



Crystal methamphetamine use, sexual risk behaviours and harm reduction among men who have sex with men

Questions

- What is the relationship between crystal methamphetamine use and sexual risk behaviours among men who have sex with men?
- What harm reduction methods have been implemented in this population?

Key Take-Home Messages

- Use of crystal methamphetamine among men who have sex with men has been linked to unprotected sex, sex with multiple partners, sex with partners of unknown serostatus, and a number of other risky sexual behaviours that may facilitate transmission of sexually transmitted and bloodborne infections (1-6).
- Amphetamine-using men who have sex with men have a 2.9 times greater risk of acquiring HIV infection through unprotected receptive anal intercourse than men who do not use amphetamines. Use of methamphetamine even once has been linked to a 2.3 times greater likelihood of seroconversion (6).
- The use of makeshift pipes made from hazardous materials such as glass fragments and aluminum cans often results in chronic cuts, burns, blisters and open sores inside the mouth and on the lips and gums of crystal methamphetamine smokers (5;7). Evidence suggests that these injuries promote the transmission of HCV and HIV through blood-to-blood contact when these devices are shared (5).
- For HIV-positive men who have sex with men who are being treated with protease inhibitors, the use of antiretroviral medication has been shown to affect methamphetamine absorption rates. The effect of methamphetamine is two or three times greater for individuals on combination therapy (6). A variety of harm reduction techniques can be employed

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to promote the safer use of crystal methamphetamine, including the provision of safer drug use supplies and related harm reduction education and counseling (8).

- Pilot testing of safer smoking kits to initiate discussion and education about the risks associated with sharing pipes and unprotected sex for men who have sex with men is worth pursuing. Future studies should be conducted to thoroughly examine whether harm reduction services could actually reduce the risk of transmission of sexually transmitted and bloodborne infections in this population (1;9).

! The Issue and Why It's Important

Rising rates of recreational crystal methamphetamine use among men who have sex with men (MSM) are a significant concern (2). In contrast to relatively low rates of crystal methamphetamine use in the general population, surveys of men who have sex with men have uncovered a much higher prevalence. Among samples recruited in gay venues and clinics in the US, prevalence ranged from 6-16% compared to only 0.6% in the general US population (1;2). These elevated rates are particularly alarming because smoking crystal methamphetamine is associated with a myriad of negative health consequences, and has also been linked to the transmission of hepatitis C (HCV) and HIV (1-6;9).

Methamphetamine use among MSM during sex has disinhibiting effects with respect to sexual practices, which may increase the risk of HIV transmission (1-6;9). In addition, injuries to the mouth and face sustained while smoking crystal methamphetamine may promote HCV and HIV transmission through blood-to-blood contact when smoking devices are shared (1;7;9;10).

Investigating the relationship between crystal methamphetamine use and sexual risk behaviours among men who have sex with men may help identify harm reduction strategies that promote safer drug use and sexual risk behaviours and prevent the transmission of HIV and other sexually transmitted or bloodborne infections. To improve services and strategies, it is essential to evaluate current harm reduction strategies.

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What We Found

Sexual risk behaviours

Crystal methamphetamine use has been linked to risky sexual behaviours (4). Some men who have sex with men may perceive some of the psychological effects of crystal methamphetamine—such as hypersexuality, euphoria, lowered sexual inhibitions, increased self-esteem and increased confidence—as appealing (6).

Crystal methamphetamine increases sex drive and facilitates longer sexual episodes (1). The drug appears to have aphrodisiac qualities; methamphetamine affects the subjective pleasure of sexual experiences, independent of libido or sexual drive. It has been directly linked to the increased likelihood of impulsive sexual behaviours due to the psychological implications of its use (6).

Use of crystal methamphetamine has been linked to unprotected sex, sex with multiple partners, sex with partners of unknown serostatus and a number of other high-risk sexual behaviours. In a sample of 261 HIV-positive MSM in California, greater intensity of methamphetamine use was associated with unprotected sex as well as sex with multiple partners (9). In a sample of crystal methamphetamine users in Toronto, many reported having sex with multiple partners and being less likely to use condoms while on the drug. Several participants from this sample said that sex acts could be rougher and more potentially damaging while on crystal methamphetamine (1). Of the gay men in the Toronto study, those who disliked using condoms reported that they smoked crystal methamphetamine to give them “permission” to not wear a condom during sex (1). One study of Australian MSM reported increased incidence of crystal methamphetamine use to enhance sexual pleasure and an increase in unprotected anal intercourse with casual partners (2). Interviews with 25 HIV-seropositive MSM from San Diego County found that 84% reported engaging in high risk sexual behaviour such as unprotected anal intercourse or sex with anonymous partners when using crystal methamphetamine (2).

Several large surveys of MSM found that crystal methamphetamine users were more likely to engage in unsafe sexual activities that carried a risk of transmitting HIV (2). Within these surveys, there was a significant association between use of crystal methamphetamine and unprotected anal intercourse with casual partners (UAIC): 47-54% of crystal methamphetamine users reported engaging in UAIC compared to 28-33% of non-users (2). In addition, it was found that crystal methamphetamine users reported having significantly more sex partners than non-users and that they looked for sex in more types of venues than non-users (2). In particular, use of crystal methamphetamine has been associated with higher frequency of attendance at bars, bathhouses, clubs and dance or “circuit” parties (6). Use of crystal methamphetamine in these settings suggests that casual or new sexual encounters often occur while under its influence. This may be related to the euphoria and psychological

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disinhibition created by methamphetamine use (6).

Crystal methamphetamine users report engaging in more “adventurous” sex than non-users, including “marathon sex” (prolonged sexual activity) and unsafe sex with HIV-serodiscordant partners or partners of unknown serostatus (2;3;5). In addition, crystal methamphetamine users were more likely to report higher rates of sexually transmitted infections, sex with intravenous drug users and use of other hard drugs (5). Due to the sensory effects and associated decrease in sexual inhibitions, use of methamphetamines has also been linked to group sex and fisting (6).

Use of crystal methamphetamine also results in drying of the mucosa that can lead to genital tearing, which may facilitate transmission of HIV or other sexually transmitted infections (1). One study reported that amphetamine-using MSM demonstrate 2.9 times greater risk of HIV infection through unprotected receptive anal intercourse, and use of methamphetamines even once has been linked to a 2.3 times greater likelihood of seroconversion among gay men (6). These findings support the idea that use of crystal methamphetamine may contribute to unsafe sexual behaviour, which in turn contributes to increases in HIV infections among men who have sex with men (2). However, it is important to remember that these findings cannot confirm causality in the relationship between crystal methamphetamine use and unprotected anal intercourse or other sexual behaviours; the findings only provide evidence of correlational associations (4).

Non-sexual risk behaviours

In addition to its association with sexual risk behaviours, crystal methamphetamine use is also associated with many other risk behaviours that facilitate the transmission of HIV, HCV and other sexually transmitted and bloodborne diseases.

For crystal methamphetamine users who administer the drug intravenously, the risk for HIV seroconversion is high as users may place themselves at risk for infection through the use of shared needles (6).

For people who smoke crystal methamphetamine, the use of makeshift pipes made from hazardous materials such as glass fragments and aluminum

cans often result in chronic cuts, burns, blisters and open sores inside the mouth and on the lips and gums (5;7). These injuries, which are due to sustained contact with hot smoke, hot metal and sharp edges, promote HCV and HIV transmission through blood-to-blood contact when devices are shared (5). Even in the absence of these injuries, many users report dry cracked lips, which may also serve as a route for disease transmission (1).

One of the primary health concerns associated with crystal methamphetamine smoking is the potential for transmission of HCV through blood remaining on a shared glass pipe or other smoking implement (9). Pipe sharing is widespread among crystal methamphetamine smokers, most of whom display a casual attitude towards this practice (1;9). It is viewed as a normal part of the crystal methamphetamine smoking culture and is often done in a group setting (1;9). According to research on crack cocaine use, sharing crack pipes can increase health risks among people who use drugs (11). A study examining the presence of HCV on crack pipes suggested possible HCV transmission by way of crack paraphernalia (7). Interestingly, one study reported that smoking crystal methamphetamine, as opposed to injecting it, is associated with lower levels of sexual risk behaviour, with smokers reporting fewer casual sex partners and less unprotected anal sex (12). Smokers were also less dependent on crystal methamphetamine than injectors, but took the drug as often and had similarly high levels of psychological distress, poor physical and mental health, psychotic symptoms and criminal involvement (12).

Some common beliefs among crystal methamphetamine users may also contribute to risk taking and harm. For example, many crystal methamphetamine users consider their drug to be more “functional” than heroin or cocaine (13). This belief may nurture feelings of invulnerability and contribute to negative consequences (13).

Another risk associated with crystal methamphetamine use is its interaction with HIV medications. According to research, for HIV-positive MSM being treated with protease inhibitors, the use of methamphetamine has been shown to interact with this class of antiretroviral medications with regard to absorption rates. The effect of methamphetamine is two or three times greater for individuals on combination therapy (6).

Harm reduction strategies

Despite a thorough search of the academic literature, we were able to locate only two primary studies on harm reduction interventions targeting crystal methamphetamine users. We have included these interventions in our report, as well as information on suggested harm reduction techniques.

A variety of harm reduction techniques can be employed to promote safer use of crystal methamphetamine, including the provision of safer drug use supplies and related harm reduction education. Harm reduction services can include: access to sterile drug use equipment, health education and risk reduction counseling (including safer drug use, safer disposal and safer sex practices), health services (including testing for HIV, HBV and HCV; vaccinations for HCV and HBV), access to condoms and water-based lubricant, referral to addiction treatment services or social service agencies, peer support groups and access to mental health services (8). Initiating a trusting dialogue about how the person is using, including methods of administration, where they are using and with whom, is a crucial part of effective long term harm reduction as is discussing ways in which users can better protect themselves from the potential negative effects of drug use in a non-judgmental and user-centered way (8).

People who smoke crystal methamphetamine should be encouraged to: use their own pipe, protect their lips from hot pipes by using a mouthpiece, keep lips moist and crack-free by using lip balm, use pipes that are not cracked or broken, use pipes that are not made from plastic or other materials that may result in toxic fumes, and smoke in ventilated areas to avoid inhalation of any possibly toxic oxidation by-products (8).

In terms of harm reduction for crystal methamphetamine users, the model of safer injection kits holds some appeal. This equipment distribution model has been applied to address concerns surrounding crack cocaine smoking. Although evidence in support of safer crack kits is not definitive, the rationale for this type of intervention holds true for crystal methamphetamine smoking which shares many of the same risks as smoking crack cocaine (1;7;9;10;14;15). A Toronto-based study aimed to examine whether a kit for crystal

methamphetamine smoking might have some potential to reduce the negative health effects of smoking crystal methamphetamine (1;9). Focus groups with 32 crystal methamphetamine smokers were conducted with specific populations including homeless/street-involved youth, sex workers, men who have sex with men and youth in the party scene (1;9). Many participants spoke with little concern of the potential for negative health outcomes from sharing pipes and/or other devices (1;9).

When asked for suggestions of items to include in harm reduction kits, participants identified the following (1;9):

Item	Reasons to include
1-2 Pyrex or tempered glass pipe	To prevent breakage
Lighter	Torch lighters preferred
Scoops	To put crystal methamphetamine in bowl
Scrapers	To scrape out residue
Alcohol wipes	To clean pipe after use
Tin foil and straws	For "chasing the dragon"
Hand sanitizer	
Condoms	
Lubricant	
Mouthwash	For oral hygiene concerns
Lip balm	For cracked lips
Band-Aids	
Rubber mouthpieces	Although many people would not use
Gum	For dry mouth
Electrolyte powder	Since not eating much
Educational pamphlet	With information about health risks, crisis phone numbers, etc.

Most participants agreed that the ideal pipe for safer crystal methamphetamine smoking kits would be made from tempered glass or Pyrex ball pipes, as they are the least likely to break (1;9). There was considerable variation regarding preferred stem length; many believed that longer stems were safer as they increase the distance from the heat source to face and hands, while others preferred shorter stems that are easier to carry and conceal (1;9). Most participants considered the size of the bowl and its ventilation hole to be more important than stem length. According to participants, the bowls need to be adequately large to hold liquefied crystal meth, and the hole sufficiently large to allow oxygen into the bowl for vaporization (1;9).

Given low rates of reported condom use within this sample, researchers asked participants if it would be beneficial to include condoms in safer smoking kits. Several participants said recipients might be more likely to use one if it was included (1;9). Participants also provided varied suggestions for locations to distribute kits, including: community health agencies, youth shelters, mobile health buses, bathhouses and dance houses or clubs (1;9). Several participants noted that, while bathhouses and clubs are good locations, owners and managers intent on keeping drug use hidden might resist kit distribution on site (1;9).

Perceived demand for and/or desirability of the harm reduction kits was mixed among the different populations (1;9). In particular, men who have sex with men said that they would take free kits but, if obtaining the kits was inconvenient, they would be more likely to buy their own pipes (1;9). Most participants expressed doubt that distributing kits would reduce pipe sharing. This feeling was strongest among men who have sex with men, who felt that the social aspect of sharing pipes was an important driver of crystal methamphetamine use, as part of social gatherings and in the sexual transactions occurring inside and outside the bathhouse scene (1;9). Because many participants considered sharing to be integral to the social experience of smoking crystal methamphetamine, changing pipe sharing behaviours may be difficult (1;9). While there is still some question as to whether kits would decrease pipe sharing among men who have sex with men, access to kits might reduce the use of improvised equipment (e.g., lightbulbs) which are more likely to cause injury and burns (1;9). The authors suggest that pilot testing of safer

smoking kits is worth pursuing if only to initiate discussion and education on the risks associated with sharing pipes and unprotected sex for some communities (i.e. MSM), and that future studies should be conducted to examine more thoroughly whether harm reduction services could actually reduce pipe sharing (1;9).

A second study investigated the possibility of capsule distribution as a potential harm reduction approach for injectors of methamphetamine. These empty hard gelatin capsules are distributed to methamphetamine users to promote the swallowing of the substance, thus reducing injection-related risks (13). Users fill the capsules with their dose of methamphetamine and then swallow it so that the capsule dissolves in the stomach. This is assumed to be less harmful than nasal administration since stomach mucosa is more resistant than the nasal mucosa, which frequently suffers damage from long-term use of stimulants (13). Target groups for this harm reduction intervention were methamphetamine users who have difficulty injecting due to damaged veins, those who mainly use nasal ingestion and users wishing to reduce their injecting. Three main advantages were associated with the use of capsules: reduction in injection drug use and related risks, access to hard-to-reach subgroups of methamphetamine users, and better contact with methamphetamine users attempting to quit or reduce their drug injecting (13). However, there were also some negative effects from this method of ingestion. Peer outreach workers reported gastric problems, such as hyperacidity, abdominal pain, nausea and vomiting, after dissolving methamphetamines in an empty stomach (13). Before this method is deemed acceptable, the details of the intensity and duration of the drug effects and the long-term effects of its use must be further investigated (13).

A final method of harm reduction for crystal methamphetamine users is counseling. Counselors should focus on developing plans with clients to avoid harm and maintain safety before getting high (13). Basic harm reduction messages for users should address: food, water and sleep. Meeting these needs will delay the onset of paranoia and help the body withstand highs and ease crashes, which are all effective “selling points” for users (13). A second area of counseling should focus on safer sexual activity. Counselors should assist

clients in creating strategies to reduce or avoid undesirable consequences such as HIV and sexually transmitted infections, pregnancy or involvement with abusive partners (13).

More information is needed on the efficacy of harm reduction interventions for crystal methamphetamine-using MSM in order to encourage safer drug use behaviours and prevent the transmission of sexually transmitted and bloodborne infections within this population.

Factors That May Impact Local Applicability

All studies included in this summary were conducted in high-income countries similar to Canada. There were limited data available on harm reduction interventions within populations of men who have sex with men; it is important to bear this in mind when interpreting findings. In addition, data collected from intervention studies were from relatively small samples, therefore caution should be used when generalizing to other populations. Finally, data presented in the safer smoking kit harm reduction intervention was collected from clients of community health agencies or youth shelters in Toronto, and therefore the experiences of the most marginalized or isolated crystal methamphetamine smokers across Canada may not be well represented (1;9).

What We Did

We searched Medline for articles using MeSH term Methamphetamine or keywords [(crystal meth) or (crystal methamphetamine)] in combination with MeSH terms [(harm reduction) or (risk reduction behavior)] or keywords [(risk reduction) or (harm reduction) or (drug equipment) or (paraphernalia)]. The search was limited to articles published in English between 1996 and 2014.

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