive POZ Party MSM
Age (mean ± SD)	21.8 ± 2.9	21.5 ± 2.9	38.4 ± 9.3	42.4 ± 7.7
Ethnicity (%)				
White	34.7 (111/320)	16.5 (41/249)	42.2 (46/109)	70.4 (81/115)
Black	21.6 (69/320)	24.1 (60/249)	28.4 (31/109)	6.1 (7/115)
Hispanic	32.8 (105/320)	50.2 (125/249)	18.3 (20/109)	14.8 (17/115)
Other	10.9 (35/320)	9.2 (23/249)	11.0 (12/109)	8.7 (10/115)
Self-reported HIV status (%)	4.2 (11/263)	3.3 (7/212)	55.8 (58/104)	100 (115/115)
STD exposure* (%)	15.4 (49/319)	11.3 (28/248)	71.6 (78/109)	33.6 (37/110)

YMSM, young men who have sex with men (MSM).

*STD exposure: for YMSM, it refers to the frequency of getting STD treatment in the past year; for MSM Speed users, it refers to lifetime STDs; for HIV-positive POZ MSM, it refers to STDs in the past year.

These young adults report remarkably high rates of lifetime exposure to a wide variety of drugs, including crack cocaine (7%), powder cocaine (28%), heroin (6%), Speed (20%), methylenedioxymethamphetamine (MDMA) (47%), and ketamine (28%) (Table 2). Although significantly fewer YMSM reported current use of some substances, overall they reported substantial levels of chronic drug use (i.e., use within the last 30 days, excluding first use within this 30-day period), particularly of the so-called club drugs such as powder cocaine (13%), Speed (8%), MDMA (21%), and ketamine (11%).[13] These levels of drug use are consistent with the initiation data represented in Table 3. Most of the YMSM initiated the use of

TABLE 2. Prevalence (%) of lifetime and current drug use

	Nonhomeless YMSM	Homeless YMSM	MSM Speed users	HIV-positive POZ Party MSM
Lifetime drug use				
Crack cocaine	6.7 (21/314)	26.7 (63/236)	66.1 (72/109)	16.4 (18/110)
Powder cocaine	28.0 (88/314)	53.9 (130/241)	89.9 (98/109)	63.1 (70/111)
Heroin	5.8 (18/311)	22.5 (54/240)	38.5 (42/109)	3.6 (4/110)
Speed	20.1 (63/313)	26.7 (63/236)	100 (109/109)	46.8 (52/111)
MDMA	46.8(146/312)	51.7 (125/242)	79.8 (87/109)	51.4 (57/111)
Ketamine	27.8 (87/313)	29.4 (69/235)	62.4 (68/109)	27.9 (31/111)
Injection drug use	2.5 (8/319)	12.6 (31/247)	45.0 (49/109)	8.9 (10/112)
Current drug use*				
Crack cocaine	2.2 (7/318)	9.9 (24/243)	29.4 (32/109)	2.7 (3/112)
Powder cocaine	12.6 (40/318)	18.8 (46/245)	44.0 (48/109)	10.7 (12/112)
Heroin	1.3 (4/317)	8.6 (21/245)	18.3 (20/109)	—
Speed	8.2 (26/317)	10.2 (25/245)	78.9 (86/109)	17.9 (20/112)
MDMA	21.4 (68/318)	21.7 (53/244)	26.6 (29/109)	16.1 (18/112)
Ketamine	11.3 (36/318)	8.6 (21/244)	22.9 (25/109)	8.9 (10/112)
Injection drug use	0.3 (1/320)	6.0 (15/249)	11.9 (13/109)	2.7 (3/112)

MDMA, methylenedioxymethamphetamine; YMSM, young men who have sex with men (MSM).

*Current drug use was measured as drug use 30 days before the interview for YMSM and MSM Speed users and as drug use 3 months before the interview for HIV-positive POZ Party MSM.

TABLE 3. Mean age ± SD of initiation of drug use/injection

	Nonhomeless YMSM	Homeless YMSM	MSM Speed users	HIV-positive POZ Party MSM
Crack cocaine	19.3 ± 3.3	17.9 ± 2.4	23.5 ± 6.4	28.7 ± 7.6
Powder cocaine	19.4 ± 2.5	18.0 ± 2.9	24.9 ± 7.8	23.8 ± 5.6
Heroin	19.6 ± 2.7	17.4 ± 2.1	19.8 ± 7.0	25.0 ± 1.7
Speed	20.5 ± 2.4	18.0 ± 2.5	—	26.2 ± 8.0
MDMA	19.5 ± 2.2	18.6 ± 2.6	37.3 ± 13.6	30.3 ± 7.9
Ketamine	20.4 ± 2.4	19.3 ± 2.8	31.1 ± 9.0	32.2 ± 7.2
Injection drug use	18.5 ± 1.0	18.1 ± 2.9	—	35.3 ± 7.9

For men who have sex with men (MSM) Speed users, age of first injecting each type of drug was asked. MDMA, methylenedioxymethamphetamine; YMSM, young MSM.

these drugs after the age of 18 years, which is the age by which they can legally go to bars and clubs where alcohol is served and where these substances are often available. Roughly 18% reported drug use in their last sexual encounter (Table 4). Over 11% reported insertive unprotected anal intercourse (UAI) in their last sexual encounter, and nearly a third (31%) of these events involved the use of drugs. Nine percent reported receptive UAI in their last sexual encounter, and 10% of these events involved the use of drugs.

Group 2/Homeless YMSM

The mean age of the homeless YMSM group was 21.5 (SD=2.9) (Table 1). Most identified as ethnic minority, predominantly Hispanic (50%) and Black (24%), with fewer Whites (17%), and other groups (9%). Despite the potential for underreporting and the relatively young age, this group reported high levels of recent STDs: 11% had been treated for an STD in the past year, and 3% disclosed having HIV infection.

This group reported extraordinarily high rates of lifetime use of a variety of drugs, including crack cocaine (27%), powder cocaine (54%), heroin (23%), Speed (27%), MDMA (52%), and ketamine (29%). Despite the young age of the sample, an alarmingly high proportion reported injection drug use (IDU) during their lifetime (13%). Although chronic (i.e., within the last 30 days) drug use was lower, it was nevertheless high: respondents reported past month use of crack cocaine

TABLE 4. Last sex event and drug use (%)

	Nonhomeless YMSM	Homeless YMSM	MSM Speed Users*	HIV-positive POZ Party MSM†
Drug (Speed) use	18.1 (58/320)	34.9 (87/249)	50.6 (44/87)	32.6 (31/95)
Insertive unprotected anal intercourse	10.9 (35/320)	8.0 (20/249)	71.3 (62/87)	23.2 (22/95)
Drug (Speed) use	31.4 (11/35)	45.0 (9/20)	58.1 (36/62)	50.0 (11/22)
Receptive unprotected anal intercourse	9.4 (30/320)	6.0 (15/249)	49.4 (43/87)	37.9 (36/95)
Drug (Speed) use	10.0 (3/30)	40.0 (6/15)	48.8 (21/43)	44.4 (16/36)

YMSM, young men who have sex with men (MSM).

*For the study of MSM Speed users, instead of last sex event, last unprotected anal intercourse event was asked, and drug use refers to use/injection of Speed.

†Last sex events outside POZ Party.

(10%), powder cocaine (19%), heroin (9%), Speed (10%), MDMA (22%), and ketamine (9%). Nearly half of those reporting IDU in the lifetime reported that they were currently injecting drugs. These homeless YMSM reported initiating drug use at about the age of 18, well after initial exposure to either homelessness or sex work.[14] Over a third (35%) reported that drugs were involved in their last sexual encounter. Eight percent reported engaging in insertive UAI in their last sexual encounter, with nearly half (45%) of these encounters including the use of drugs. Six percent reported receptive UAI in their last sexual encounter, and here too drug use was prevalent (40%) in these exchanges.

Group 3/Adult MSM Speed Users

The mean age of the adult MSM Speed sample was 38.4 (SD = 9.3). Most identified as White (42%), with fewer Blacks (28%), Hispanics (18%), and Other (11%). Almost three quarters (72%) reported lifetime exposure to an STD. Given that participants were sampled from everyday venues (i.e., not from clinics or treatment settings), a surprisingly high number of MSM disclosed having HIV infection (56%).

MSM Speed users reported high rates of lifetime use of a variety of drugs, including crack cocaine (66%), powder cocaine (90%), heroin (39%), Speed (100%), MDMA (80%), and ketamine (62%). Nearly half (45%) reported lifetime use of injection drugs. Also, they reported high rates of chronic drug use within the last 30 days. Excluding those who reported having first initiated the use of these substances within the last 30 days, high rates of chronic drug use were reported, including crack cocaine (29%), powder cocaine (44%), heroin (18%), Speed (79%), MDMA (27%), and ketamine (23%). MSM in the Speed sample reported initiating the use of some illegal drugs in their early or mid 20s and drugs such as MDMA and ketamine in their 30s. Half (51%) of the MSM Speed users reported the use of drugs in their last sexual encounter. Also, they reported a mean number of 1.8 sex partners (SD = 3.3, range 1–26) and a mean number of 3.5 UAI exchanges (SD = 1.7, range 1–9) in their last sexual encounter. Over half (58%) of those who engaged in insertive UAI (71%) at the last encounter reported using Speed, and nearly half (48%) reported using it the last time they engaged in receptive UAI (49%). Nearly two thirds (61%) of the respondents indicated that they planned and expected to engage in UAI on these occasions.

Group 4/HIV-Positive MSM POZ Party

The HIV-positive POZ Party sample was the oldest group, with a mean age of 42.4 (SD = 7.7). Most identified as White (70%), with far fewer Blacks (6%), Hispanics (15%), and Others (9%). As expected, given that the venue is scripted specifically for sex among HIV-positive MSM, the participants all reported having the HIV infection (100%). Roughly a third (34%) reported having an STD in the past year.

MSM in the POZ Party sample reported high levels of lifetime use of a variety of drugs, including crack cocaine (16%), powder cocaine (63%), heroin (4%), Speed (47%), MDMA (51%), and ketamine (28%), with a substantial proportion (9%) reporting IDU. Rates of chronic use (measured in this subgroup as use within the last 3 months, excluding subjects who first initiated within this period) were relatively lower but still high, including powder cocaine (11%), Speed (18%), MDMA (16%), and ketamine (9%). Like the adult MSM Speed users, most of the HIV-positive MSM sample reported initiating drugs in their 20s or early 30s, including club drugs such as MDMA (M = 30.3, SD = 7.9) and ketamine (M = 32.2, SD = 7.2) in their early 30s. The last sexual encounter outside the context of a POZ

Party for about a third (33%) was drug-involved: about 23% reported insertive UAI at the last encounter outside a POZ Party, and half (50%) reported that drugs were involved before or during the exchange. More than a third (38%) reported receptive UAI at the last sexual encounter outside a POZ Party, and just under half (44%) reported that they had used drugs before or during the exchange.

DISCUSSION

There are many limitations to these data. In each of these studies, data were collected using a targeted sampling approach, and it is not possible to estimate how much each sample is representative of the overall population of MSM from which they are derived. Moreover, given that there are relatively few respondents in the adult MSM speed user group and the HIV-positive MSM POZ Party groups, there are limits to which we can infer generalizability or, as noted earlier, attempt formal between-group comparisons. The four samples were recruited over an extended period of time (August 2000 to March 2004), and historical effects and other external factors (e.g., changes in the drug economy, police actions, and availability of treatment services) may be reflected in the data. Also, the data are self-reported, retrospective accounts of involvement in drug and sexual practices, activities that are highly stigmatized and, in some cases, illegal. These circumstances may introduce recall errors and reporting biases. Each study focused on out-of-treatment populations that were recruited and interviewed in natural settings. The nature of these settings placed functional limits on the lengths of the interviews and, hence, on the level of detail and specificity of information that could be collected. Lastly, the samples were recruited in studies that used the cross-sectional design. In some cases, particularly in the YMSM samples, we collected data on the timing of first exposure to a wide range of negative life events, including first exposure to drugs and onset of risk behavior. The findings provide the basis for at least a preliminary understanding of the order in which these events occurred but limit an assessment of the extent to which drug use among MSM in NYC has changed.

Nonetheless, the data indicate high rates of exposure to drugs across all four of these groups of MSM. Although substances prevalent in MSM club venues, such as Speed, MDMA, ketamine, and cocaine, are well represented, higher rates than anticipated were also observed for heroin and also in the use of injection as a mode of drug administration. All but the adult Speed users reported very high rates of use of MDMA and powder cocaine—adult Speed users reported Speed as the drug they used most, which was a criterion for enrollment in the study. Rates of MDMA use ranged from 47% among nonhomeless YMSM to 80% among Speed users, and rates of powder cocaine use ranged from 28% among nonhomeless YMSM to 90% among Speed users. IDU in the lifetime ranged from 3% of nonhomeless YMSM to almost half (45%) among the Speed users. Chronic use of MDMA, powder cocaine, and crack cocaine was similar across the four groups.

Measures of sexual risk across the four groups differed slightly, although for each the assessment included some type of event-level analysis. In both the YMSM samples, participants were asked detailed questions about their most recent sexual event. In the adult Speed user sample, participants were asked to describe their most recent anal intercourse in which a condom was not used. In the POZ Party sample, MSM were asked to describe their most recent sexual event both within and outside a POZ Party. The assessment for each of these events considered whether participants engaged in insertive and/or receptive UAI and whether they used drugs immediately

before, or during, the sexual exchange. The data indicate substantial variability in the rates of UAI among the four groups. Adult Speed users, when asked only about unprotected intercourse, reported the highest rates of insertive and receptive UAI (71% and 49%, respectively). Both the homeless and nonhomeless YMSM reported relatively low rates of UAI at their most recent sexual event (8% and 11%, respectively, for insertive UAI, and 6% and 9%, respectively, for receptive UAI). Reported rates of insertive and receptive UAI were 23% and 38%, respectively, for the POZ Party sample. Adult Speed users reported the highest rates of drug use (51% used Speed) on the most recent occasion at which they had UAI. Among the other groups, nonhomeless YMSM reported the lowest rate of drug use at the most recent sexual event (18%) and homeless YMSM reported the highest rate (35%).

CONCLUSION

New HIV diagnoses among MSM have increased every year since 2000, although AIDS-related deaths have continued to decline.[4,15] Indicators of seroincidence have also increased, including STDs and reports of high levels of UAI with partners of unknown or serodiscordant status.[5] The fact that new HIV infections among MSM are continuing suggests that existing HIV-prevention models may not be reaching groups at risk, or that current intervention strategies are inadequate to the goal of achieving sustained behavioral changes. Of particular concern is the evidence that both HIV and STDs are increasing among YMSM, notably in men of color.[7,9,15–18]

Although sexual risk remains an important concern in the continuing epidemic, the data presented in this article echo the evidence from other recent studies that have implicated drug use in the contemporary epidemic. The extensive drug use and sexual risk behaviors among the four groups of MSM described in this article underscore the scope and complexity of the ongoing HIV epidemic in this diverse population. But the findings show that the relationship between drug and sexual risk may be more complex than is commonly understood. For example, almost two thirds of the MSM in the adult Speed study indicated that they had planned to have UAI in their last encounter. Among YMSM, homelessness, rather than knowledge, attitude, or intention, seemed to predict both drug and sexual risk.[14] Indeed, repeatedly, and across all four study samples, MSM described a host of complex and interwoven instrumental and often well-contemplated goals, intentions, and expectations in relation to their reasons for using particular drugs, including strategic use of these substances in accessing particular types of sexual partners, in facilitating particular types of sexual exchange, and in accomplishing particular types of sexual practices. Additional research is needed to understand the relationship between these decision-making processes and risk behaviors and to develop timely and effective HIV interventions and care models that address the diversity of this population.

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