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Longitudinal Investigation of Methamphetamine Use Among Gay and Bisexual Men in New York City: Findings from Project BUMPS

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ABSTRACT In recent years, methamphetamine has become a drug more commonly used among gay and bisexual men in New York City. Part of a longitudinal investigation of drug abuse in this population involved assessing the patterns and context of methamphetamine use during the course of 1 year. Findings indicate that among self-identified club-drug—using men, methamphetamine is widely used by men across age groups, educational level, race/ethnicity, and HIV status. Participants reported use of methamphetamine in combination with numerous other illicit and prescribed substances and in a variety of contexts outside the "club scene." Reasons for and contexts of use are related to HIV status, with HIV-positive men indicating a greater likelihood of use to avoid conflict, unpleasant emotions, and social pressures, and reporting higher levels of use in environments such as bathhouses and "sex parties." These patterns and relationships are consistent across time and suggest a complex interaction between person level factors, environmental factors, and HIV. Findings indicate that treatment of methamphetamine addiction among gay and bisexual men must take into account the complex interrelationships between mental health, drug use, sexual risk taking, and HIV.

KEYWORDS Gay and bisexual, HIV, Methamphetamine, Poly-drug use.

INTRODUCTION

Recreational use of both illicit and prescribed substances is a behavior that has been noted in many gay and bisexual men's lives.¹⁻³ In the last decade, the emergence of a specific set of drugs, known colloquially as club drugs [e.g., gamma-hydroxybutyrate (GHB), ketamine, methylenedioxymethamphetamine (MDMA) (Ecstasy), methamphetamine, powdered cocaine] because of their association with gay dance clubs and other social venues (sex clubs, circuit parties, bathhouses, and bars), has become a major public health threat to the gay/bisexual male community.⁴

In particular, New York City has experienced a significant increase in the use of methamphetamine over the last decade.⁵⁻⁸ Methamphetamine prevalence assessments during the early 1990s determined that use of this drug was largely a regional phenomenon confined to the western portion of the United States.⁹⁻¹⁴ However, more recent investigations have found that methamphetamine, commonly known as crystal, crank, chalk, chandelier, ice, quartz, tina, or redneck cocaine, has reached comparable levels of use in the eastern region of the country.¹⁵⁻¹⁸ Although assessments

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in New York City have been limited, researchers have begun to document the rapidly emerging methamphetamine problem there. Rawson et al.¹⁹ recently corroborated this phenomenon and concluded that problems associated with methamphetamine in New York City will continue to escalate.

This article describes the prevalence of methamphetamine use among gay and bisexual men in New York City by focusing on patterns and contexts of use among a demographically diverse community-based sample of self-identified club-drugusing gay and bisexual men.

METHODS

Design

Project Boy's Using Multiple Party Substances (BUMPS) was a longitudinal study of 450 club-drug-using gay and bisexual men in New York City. Quantitative and qualitative assessments occurred in four waves of data collection over the course of a year (baseline and 4, 8, and 12 months beyond baseline). The aims of the study were (1) to determine the individual differences and changes in club-drug use among gay/bisexual men in New York City over the course of 1 year, (2) to determine the extent to which antecedent personal, contextual, and coping factors may explain differences in year-long club-drug-use trajectories, and (3) to determine how individual changes in club-drug use over the course of a year, in combination with antecedent personal, contextual, and coping factors, might explain differences in sexual risk-taking patterns.

Procedure

Participants were recruited from February 2001 through October 2002 by trained staff using active methodologies across all five boroughs of New York City through the distribution of palm cards at gay venues including bars, dance clubs, bathhouses, and other mainstream gay venues such as coffee houses. In addition, we undertook passive recruitment through the posting and flyers in venues such as local community-based organizations as well as through bulletin boards maintained in retail locations frequented by gay and bisexual men. Potential participants were screened for eligibility via telephone interviews after calling the telephone number designated on the recruitment materials. Eligibility requirements included being 18 years of age or older, self-identifying as gay or bisexual, and self-reporting six instances of club-drug use in the year before assessment. For the purposes of the study, club drugs included GHB, ketamine, MDMA, methamphetamine, and powdered cocaine. We determined, on the basis of previous literature regarding club drug in New York City, 20,21 that six instances of usage represented a consistent pattern of use in this population. Those who met eligibility requirements were scheduled for a baseline assessment, which included the initial assessment, consent, and confirmation of HIV status. Individuals who self-reported an HIV-negative or unknown serostatus were tested for antibodies to HIV using the OraSure® system (OraSure Technologies, Bethlehem, PA)²²; self-reporting HIV-positive individuals were asked to provide proof of status such as a doctor's letter, documented viral load results, or prescription bottle for HIV antiretrovirals clearly indicating the person's name. At the conclusion of the baseline assessment, those tested for HIV were asked to return after a 2-week period for their antibody results. The HIV antibody pre- and post-test counseling guidelines followed in this study were set by i20 HALKITIS ET AL.

the New York State AIDS Institute and outlined by the New York State HIV Confidentiality Law.²³

Participants were scheduled for their next follow-up appointment at the completion of each assessment. They each received a reminder postcard 2 weeks before their follow-up assessments, as well as a reminder call the day before. An escalating monetary incentive was provided for each completed assessment (\$30, \$35, \$40, and \$50). All quantitative assessments were administered via Audio Computer Administered Self-Interview (ACASI), using a computer and voice recording so that the participant heard (through headphones) and saw (on the screen) each question and response list. ACASI has been found to be an effective interview method for people of diverse educational backgrounds, and it eliminates the effects that reading ability may have on internal validity. Staff trained in the interview protocol conducted qualitative interviews, which took place before the quantitative surveys. The Institutional Review Boards of New Jersey City University and New York University approved the protocol for the study in 2000 and 2001, respectively. This article reports on only the quantitative data.

Measures

The subset of measures from Project BUMPS utilized in this analysis is provided below. Other than sociodemographic characteristics, which were assessed at baseline and the 12th month, follow-up, all other measures were taken at all four time points.

Sociodemographic Characteristics These included age, race/ethnicity, HIV serostatus, education level, employment status, income, and sexual orientation. HIV status was confirmed for each participant.

Methamphetamine Use and Contexts for Use Participants were asked about their frequency of methamphetamine use ("In the last four months, how often have you used Crystal (Tina)?") using a five-point scale (0, "never"; 1, "less than once a month"; 2, "one to two times a month"; 3, "one to two times a week"; 4, "more than twice a week"). Those responding other than "never" were asked "On how many days have you used Crystal (Tina) in the last four months?" A seven-item scale was used to assess the frequency of methamphetamine use in various contexts, comprising of items "at home alone just hanging out," "at or before going to a friend's/lover's place," "at or before going to the bars," "at or before going to the sex club or bath-house," "at or before going to a dance club," "at or before going to a sex party," and "at or before going to a circuit party." Participants were asked to report the other substances they had used in combination with methamphetamine in the previous 4 months, which is the maximum period of recall recommended to obtain accurate self-reports. 25,26

Reasons for Methamphetamine Use The Inventory of Methamphetamine Using Situations, modified from The Inventory of Drug Taking Situations (IDTS),²⁷ was used to assess reasons for use. It used a five-point Likert scale, from "never" to "always," to assess the frequency at which methamphetamine was used in various situations during the past 3 months. The inventory comprises five subscales (Unpleasant Emotions, Physical Discomfort, Conflict with Others, Social Pressure, and Pleasant Times with Others) that represent categories of situations where drug use might occur (alphas ranged from .73 to .95).

RESULTS

Participant Characteristics and Methamphetamine Use

Four hundred and fifty men completed baseline assessments. Of these, 65.1% (n=293) indicated that they had used methamphetamine in the 4 months before assessment on an average of 11.76 (SD=19.24) days, ranging from 1 to 120 days, with a median of 5 days.

The average age of methamphetamine users was 33 (SD=7.99) years. Table 1 summarizes the sociodemographic characteristics of methamphetamine users at baseline compared with those who did not use methamphetamine. Differences were significant for race/ethnicity, with African Americans being less likely to report the use of methamphetamine than whites, Latinos, and Asian/Pacific Islanders $[\chi^2(5)=15.18, P=.01]$; and for educational attainment, with more educated respondents indicating a greater likelihood of use $[\chi^2(3)=9.45, P=.02]$. Educational attainment and race/ethnicity are confounded, however, with African Americans less likely to have higher degrees $[\chi^2(15)=88.26, P<.001]$. Use at baseline was unrelated to HIV status, sexual orientation, and age, which held for both use and nonuse at baseline and the 12-month follow-up.

Participants reported decreased methamphetamine use and frequency of use across the four assessment points. Although 65.1% (n=293) of the participants indicated use at baseline, only 42.5% (n=193), 36.8% (n=167), and 31.5% (n=143) reported use at the 4-month, 8-month, and 12-month assessment points,

TABLE 1. Participant characteristics at baseline assessment (N = 450)

	Methamphetamine	
	Percentage of users (n)	Percentage of nonusers (n)
Race/ethnicity*		
African American/Black	48.5 (32)	51.5 (34)
Asian/Pacific Islander	62.5 (15)	37.5 (9)
Latino	62.9 (56)	37.1 (33)
White	71.7 (165)	28.3 (65)
Mixed race	53.6 (15)	46.4 (13)
Confirmed HIV status		
HIV-positive	66.9 (111)	33.1 (55)
HIV-negative	64.1 (182)	35.9 (102)
Sexual orientation		
Gay/queer/homosexual	66.7 (264)	33.3 (132)
Bisexual	53.7 (29)	46.3 (25)
Educational attainment†		
High-school degree or less	51.6(33)	48.4 (31)
Some college/associate degree	61.9 (96)	38.1 (59)
Bachelor's degree	71.5 (118)	28.5 (47)
Age (years)		
18–24	59.2 (42)	40.8 (29)
25–40	67.3 (206)	32.7 (100)
40+	61.6 (45)	38.4 (28)

^{*}P = .01.

 $[\]dagger P = .02.$

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respectively, as well as significantly decreasing frequencies of use at each assessment point (P<.001). However, the number of days of use remained consistent among participants who continued to use, with the mean number of days of use across assessments (i.e., baseline, 4, 8, and 12) equaling 13.51 (SD=20.58), 14.11 (SD=23.32), 14.37 (SD=21.53), and 12.59 (SD=17.50), respectively. It should further be noted that we were able to retain 69% of our original BUMPS sample at the 12-month follow-up, and of the 293 who indicated use at baseline, we retained 69% of this subsample, indicating that there was no self-selection for this particular drug, but rather data were missing at random with regard to methamphetamine use.

Contexts of and Reasons for Methamphetamine Use

Methamphetamine users were asked about the social contexts where they had used the drug in the 4 months before the baseline assessment. These included dance clubs (54.3%), bars (41.3%), circuit parties (40.9%), sex parties (40.6%), friends' or lover's home (37.9%), sex clubs (36.9%), and home alone (21.8%) and were the same at the 12-month follow-up.

At both baseline and the 12-month follow-up, HIV status was associated with the context of methamphetamine use at sex clubs [$\chi^2(2)=25.17$, P<.001] and sex parties [$\chi^2(2)=35.95$, P<.001]. Significantly more HIV-positive than HIV-negative men were likely to use in these contexts (i.e., 54% of HIV-positive vs. 25.8% HIV-negative men reported regular use of methamphetamine at sex clubs; and 62.1% of HIV-positive vs. 27.4% of HIV-negative men reported regular use at sex parties). Older men were more likely to use in sex clubs and at sex parties; however, this finding was confounded by HIV status because older men were more likely to be HIV positive [$\chi^2(2)=19.43$, P<.001].

The Inventory of Drug Using Situations identified reasons for methamphetamine use relative to sociodemographic characteristics and found that HIV-positive men indicated higher levels of agreement for methamphetamine use to deal with social pressures ($F_{1, 291}$ =4.21, P=.04), avoid conflict with others ($F_{1, 291}$ =8.67, P<.01), and avoid unpleasant emotions ($F_{1, 291}$ =3.98, P=.05). The 12-month follow-up found a similar link between HIV status and conflict avoidance ($F_{1, 124}$ =4.52, P=.04). Younger men reported lower levels of agreement that they used to avoid unpleasant emotions ($F_{2, 290}$ =4.32, P=.01) or to avoid conflict ($F_{2, 290}$ =4.29, P=.02), but also younger men were less likely to be HIV positive.

Methamphetamine Use in Relation to Other Substances

Table 2 summarizes the substances that participants reported they used in combination with methamphetamine at baseline and the 12-month assessment. Polydrug use was found to be common over the study period. Many participants indicated using methamphetamine in combination with alcohol, MDMA, ketamine, marijuana, and Viagra.

CONCLUSIONS

Project BUMPS, a longitudinal investigation of club-drug use among gay and bisexual men in New York City, found that methamphetamine is widely used among substantial groups in the community. Study data suggest that use occurs across sociodemographic characteristics, a finding that is consistent with findings from a previous cross-sectional investigation of methamphetamine use.⁷ Although that study focused solely on methamphetamine users, the sample characteristics were

	Baseline (N = 293) [% (n)]	Month 12 (N = 143) [% (n)]
Alcohol	64.2 (188)	55.9 (80)
MDMA (Ecstasy)	55.3 (162)	44.1 (63)
Ketamine	45.1 (132)	35.0 (50)
Marijuana	38.2 (112)	37.8 (54)
Viagra	36.2 (106)	50.3 (72)
Inhalant nitrates	34.5(101)	41.3 (59)
Powdered cocaine	32.8 (96)	23.8 (34)
Gamma-hydroxybutyrate	28.7 (84)	23.1 (33)
Barbiturates	28.0 (82)	12.6 (18)
Crack cocaine	11.6 (34)	3.5 (5)
Rohypnol	9.9 (29)	0 (0)
Hallucinogens	8.9 (26)	<1 (1)
Heroin	2.4(7)	1.4 (2)

TABLE 2. Substances used in combination with methamphetamine

not radically different than those seen in Project BUMPS, a broader study of clubdrug use.

Gay and bisexual men participating in Project BUMPS reported polysubstance use, including methamphetamine in combination with MDMA, ketamine, and GHB, alcohol, and Viagra. They reported the use of methamphetamine in a variety of social environments, not necessarily just dance clubs and parties. The study found an interaction between the use of methamphetamine and HIV status for reasons that men use methamphetamine and the contexts in which they use it. These findings underscore the multifaceted nature of substance use in the gay and bisexual male community and show how closely the HIV and drug-use epidemics are intertwined.²⁸ Although our sample was based in New York City, these men appear to be similar to men in other studies of methamphetamine.^{9,14,18,28}

This study has several limitations. First, the self-selected nature of the sample undermines the generalizability of the findings. This is further complicated by the fact that participants had to report a minimum of six instances of club-drug use to be eligible for inclusion, thus eliminating those who might also have been using club drugs but at lower rates. Second, the self-reported nature of the findings should be viewed with caution, although ACASI is useful for overcoming potential bias from socially desirable responding. Lastly, the rate of attrition was approximately 30%, necessitating the use of missing data techniques to more fully understand the behaviors of this sample.

Although participants reported decreased methamphetamine use across the four assessment points, attrition and missing data may account for these results. Attrition could occur from any number of factors, such as methamphetamine dependence, change of location, or arrest. Alternatively, longitudinal elucidation studies such as Project BUMPS may confer intervention-like effects on study participants, which then lead to changes in drug use and other risk behaviors over time. A follow-up study to assess these possibilities would help clarify the finding of decreased methamphetamine use in this study population. However, initial analyses of the data indicate that methamphetamine is used extensively in the gay and bisexual male community of New York City and appears to be impacting mental health and sexual decision-making. HIV interventions that target gay and bisexual men

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need to consider the profound effects that methamphetamine is having in many of their daily lives and use innovative, holistic approaches that address the context and meanings of drug use to gay and bisexual men.

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