Substance Use, HIV, and Gay Men
David G. Ostrow, MD, PhD

In the mid-1980s, longitudinal cohort studies first showed that gay men who used recreational substances (hereafter referred to as "drugs") and, to a lesser degree alcohol, were more likely to engage in risky sex and to be HIV-infected.\(^1\),\(^2\) Despite methodological and other criticisms,\(^3\) many studies have since linked substance use to unsafe sex and HIV infection, and community-based behavioral interventions that attempt to respond to the association between drug use and risky sex are springing-up all over the United States. This is in sharp distinction to the situation in some other Western countries such as Great Britain, where ethnographic and social researchers question both the validity of the relationship between drug use and risky sex and its relevance to HIV prevention interventions.\(^4\)

In addition, there is epidemiological data from longitudinal cohort studies such as the Chicago Multicenter Cohort Study (MACS)\(^5\) that some drugs, such as amphetamines, poppers, and cocaine and crack cocaine, are enjoying renewed popularity among specific subpopulations of gay men and that this increasing use is related to upswings in seroprevalence. For example, there are close associations between methamphetamine use and both risky sex and new HIV infections among subpopulations of gay men and men who have sex with men (see “Speed Use and HIV Transmission,” page 4 in this issue of FOCUS) and recent studies have identified the use of crack cocaine as a co-factor in HIV transmission among minority men.

Even before the HIV epidemic, there was strong evidence that recreational drug use was linked to infectious disease transmission among gay men. Several outbreaks of non-A/non-B hepatitis and delta hepatitis had been associated with needle sharing during injection of amphetamines and cocaine; and anorectal gonorrhea, herpes, and syphilis had been linked to popper inhalation and the use of a variety of stimulatory substances.

Drug Use and Risky Behavior
A recent review of the voluminous literature on substance use and sexual behavior divided the research into three general categories: studies that relate sexual behavior to global measures of drug use; studies that look within groups of gay men at drug use behavior in the sexual context; and studies that look at sexual episodes—“events”—within individuals to determine whether the use of specific drugs lead to specific sexual activities.\(^3\) Of these three types of research, the third is the most effective in defining whether or not there is a direct causal relationship between these two types of behavior, and, in fact, none of these studies has conclusively proven a direct causal relationship. Instead, these “event analysis” studies argue for indirect causal mechanisms such as predisposing personality characteristics or expectations regarding the effects of substance use on sexual behavior.

In contrast, the evidence for a direct association between substance use and increased risk of HIV infection among susceptible gay men has become incontrovertible. In several recent case-control studies of behavioral factors associated with HIV seroconversion among gay men, the Chicago MACS has shown that even after controlling for the level of sexual behavior risk, the use of cocaine or poppers added significantly to the risk of HIV infection.\(^6\) The Fenway Clinic Cohort study, which focused on popper use among men in serodiscordant relationships, found similar

References
A controversial session at the 1994 Conference on the Biopsychosocial Aspects of HIV Infection in Brighton, England examined the connection between substance use and unsafe sex, and highlighted a cultural difference between the United States and Europe.

The session was notable for a certain amount of name-calling. In light of disagreement about a British study suggesting there was no correlation between alcohol use and unprotected sex, some British participants called their U.S. colleagues “puritan” in their insistence that there was in fact an association. In response to this charge, U.S. researchers countered that the British were in denial about the effects of substance use on sex.

When less adversarial heads prevailed, it became clear that the meaning of substance use for a person affects the connection between drugs and unsafe sex for that individual. Drinking in the United States may be associated with getting drunk, “partying,” participating in outrageous behavior, and with “special times” such as the weekend. On the other hand, drinking in Europe may be more well-integrated into daily routines and not as related to excess or disinhibition.

The session identified a cultural component in these meanings, so that people in the U.S. and the U.K. might indeed react differently. Australian researcher Ron Gold found a correlation between alcohol use and unprotected sex in Sydney, where the gay scene is geographically concentrated and incorporates a strip of bars, but not in Melbourne, where the gay and bar scenes are more dispersed. He suggested that since safer sex requires planning, it is more likely to occur when drinking and sex are less accessible.

David Ostrow—who, in this issue of FOCUS, reviews the relationship between substance use and unsafe sex—organized this controversial Brighton session. It was no accident and no surprise that it focused on gay men. Gay men have significantly higher rates of substance abuse than others in the general population. In FOCUS, Ostrow identifies factors—such as the sex-enhancing properties of drugs, stress reduction, and “sensation-seeking”—that contribute to this situation. Michael Gorman zeros in on speed—the use of which is epidemic among gay men—and its connection to HIV transmission.

Neither Ostrow’s nor Gorman’s article resolves the controversy about substance use and unsafe sex, and the data from Great Britain deserves attention. But in the United States and among gay men, it is clear that the combination of sex and drugs is potentially dangerous.

Gorman’s article, in particular, is a bleak reminder that providers who work in the gay community must be aware of the high rates of substance use and of the characteristics of the most popular drugs. At the same time, the lesson of Brighton is that providers must interpret data in their cultural context and avoid overgeneralizing the effects of one substance to many and one geographic area to everywhere.
The drug-sex relationship may also be mediated by personality characteristics such as sensation-seeking. High-sensation seekers, in searching for stimulating and risky environments, may simultaneously frequent bars, consume substances, and associate with sexually “riskier” and, therefore, more exciting men. This interactional model is supported by Chicago MACS data that cites sensation-seeking as an independent predictor of HIV seroconversion.

The use of substances as a short-term coping mechanism to decrease anxiety surrounding sexuality or to facilitate sexual performance also has to be considered in this era of AIDS anxiety. Gay men—many of whom have fears about HIV-related risk, discrimination, and grief and loss—may find themselves using drugs to dampen situational stress, particularly if they have strong expectations that drugs will reduce anxiety.

## Intervention Challenges for Clinicians

A psychosocial model of sex-drug interactions assumes that both the pharmacological effects and social-situational expectations of drug use facilitate risky sex by men who fit a “high-risk profile.” This profile includes personality characteristics such as sensation-seeking, poor coping skills, and low self-efficacy concerning HIV-related risk reduction. Interventions targeted at such men must, therefore, do more than focus on cognitive-behavioral processes and norms.

To achieve this goal and long-term behavioral changes, it appears necessary to apply the combination of both community interventions and individual or small group interventions approaches. Already there is a resurgence of sex drug use in sexual situations by gay men who seem driven to relive the 1970s urban cultural phenomenon of all-night discos, bathhouse sex, and sex clubs specializing in all varieties of sexual fetishism. Useful interventions aimed at decoupling substance use and sexual activity might include creating “safe” settings where behavioral skills and community-norm-changing practices can be explained. Since sensation-seeking, state-dependent learning, expectations about drug use, and specific coping skill deficits make men vulnerable to sexual behavior relapse in the context of drug use, individual or small group interventions that assist men in restructuring their ways of dealing with stress may play an important role.

In addition, interventions need to assist drug-involved men to more effectively cope with HIV-specific stress and negative affect, to become aware of their expectations regarding substance use effects, and to maintain self-awareness about their behaviors in sexually charged or drug use situations. A number of community-based intervention programs combine media, small-group, and individual counseling approaches targeted to substance using gay men. These programs seem to share an understanding—based on clinical experience as opposed to research findings—that the relationships between drugs and sex are complex and vary from person to person. The resulting interventions are multi-dimensional and flexible enough to be tailored to the needs of each individual. Nevertheless, each deals with the underlying variables that have been discussed above, including: preferences for unprotected intercourse, addiction to drugs, the experience of having sex while “high,” and the natural desire to want to alter one’s mental state to escape from stress, homophobia, AIDS anxiety, grief and loss.

Just as it is difficult to fully understand the reasons why drugs and sex are so intertwined in gay (and straight) cultures, it is difficult to design such a program, even more difficult to implement it, and most difficult to sustain it in a time of cost-cutting and managed (that is, time-limited) care. Prevention specialists find themselves delivering complex therapeutic interventions, while program managers find themselves having to protect relatively expensive and long-term approaches to HIV prevention. But, with the epidemiological evidence strongly pointing to the role of drugs and the combination of drugs and risky sex in promulgating new waves of HIV seroconversion among men who have sex with men, the stakes seem too high to fail to invest the resources in prevention.
Amphetamines were synthesized by the German pharmacologist L. Edeleano in 1887. The related compound methamphetamine (“speed,” “crank,” or “ice”) was synthesized in 1919. Amphetamines, including methamphetamines, are currently the most widely abused synthetic drug in the United States and the Pacific Rim.

In 1927, British chemist Gordon Alles discovered the stimulating effects of these drugs and realized their potential for increasing alertness, alleviating fatigue, and creating euphoria—the result of their ability to mimic adrenaline and its well-known “fight or flight” property. In 1932, a U.S. pharmaceutical company bought the patent to the Alles discovery, and marketed it in an inhaler as a nasal decongestant, Benzedrine.

During the second world war, amphetamines were sanctioned by a number of governments including Germany, the United States, and Japan for their energizing and antidepressant properties. It is estimated that millions of Japanese soldiers, defense workers, and civilians used amphetamines and that by the end of the war, at least 2 percent of the adult Japanese population were dependent on the drug.

In the United States, post-war studies of American military prisoners revealed that a notable number of American military prisoners reported abusing amphetamine inhalers. In 1959, the first use in the United States of intravenous injection of the contents of a Benzedrine inhaler for non-medicinal purposes was reported; in 1971, the last non-prescription inhaler was removed from the U.S. market pursuant to the passage of the Controlled Substances Act of 1970. In the United States, there have been three distinct methamphetamine epidemics: one in the 1950s, a second in the late 1960s, and the third and current one of the mid-1990s. What makes the current epidemic so concerning is its relationship to the HIV epidemic.

Action and Epidemiology

Amphetamines and methamphetamines—which may be drunk, eaten, smoked, injected, or absorbed through the rectum—cause the release of the neurotransmitters norepinephrine, dopamine, and serotonin. With a half-life of approximately 24 hours, the action of these drugs may be quite prolonged. Their therapeutic effects include treatment of narcolepsy (a sleep disorder), attention deficit disorder (ADD), and in some cases, depression.1

Toxic effects may include headache, hypertension, pallor and palpitation, and the constriction of veins. In low to moderate doses, central nervous system signs of intoxication include anorexia, hyperreflexia (over-responsive reflexes), restlessness, talkativeness, and insomnia. At high dosage or prolonged continuous use, symptoms may include hypervigilance and paranoia with hallucinations and tendencies toward violence.

While amphetamines and methamphetamines appear to be indicated for treatment of certain clinical conditions, they can lead to significant dependence and abuse. In particular, their “aphrodisiacal” (sex enhancing) properties can lead to impaired judgment and an increase in sexual risk-taking. While animal models are being used to study the neurotoxicity of these drugs, the clinical signs of toxicity in humans, such as neuropsychiatric impairment, remain unknown and are in need of study.
In the United States, the western states, including California, the Pacific Northwest, Colorado, Arizona and Hawaii, have been a center for methamphetamine use. Other states including Texas, Minnesota, Iowa and Pennsylvania have also reported periods of heavy trafficking and use. The current epidemic appears to be focused on the Pacific coast and is diffusing eastward. In the last year, there have been reports about increases in many areas of the country and among a number of different populations, including youth, the homeless, and rural populations, as well as among more traditional user populations such as gay and bisexual men, the transgendered, lesbians, bikers, and occupational groups such as truckers and people in certain construction trades.

In Washington state, there has been a six-fold increase in people seeking admission to speed treatment programs since 1992, while in California there has been a 30-fold increase in admissions since 1983. According to the National Institute on Drug Abuse, methamphetamine-related mortality increased between 1993 and 1994 in all areas reporting such data.

Speed has been a popular drug in the gay community for many years, although popularity seemed to decline as concerns about HIV infection rose. By the early 1990s, with the resurgence of drugs such as MDMA (ecstasy; XTC), speed rebounded in popularity. Like speed, ecstasy is a synthetic, mind-altering, stimulant with hallucinogenic properties.2

While most injection drug use research, outreach, and prevention have targeted heroin, cocaine, and crack users, a growing number of injection drug users are using methamphetamines. Despite this, there is a lack of information about the drug, its natural history, and its treatment. There is also a lack of information about needle hygiene and a shortage of needle exchange programs targeted towards either methamphetamine injectors or gay and bisexual injection drug users (despite the fact that depending on the state, gay and bisexual men comprise between 20 percent and 70 percent of injection drug use AIDS cases).

Finally, there is a clear indication from a variety of sources that some seropositive drug users at high risk for HIV/AIDS. Drug and Alcohol Dependence. 1995; 38(1): 1-9.


Contacts
Robert Cabaj, MD, 414 Gough St., Suite 6, San Francisco, CA 94102, 415-621-4780.
Michael Gorman, PhD, MSW, University of Washington, Alcohol and Drug Abuse Institute, 3937 15th Avenue NE, Seattle, WA 98195, 206-543-8962.
David Ostrow, MD, PhD, Center for AIDS Intervention Research, Medical College of Wisconsin, 1201 North Prospect Avenue, Milwaukee, WI 53202, 414-287-4680.

See also references cited in articles in this issue.

While 33 percent of the total sample used speed, almost half (48 percent) of the men who became HIV-infected used the drug.
individuals appear to be self-medicating their HIV-related or depression symptoms with speed. Since speed lifts lethargy, raises libido, and can be an antidepressant, this response is understandable. However, the long-term consequences of speed use are likely to be more harmful than helpful. A terrible psychological crash often accompanies stopping use, and this response can be complicated by the malnutrition and dehydration that may accompany HIV disease. Additionally, speed users often suffer from alienation and isolation due to the paranoia that frequently arises from prolonged use. In some cases, speed users can be violent and become victims of violence due to their irrationality.

**Assessment**

Accurate assessment of speed use is critical to treatment. Signs of recent speed use (also known as "tweaking") while variable, may include: agitation, breathlessness, rapid speech pattern, dilated pupils, rapid heart beat, and attention deficit. Unfortunately, there is no simple checklist of symptoms because how a client presents depends upon recency and duration of use, and dosage. A client who is crashing will present much differently from one who is still experiencing the rush of the drug, and those who are crashing may be less likely to come in for treatment. Symptoms of crashing include: physical and psychological exhaustion, depression, the inability to experience pleasure, withdrawal, and dehydration.

Clinicians should ask routinely—but carefully and nonjudgmentally—about history of use for all non-medically prescribed drugs, alcohol, and tobacco, whether a client has ever injected such substances, when this last occurred, and whether the client shared a needle. This is particularly true if a client says he or she is having difficulty staying safe. Clinicians may want to be especially vigilant about speed use if a client appears to be at particular risk, that is, if he is a sexually active gay or bisexual male living in a major U.S. urban center, participates in the rave scene, is a transgendered person, works in the sex industry, or has experienced periods of homelessness or residency in transient hotels. (In San Francisco, speed—the poor man’s cocaine—was the most commonly used drug in the city’s gay and bisexual homeless population.)

With gay men, in particular, there is frequently an intense association between speed and sex. It becomes difficult to separate the sexual issues from the drug issues and in fact, both must be addressed concurrently and directly. In addition, speed users often have other health and mental health issues such as depression, paranoia, hallucinations, bipolar disorder, and attention deficit disorder. Finally, due to the peculiar pharmacological properties of the drug, speed users frequently experience severe dental problems.

**Treatment**

People can and do recover from methamphetamine dependency and addiction, but many struggle due to the paucity of treatment options. While 12-step programs work for some people, many users need more flexibility than these abstinence-oriented programs, and alternatives are being established in cities like Seattle, San Francisco, Los Angeles, and New York. Other programs, such as Crystal Meth Anonymous, have also emerged. Some of these programs emphasize "harm reduction" rather than abstinence, attempting to meet individual users where they are and work to achieve mutually agreed upon goals to reduce harm associated with use.

Working with speed users can be challenging to case workers and mental health providers. Once again, it is important to remain non-judgmental with clients, while trying to get them to recognize their particular patterns of use and to be as forthcoming as possible especially about their sexual risks. While some clinicians take the tack that they cannot work with individuals while they are using, others attempt to get clients to the point at which some sort of intervention or therapy can occur. Given the specifics of speed use and HIV risk, especially among gay, bisexual, and transgendered people, it is crucial, at the very least, for providers to inform themselves about speed use and its effects, and about appropriate referral resources.

**Authors**

Michael Gorman, PhD, MSW is a research scientist and clinical social worker with the Alcohol and Drug Abuse Institute of the University of Washington. He was a research epidemiologist at San Francisco General Hospital and the University of California, Berkeley. His current focus is methamphetamine dependency, particularly among sexual minority populations.
**Recent Reports**

**Substance Use Declines among Gay Men**


Avoiding situations associated with drinking and drug use is the most effective mechanism for stopping or reducing psychoactive substance use for gay men, according to a study of seronegative and seropositive men in New York. Substance use behavior change is strongly motivated by the fear of AIDS, a concern with self-image, and a changing of attitudes in the gay community.

Researchers studied a subset of 56 men from a larger five-year prospective study. All of the men had a lifetime history of DSM-III-R substance abuse disorder, 35 of whom had an alcohol dependence or abuse history and 42 of whom had a history of a drug use disorder. Thirty-one of the subjects were seropositive. The sample was 92 percent White, six percent Hispanic, and four percent Black. The mean age of the sample was 37.

At the end of a four year follow-up period, 32 participants (57 percent) had not relapsed into substance use disorders. Regardless of serostatus, health-related concerns dominated reasons for maintaining change, although the cost of alcohol in comparison to other necessities was a significant reason for maintaining change for seronegatives who stopped using alcohol.

For seropositive men, noticing signs of HIV infection was a significant factor for reducing alcohol use; and “fear of AIDS” was significantly more important for cutting back on drug use among these subjects. For seronegatives, having changed other risk-taking behaviors and noticing changes in attitudes about drinking and drug use in the gay community were factors related to curtailed alcohol use; and “health-related concerns” led to curtailed drug use.

Avoiding situations involving drinking and drugs was the most frequent method of stopping or reducing substance use (64 percent). In addition, 52 percent of seropositive drug users and 55 percent of seronegative drug users reported practicing safer sex in conjunction with changing drug use.

**Coping Strategies for Risk Behavior**


While psychological coping strategies clearly affect levels of substance use and sexual activity, it is not as clear how these strategies relate to HIV-related risk behavior, according to a study of 416 gay and bisexual men enrolled in a San Francisco sexually transmitted disease (STD) clinic. Engaging in HIV-related sexual risks, however, may be an attempt to seek relief from stress.

Researchers interviewed subjects about what coping strategies they used when confronted with health-related concerns: problem-focused coping, defined as advice-seeking, support-seeking, and evaluating the problem; or emotion-focused coping, consisting of denial, avoidance, and distancing. In addition, researchers asked about sex and drug use in the previous four months: the number of different drugs used, the number of days of use for each drug, the number of sexual partners over the past four months, and the number of times the subjects had sex in the past four months. The mean age of the sample was 32, with the majority of subjects under 40 years old. Sixty-seven percent were White, 14 percent African-American, and 12 percent Latino; 75 percent had completed or had some college.

The relationship between coping strategies, substance use, and sexual activity was predictable. Advice-seeking was associated with fewer drugs used and lower numbers of sexual partners; support-seeking was associated with fewer days using drugs and fewer times having sex. On the other hand, emotion-focused strategies were related to a greater number of types of drugs used.

At times when subjects were not using drugs, problem-focused coping strategies were related to less high-risk sexual behavior. However, both support-seeking and emotion-focused coping strategies were associated with unprotected anal intercourse.

**The Effects of Amphetamine Use on Sex**


Interviews of 115 injection drug users in Stockholm found that amphetamine use...
is often part of a fixed "sexual script" that defines the conditions expected in a typical sexual encounter. Conversely, the interviews revealed that sex may also be a mechanism to "act out" the ritual of addictive injection drug use, ensuring that drug users will achieve the desired mood change when they use drugs.

Researchers questioned 74 male and 41 female incarcerated injection drug users about their preferred activity during amphetamine use and about characteristics of sexual activity when using amphetamines. Thirty-eight men (51 percent of the male subjects) reported that they preferred sex to other activities while using amphetamines. Since only eight women (20 percent of the female subjects) made this assertion, researchers analyzed data from male subjects only.

Of the men who preferred sex to other activities (PSAs), 92 percent reported sexual excitement was more intense when they were using, and 82 percent reported that ejaculation was delayed when they were using. Even among men who reported that sex was not their preferred activity (NPSAs), 75 percent found excitement to be more intense and 69 percent reported delayed ejaculation.

In general, male amphetamine users reported low rates of condom use, with a higher percentage of PSAs using condoms in the past three years (30 percent) than NPSAs (18 percent). And 53 percent of PSAs had over three injecting drug partners in the past three years, compared to 22 percent of NPSAs.

For some men, an invitation to inject drugs was an implicit invitation to have sex. Amphetamine use also determined other aspects of the sexual script, with the range of acceptable partners being more inclusive and sexual repertoire—at least in fantasy—being more extensive.

**Accuracy of Self-Reported Changes**


Injection drug users enrolled in an HIV-risk reduction intervention overreported abstinence from drug use and needle sharing, according to a study that tracked behavior over six months. Urinalysis contradicted the assertions of more than half of those who reported initiating and maintaining abstinence from these risk behaviors during the study period.

The study comprised 281 volunteers, including 146 members of a methadone treatment group and 135 members of a community group who were not in treatment. The treatment group was 43 percent female, 40 percent Black, and had a mean age of 36, while the community group was 15 percent female, 89 percent Black, and had a mean age of 36 years. Following an intake, consisting of HIV antibody testing, pre- and post-test counseling, and prevention education, researchers tracked 160 of the subjects (79 treatment group members and 81 community group members), assessing injection drug use and needle sharing through interviews and urinalysis.

For both groups, self-reported risk behavior significantly declined during the study period. The treatment group reported an average reduction per month of 28 percent for injections and 98 percent for needle sharing; the community group reported an average reduction per month of 48 percent for injections and 78 percent for needle sharing. In contrast, rates of positive urine specimens for each group tended to be stable from month-to-month.

At intake, 58 of the 160 (36 percent) reported abstinence from injection; urinalysis contradicted the assertions of three of these subjects (5 percent). After six months, an additional 24 reported maintaining abstinence; urinalysis contradicted the assertions of 14 of these subjects (17 percent).

**Next Month**

Over the past few years, attention has focused on the question: to what extent must counselors and clients share particular characteristics such as race, gender, and sexual orientation? In the context of the epidemic, this focus has broadened to include HIV serostatus. In the July issue of *FOCUS, Steven Ball, ACSW,* a therapist from New York and a consultant to the GMHC HIV Prevention Department, examines the therapeutic relationship in terms of seroconcordance and serodiscordance between counselors and clients. To exemplify his discussion, Ball pays particular attention to support groups for uninfected gay men.

Also in the July issue, *Paul Plate, MA, LPC,* Director of Positive Impact in Atlanta, talks about his experience as an HIV-infected therapist: deciding to maintain a practice, disclosing to clients, and dealing with countertransference.
DID YOU KNOW?

You can access a FREE searchable archive of back issues of this publication online! Visit http://www.ucsf-ahp.org/HTML2/archivesearch.html.

You can also receive this and other AHP journals FREE, at the moment of publication, by becoming an e-subscriber. Visit http://ucsf-ahp.org/epubs_registration.php for more information and to register!

ABOUT UCSF AIDS HEALTH PROJECT PUBLICATIONS

The AIDS Health Project produces periodicals and books that blend research and practice to help front-line mental health and health care providers deliver the highest quality HIV-related counseling and mental health care. For more information about this program, visit http://ucsf-ahp.org/HTML2/services_providers_publications.html.

HIV COUNSELOR PERSPECTIVES

HIV NAME-BASED REPORTING