Sexual Risk Reduction Among HIV-Positive Drug-Using Men Who Have Sex With Men

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ABSTRACT According to the US Centers for Disease Control, the majority of new HIV infections are the direct result of unprotected sexual relations between serodiscordant individuals. Thus, the development of behavioral interventions to increase the safer sex practices of HIV-positive individuals has the potential to reduce the number of new infections. Currently, less than 1% of the total US population is infected with HIV. Targeting behavioral interventions to this smaller group of HIV-positive individuals has the potential for making cost-effective reductions in the number of new infections. Despite reports that some HIV-positive individuals continue to engage in high-risk behaviors, interventions designed to prevent secondary transmission of HIV are rare. In this era of highly active antiretroviral therapy (HAART), interventions for HIV-positive individuals are more critical than ever to address the unique challenges and issues they face regarding disclosure and partner notification, use of HAART and sexual risk behavior, and HIV-related stigma. Although a growing number of reports document the efficacy of sexual risk reduction interventions for HIV-positive individuals, to date none of these studies have focused on drug-using populations. This article focuses on sexual risk reduction interventions for HIV-positive men who have sex with men (MSM), the largest group of HIV-positive individuals in the United States. It reviews factors associated with high-risk behaviors and discusses some findings from research with HIV-positive methamphetamine users, including (1) data from a small qualitative study and its implications for the development of new interventions, and (2) baseline data from an ongoing large-scale study of the efficacy of a theory-based sexual risk reduction intervention for HIV-positive methamphetamine-using MSM. The article concludes with a discussion of future research issues, including, for example: Can sexual risks be reduced in the context of active drug use? Are different patterns of drug use, or specific drugs, associated with increased risk behavior? How do gender, race, and culture relate to the efficacy of specific interventions?

KEYWORDS HIV sexual transmission risks; Methamphetamine use; HIV-positive men who use drugs and have sex with men (MSM); HIV prevention interventions.

INTRODUCTION

The advent of highly active antiretroviral therapy (HAART) and other treatments has changed the face of the HIV/AIDS epidemic in the United States. HIV-positive individuals are living longer and remaining sexually active for many years.¹ As a result, the number of people living with HIV/AIDS in the United States has steadily increased.² This points to the importance of targeting HIV-positive individuals for sexual risk reduction interventions, particularly since one of the greatest risks of

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viral transmission today stems from unprotected sex between serodiscordant individuals.³ Men who have sex with men (MSM) make up the largest number of AIDS cases⁴ and represent the largest group of new AIDS cases each year in the United States.⁵ It has been estimated that in the year 2000, 42% of AIDS diagnoses were among MSM, including those who inject drugs.⁴ In addition, there are elevated HIV risks for MSM who also use drugs beyond the risks from either MSM or drug use alone. This is true whether individuals are drug injectors or noninjectors who use substances such as methamphetamine. In addition, drug-using men may serve as a bridge for the transmission of HIV to their sex partners.^{6,7}

While there is evidence that behavioral interventions to reduce sexual risk behavior among HIV-negative MSM are effective, interventions designed to prevent secondary transmission of HIV are relatively rare, despite reports of continued high-risk behavior among some HIV-positive individuals.^{8,9} In high-prevalence settings, such as communities with many injecting drug users (IDUs), even if the prevalence of risk behavior is low, there is a potential for sustained transmission of the virus. Here, we briefly review evidence for the efficacy of HIV prevention interventions among MSM and HIV-positive individuals, identify factors related to successful interventions, and describe ongoing research on the efficacy of a sex risk reduction intervention for active drug users. Finally, we discuss factors associated with successful HIV interventions and suggest questions for future research.

EVIDENCE OF EFFECTIVENESS OF SEXUAL RISK REDUCTION INTERVENTIONS

What evidence is there that sexual risk reduction interventions are effective among MSM? A recent meta-analysis of reports on HIV prevention in the United States found that 9 of 99 randomized (experimental) or quasi-experimental controlled trials reported intervention effects focused on unprotected sex and MSM.¹⁰ The nine studies were homogeneous, with favorable results (summary odds ratio .69; 95% confidence interval, 0.56–0.86). Analyses suggest there was a 26% overall reduction in the proportion of men engaging in unprotected anal intercourse. An investigation of intervention effectiveness was conducted utilizing skills content (personal and interpersonal), motivation (through self-esteem, social norms, and responsibility), format (community level vs. small group), intensity (duration, size of group, and relative to comparison condition), and characteristics of the participants (race/ethnicity, age, and risk behavior). Stronger effects were related to interventions that promoted interpersonal skills, were delivered in community-level formats, or focused on younger populations or those at higher behavioral risk. Overall, there was a general paucity of studies, with only two focused on MSM of color, one on HIV-positive men, and only one that included MSM drug users.

How successful are interventions that target HIV-positive individuals? Our review of the literature identified five published intervention studies that targeted HIV-positive individuals. DiScenza et al.¹¹ examined the efficacy of a knowledge-based nurse-delivered counseling intervention on the high-risk sexual practices of HIV-positive outpatients. They reported a significant reduction in the number of high-risk behaviors at posttest assessment. Cleary et al.¹² conducted a randomized trial of an education and support program for HIV-positive blood donors in New York City. HIV-positive volunteers were randomly assigned to a structured intervention (i.e., nurses encouraged HIV-positive donors to participate in a cognitive-

behavioral and skills training support group) or a community referral group (i.e., HIV-positive donors were encouraged to seek community-based medical and psychological services). At 6-month follow-up, volunteers in both groups reported a decrease in unsafe sexual practices.

Parsons et al.¹³ compared the sexual risk behaviors of HIV-positive men who completed a full intervention package with men who received only a partial intervention. HIV-positive men with hemophilia who completed the full intervention package reported safer sex outcomes with their female partners at 15-month follow-up.

Kalichman et al.¹⁴ tested the efficacy of a social cognitive theory-based sexual risk reduction intervention for HIV-positive individuals. HIV-positive men and women (N = 332) were randomly assigned to either a five-session group-based safer sex intervention condition, or a time- and contact-equivalent social support group condition. Participants in the risk reduction condition had significantly lower rates of unprotected sex, fewer HIV-negative partners, and a higher percentage of acts involving condom use at 6-month follow-up compared to the control condition. Data from participants who reported HIV-negative partners revealed that those in the risk reduction intervention had significantly fewer unprotected sex and total sex acts with at-risk partners at 3- and 6-month follow-up compared to controls.

Patterson and Semple¹⁵ evaluated a behavioral intervention among HIV-positive individuals (N = 387) who reported engaging in unprotected sex with HIV-negative or unknown serostatus partners. Participants were randomly assigned to (1) a single 90-minute counseling session targeting problem areas identified by the participant in three possible intervention domains (i.e., condom use, negotiation, disclosure); (2) a single-session comprehensive intervention that covered all three intervention domains; (3) the same comprehensive intervention plus two monthly booster sessions; or (4) a 3-session diet and exercise attention-control condition. The median number of unprotected sex acts significantly decreased over the 1-year study period; however, all groups improved. These findings suggest that a brief intervention can result in large reductions in HIV transmission risks among HIV-positive individuals, but the relative benefit of one intervention approach over another remains unclear. Taken together, the findings from these studies suggest that behavioral interventions for HIV-positive individuals have been moderately successful in reducing sexual risk practices and HIV transmission potential.

What behavioral risk reduction interventions have been conducted with HIV-positive drug-using populations, and what do we know about HIV-positive methamphetamine users? We were unable to locate any published interventions that focused on the latter population. The National Institute on Drug Abuse (NIDA) is sponsoring a test of a behavioral intervention, the EDGE research project, at the University of California at San Diego. The EDGE project is a theory-based eight-session behavioral intervention designed to reduce the sexual risk practices of HIV-positive MSM who use methamphetamine. While this study does not yet have adequate follow-up data to test the efficacy of the intervention, it has gathered detailed information on the interactions between drug use and high-risk sexual behaviors, and the special issues faced by HIV-positive methamphetamine-using MSM. Some of the results from qualitative interviews with a small group (n = 5) of HIV-positive MSM who regularly use methamphetamine are described below. These data provide insights into the context within which methamphetamine use occurs and possible implications for the design and implementation of a sexual risk reduction intervention for HIV-positive MSM who use methamphetamine.

HIV-POSITIVE METHAMPHETAMINE-USING MSM

What have we learned about HIV-positive methamphetamine-using MSM? After distributing flyers in the community for the study, we recruited five ethnically diverse MSM who use methamphetamine for in-depth interviews. Common themes from the interview transcripts are discussed below in the context of their potential implications for the development of risk reduction interventions. The data represent a sampling of a small group of participants and the kinds of issues that are important to them and suggest that, even among a small group of five HIV-positive methamphetamine-using MSM, there is great diversity in terms of personal beliefs, values, and behaviors. The five participants self-identified as gay; two were Latino, one African American, one Native American, and one white. Their average age was 34.5 years. They had been using methamphetamine for an average of 9.4 years. All five indicated snorting as their primary route of methamphetamine administration. Their most common reasons for starting to use methamphetamine were “to party,” “to get high,” and “to escape.” On average, they had used methamphetamine on five days during the past month and had snorted one sixteenth of an ounce each time they used.

Context of Drug Use

The qualitative interviews suggested a variety of circumstances under which participants used methamphetamine. When asked about recent experiences, three of the five men indicated that they had used the drug alone at home or in another private setting (e.g., a hotel room). The other two participants reported using methamphetamine with a roommate or a friend. All five men reported having past methamphetamine experiences that involved getting high and looking for sex partners at various social venues in their community. They all said that the primary reason for using methamphetamine was for sexual pleasure.

The social context of methamphetamine use seems to vary with the age of the participant, which makes it important to sample HIV-positive methamphetamine-using MSM from multiple age groups. Since older HIV-positive men may be more “hidden” (i.e., they are likely to use methamphetamine in the privacy of their own home), it is critical to identify “gatekeepers” who can introduce the researchers to smaller, private networks of methamphetamine users.

The Social Context of Methamphetamine Use

The participants in this study used methamphetamine with other MSMs but not with heterosexual methamphetamine users. Moreover, none of the participants injected themselves or associated with anyone who injected methamphetamine. This finding is consistent with drug use statistics for San Diego, which indicate that snorting and smoking are the preferred methods of methamphetamine administration in the metropolitan area. Participants who knew IDUs said that they used heroin or cocaine but not methamphetamine. (“They make it in Mexico now and they don’t know what they’re doing. . . . if you are a needle user you have to shop around because a lot of it won’t break down in water; it ain’t good for slamming.”) There appear to be cliques within the methamphetamine-using MSM community. (“Methamphetamine users have their own little group and if you don’t fit in, they push you out or they won’t let you in.”) The participants seemed to feel that the mainstream gay community looked down on methamphetamine users; particularly “methamphetamine monsters” who use the drug 24 hours a day. The social net-

works of these men consisted almost exclusively of other methamphetamine-using MSM. Only one participant had a female friend who was also a methamphetamine user.

The San Diego metropolitan area does not have a large methamphetamine-using MSM/IDU community. The methamphetamine-using MSM community seems to be well defined and does not overlap with heterosexual users or IDUs. In addition, it appears that methamphetamine-using social network members may not actively discourage others from practicing safer sex. This type of information can help to focus recruitment efforts to target MSM methamphetamine users.

Drug User Identity

The men in this small study indicated that their worlds would change dramatically if they stopped using methamphetamine. They recognized that their friendships were drug based, and that these friendships would disappear if they stopped using drugs. (“They would disapprove if I stopped using because I wouldn’t be a place to party; I wouldn’t be part of the scene.”) One man indicated that in the drug world, there are no friends, only associates. (“I used to consider them as friends, but then I realized that they were ripping me off.”) Others believed that there would be no sex without methamphetamine or that their social and sexual lives would be nonexistent because they were shy individuals.

These findings suggest that methamphetamine-using participants who recognize and acknowledge the tenuous nature of their drug-based friendships may be open to developing new friendships and building new social networks that would support safer sex behaviors and goals.

The Sexual Context of Methamphetamine Use

Participants indicated that sex between methamphetamine-using MSM occurs primarily in public venues, such as bathhouses, parks, and beach locations. They said that methamphetamine made the sexual experience more intense and longer lasting, and that it made them do things that they normally would not do. Using methamphetamine in combination with alcohol or other drugs was not common. Each of the five men denied ever experiencing blackouts while on methamphetamine. Two of the participants said they always used condoms, but the others did not, or did so only when asked to by their partners.

Although this is a small study, its findings suggest that safer sex can occur in the context of methamphetamine use. We interviewed heavy users who always used condoms and light users who never used condoms. Our findings agree with those of Des Jarlais,¹⁶ whose research indicates that factors other than drug use (e.g., motivation) are important determinants of condom use. “The increased intensity of sexual desire associated with methamphetamine use suggests that, as is the case with alcohol and other drug treatment programs, counselors need to acknowledge the sexual pleasure associated with methamphetamine use and then contrast this ‘benefit’ with the negative aspects of hypersexuality (e.g., increased chances of acquiring a sexually transmitted disease).”^{16,p320}

Negative Aspects of Methamphetamine Use

The participants reported few negative aspects of methamphetamine use, and these were primarily related to coming down from the drug. They expressed an ambivalence toward methamphetamine, in that they enjoyed the sexual experience but not the drug and its hold over them. (“I hate coming down. Oh, I hate it. I’m depressed,

my body feels bad . . . you just hate life.”) The participants acknowledged that methamphetamine was bad for their health, especially because of their HIV status. (“It tears down your immune system even further, takes your weight, affects your mind, it affects your strength, it kills you even faster.”)

The participants’ concerns about their health may be an effective means to motivate them to use condoms. For example, counselors may be able to help methamphetamine users resolve their ambivalence toward the drug and to encourage them to take action and stop taking the drug.

Sexual Identity

The men in this small study reported that sex was less important to them now than it was when they were younger. They reported that they felt stigmatized by some heterosexuals, however, and the men of color said they felt excluded from the mainstream gay community. No one reported blatant discrimination; the effects were described as subtle. (“The service was okay but when I walked in there [an HIV-positive organization], they made me feel like I am the wrong color.”)

These findings suggest how important it is to have culturally sensitive interventions and materials, and to hire ethnic minority counselors who are easy to talk to and can make the participant feel comfortable and understood.

The Role of Family and Religion

Family was viewed as important to the participants. The Latino participants indicated that their families were accepting of their drug use and gay lifestyle. Several of the men reported that their families lived on the East Coast and that they had little contact. Religion was viewed as important to the Latinos, although neither attended church.

The importance of family and church may be used to motivate participants to practice safer sex. Some participants may even be able to call upon family members to support their safer sex goals.

Other Data on Methamphetamine Users

In addition to the qualitative findings above, the study collected baseline data on 90 HIV-positive methamphetamine-using MSM.¹⁷ These data were used to examine the characteristics of binge users and nonbingers, with the hypothesis being that subgroup differences in the frequency and intensity of methamphetamine use would be reflected in differential patterns of social and behavioral consequences. Almost half (46%) of study participants identified as binge users; that is, they endorsed the description of binge use as “deep using of large quantities of meth for a period of time—until you run out or just can’t physically do it anymore.” The average methamphetamine binge lasted 5.6 days, with a range of 2 to 33 days. The average amount of methamphetamine consumed during a binge was 3.1 grams. Binge users and nonbingers did not differ in terms of the total amount of methamphetamine used in the past 30 days, but binge users reported significantly more social difficulties, sexual risk behaviors, and mental and physical health problems, including weight loss, sleeplessness, hallucinations, and paranoia, than non-bingers. These problems could compound the already compromised health status of the HIV-positive individual. Physicians who provide treatment to HIV-positive methamphetamine users should probe for binge use and provide warnings as to the potential for added physical, mental health, and social problems to those who engage in this pattern of drug use.

SOCIAL, PSYCHOLOGICAL, AND CONTEXTUAL FACTORS RELATED TO SEXUAL RISK BEHAVIOR

Understanding the social, psychological, and contextual factors that may contribute to risky sexual behaviors is key to the development of effective interventions. The advent of HAART has been related to high-risk behavior^{18,19} as has the use of illicit drugs and alcohol, especially among gay and bisexual men. At least three studies report an association between the use of alcohol and illicit drugs (e.g., nitrite inhalers) and unprotected anal intercourse (UAI) among HIV-positive MSM.^{8,20,21} Moreover, studies have shown a significant association between elevated levels of depressive symptoms and UAI in samples of HIV-negative²² and HIV-positive men.^{23,24} Other studies of HIV-positive MSM have reported an association between depression and continued high-risk sexual behavior.^{25,26}

Social networks influence sexual risk and drug use behaviors, and the perceptions of members in the social network about other members' use of drugs and alcohol are associated with self-reported use of substances^{27,28} and high-risk sexual behaviors. Direct links between high-risk sexual practices of network members and at-risk individuals have been identified among impoverished women and men of color.^{29,30} Low self-esteem has been associated with less use of condoms among homeless Latinas,³¹ and improvements in self-esteem have been associated with reduced barriers to condom use and less unprotected sex.^{31,32} Others have found a relationship between low self-esteem and sexual risk behavior among MSM.³³ HIV-related stigma has been associated with a variety of negative outcomes,^{34–38} and may be linked to a lack of communication regarding condom use for safer sex. Sexual sensation seeking and high-risk sexual behavior among HIV-negative and HIV-positive men^{39,40} have been found to differentiate men who had UAI from those who had no UAI.⁴¹ Kalichman et al.^{42,43} also found a relationship between sensation seeking, alcohol use, and sexual risk behavior among HIV-negative and HIV-positive men.

Different interventions may be needed for individuals with varying levels of motivation and commitment to behavioral change. Researchers often report their findings using group means, which may obscure the fact that not all individuals change their behavior in response to interventions. Data from our previous intervention study with HIV-positive individuals¹⁵ revealed that 44% of our sample were “successes,” 39% were “improvers,” and 17% were resistant to change. Taken together, these and other findings underscore the importance of examining each of these factors (i.e., mental health status, self-esteem, stigma, sensation seeking, and alcohol and drug use) in relation to the effectiveness of interventions.

RESEARCH PRIORITIES

What are some of the research priorities suggested by this review? We organize our recommendations under three broad categories: the context in which the behavior occurs, characteristics of the individual, and intervention design issues. With regard to the context in which the behavior occurs, a basic unanswered question is, “Can sexual risk be reduced in the context of drug use?” With the exception of risk reduction approaches, HIV prevention studies conducted with drug users often assume that it is necessary either to work with abstinent drug users or to attempt to reduce drug use and sexual risk behavior simultaneously. However, this does not

address the fact that a large number of individuals who are candidates for prevention programs will continue to use drugs. It is an empirical question whether one can achieve change in sexual risk behavior in the context of continued drug use. Moreover, linking the two behaviors may increase relapse of both behaviors if a failure occurs in one or the other. A number of studies and reviews suggest that interventions aimed at drug use behaviors, primarily among IDUs, are effective in reducing drug use behaviors, but they provide mixed evidence on effectiveness in reducing sexual risk behaviors among drug users.⁴⁴⁻⁴⁶ In our ongoing research, we are testing the hypothesis that reductions in high-risk sexual behavior can be achieved among HIV-positive MSM who are active methamphetamine users.

Another question related to the context of behavioral change is, do reductions in drug use lead to concomitant decreases in sexual risk behavior? It is possible that risky behaviors are linked in such a way that if drug use is curtailed, there will be a concomitant reduction in other risk behaviors such as high-risk sex. In addition, a growing body of literature suggests that social networks are influential in risk behaviors. Little work with non-IDUs has been conducted attempting to intervene at the level of the network.

Background characteristics of an individual may influence risk behavior. For example, it is unclear how different patterns of drug use and/or specific drugs or combinations of drugs used are associated with risk behavior and ultimately the success of intervention efforts. Most studies of noninjecting drug users have focused on the use of a specific drug such as methamphetamine or cocaine; however, poly-drug use (i.e., combining drugs) is common among drug users. How the complexities of various combinations of drugs play out in intervention trials has not been addressed in sexual risk reduction interventions.

Finally, intervention design issues need to be addressed in future research. For example, given that some individuals change behavior in response to less intensive interventions, while others do not, how many intervention sessions, and of what duration, are needed to achieve and sustain behavioral change? Can we better identify and link the characteristics of drug users, including gender, race, and cultural characteristics, to the efficacy of specific interventions?

CONCLUSION

We should note that relatively few intervention studies have been conducted, and many of these studies have major flaws. For example, only 99 rigorous studies of HIV risk reduction interventions were identified as of June 1998.¹⁰ These studies target a wide variety of populations (e.g., MSM, heterosexuals, drug users, etc.) and utilize a variety of approaches (e.g., community level, small groups, 1 session, 12 sessions, etc.). Clearly there is much work to be done to develop cost-effective, sustainable behavioral interventions for drug users. In this article, we have argued that in the context of scarce resources, it is important to focus prevention efforts on those who are already HIV positive but continue to engage in risky behavior.

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