

Crystal methamphetamine: an intractable problem

HIV Nursing; September 22, 2010; Thorley, Flick

Introduction

Five years ago, little was known about N-methyl-1-phenyl-propan-2-amine in the UK; however, more commonly known as crystal methamphetamine, it is now a widely used recreational drug and an increasing problem on the gay scene and in HIV and sexual health services. It is also known by a variety of names including crystal meth, Tina, ice, crystal, tik, speed, chalk, meth, crank, yabba, P and Christine.

Crystal meth is a stimulant that was allegedly first synthesised from ephedrine in 1919 in Japan [1]. It has since been used for medicinal purposes, particularly for treating attention deficit hyperactivity disorder (ADHD) in the US [2], and in the 1950s it was prescribed to treat disorders such as narcolepsy, alcoholism, depression and obesity in the UK [3]. During World War II it was used widely by troops (Allies and Axis) as a stimulant - in Germany its tradename was Pervitin - and allegedly administered daily to Hitler from 1942 [4]. In the US during the 1960s, it started being made and sold for illicit recreational use and during the 1980s there was a massive rise in its recreational use with the emergence of the rave/dance scene. In 1989, the Economist reported that 'San Diego is the methamphetamine capital of North America'. Recreational use has reached epidemic proportions throughout parts of America, Australia and Asia and it is now being used by gay men in the UK.

Until the early 1990s, most crystal meth was made in laboratories run by traffickers, and the US market was supplied from Mexico and California. However, over a short space of time, an increasing number of small-scale labs started to be found in rural, suburban and low-income areas in the US [5]. To demonstrate the massive increase in demand, the Indiana state police found six labs in 1995 compared with 1260 in 2003. The first crystal meth factory was found in the UK in 2005, and many more have been found since. Globally, users are said to outnumber those of heroin and cocaine combined, but its prevalence in the UK is still a matter of some debate. It is manufactured using a number of easily accessible household products and pseudoephedrine products bought over the counter. It was reclassified in 2007 as a Class A Drug in the UK.

In 2009, the television producer and broadcaster Louis Theroux presented a programme which focused on crystal meth as a drug problem in the Californian city of Fresno where it was associated with heterosexuals, poverty and crime; in the UK, the epidemic is mainly associated with gay men. America and Australia have been dealing with the problem of crystal meth in their gay populations for a number of years but there has been little awareness of the problem in the UK, and subsequently scant resources available to address it.

Physical and psychological effects

Crystal meth is addictive [6] and associated with unsafe, uninhibited, marathon sex with multiple partners, and unsurprisingly it is becoming a problem for sexual health services. Crystal meth can be snorted, ingested, injected, smoked or taken anally (booty bumped). Depending on how it is taken will impact on how quickly it takes effect and how long the effects last, which can be anything up to 24-36 hours. Aside from the risks of contracting HIV, hepatitis C and other STIs, common physical problems include not eating or sleeping for days or weeks, weight loss and facial wasting, hypertension, twitching, sores, impaired thermoregulation, 'crystal dick' (similar to 'brewer's droop' and often counteracted by the addition of Viagra), palpitations, arrhythmias, tremors, gastrointestinal problems and skin rashes. Rotting teeth and receding gums are also a problem (Google 'meth mouth' to see pictures of this condition). The psychological effects of crystal meth include euphoria, aggression, anxiety, paranoia, repetitive and obsessive behaviours, suicidal ideation and psychosis. Mood disorders associated with crystal meth withdrawal are more severe and last longer than many other drugs [7].

Addiction

Chelsea and Westminster NHS Foundation Trust provides the largest HIV service in Western Europe and an increasing number of HIV-positive men, many also with hepatitis C, and many presenting with new-onset acute mental health problems, are being seen who talk about their crystal meth use.

In my job as the Clinical Nurse Specialist in HIV and Mental Health, I frequently see gay men with no previous history of mental health problems presenting with acute psychiatric symptoms.

Common presentations involve patients believing they are being monitored via the internet, being spied on by CCTV, believing the police or some other authority is after them and believing that they are in immediate danger. This has resulted in some moving house frequently, changing their phone numbers numerous times, moving about using different computers, not opening their post for fear of being 'found', believing their friends and family have turned against them etc. The common denominator is crystal meth. When someone presents in this way, this type of psychosis is very hard to treat. Once developed, it seems so real to the patient: why would they want psychiatric services when they need the police?

Many users with no history of dependency can start exhibiting addictive behaviour very quickly. Even when users want to extricate themselves from the drug, they can not because of the sexual and social networks they are involved with. The most successful way of beating the problem appears to be not to start.

The first major casualty of crystal meth who I met was a well-educated, bright, 31-year-old gay man with no psychiatric history. He presented as acutely psychotic and distressed and following lengthy assessment was diagnosed with drug-related psychosis; specifically, crystal meth-related psychosis. This was in 2005. He was paranoid, delusional, had developed an obsessional habit and in the process was destroying his relationship, job and friendships. He also had absolutely no insight into this and did not accept his drug use had anything to do with his terrifying reality. Over time, he was treated with antipsychotics, antidepressants, hypnotics, psychiatrists, psychologists, the Mental Health Act and substance misuse services. Throughout this, he had periods of time when he almost felt safe and that his life was back to how it had been before. Three years after I first met him, he was found dead in suspicious and bizarre circumstances and his post mortem toxicology screen showed he had taken crystal meth prior to his death.

Neurotoxicity

Owing to the increased number of patients presenting to our department with complex crystal meth-related psychological, psychiatric and physical issues, we have had to learn about the drug quickly, and what we have learnt is horrifying.

Methamphetamine releases high levels of the neurotransmitter dopamine, which stimulates brain cells, enhancing mood and body movement [8]. This is why people feel confident, fabulous and take more risks as normal inhibitions have been bypassed. It also appears to have a neurotoxic effect, damaging brain cells that contain dopamine and serotonin. Over time, methamphetamine appears to cause reduced levels of dopamine, which can result in symptoms like those of Parkinson's disease, and also to long-term low mood. MRI studies on crystal meth users in the US show very clear damage to the brain, specifically to the parts that involve memory (the hippocampus), emotion and reward (the limbic system). Dr Paul Thompson, an expert on brain mapping at UCLA, described what was seen as 'a forest fire of brain damage' [9].

Treatment and support

In liaising with local NHS and voluntary sector drug treatment services, it became clear that although these agencies are more than happy and willing to get involved in supporting and treating people, they are not seeing people who use crystal meth. We are, however, and our patients do not want to go to those services because the issues around this particular drug problem are commonly very specific to sex, sexuality, sexual behaviours, sex sites on the internet, and general internet behaviour. Although this is how this dependency starts, we are seeing an increasing number of men whose active sexual and social lives are disintegrating into isolated crystal meth use at home, and who have psychotic and delusional ideas and dependency on other drugs such as GBL ([gamma]-butyrolactone) and heroin to help with the comedowns. When these men do come looking for help, they are currently presenting to the HIV and GUM clinics as these seem to be the places gay men can speak freely about issues, and get the help and support they are seeking. In some centres, it may be possible to set up appropriate help via local substance misuse services, but in larger centres, substance misuse services are borough and postcode specific, which makes them inaccessible to many people who attend our clinics. Cognitive behavioural therapy, motivational interviewing, gay-specific harm reduction interventions, which target physical health concerns, and psycho-educational groups and programmes, all have the potential to help but research in the US shows poor long-term outcomes. In London, we are lucky to have access to Antidote (www.thehungerford.org/antidote.asp), an easily accessible, non-postcodespecific substance misuse service for the lesbian, gay, bisexual and transgender community.

In our experience, many gay men do not want to access generic mental health or drug services as they do not see themselves as having generalised mental health problems or experiencing the same issues as other problem substance users. This is even though the detrimental effects on their lives can be similar. Traditional harm-minimisation and risk-reduction strategies for recreational drug use also appear to have poor success in supporting people taking crystal meth.

Conclusion

Club or party drugs have long been associated with the gay scene and many people have used them, and keep using them, while living productive and healthy (ish) lives. Crystal meth is changing this.

For us to understand what people are actually doing, it is important that health professionals ask the right questions, whether they are in HIV or sexual health clinics, GP surgeries, drug services or elsewhere. As the incidence of crystal meth use increases, which is likely because it has done everywhere else, awareness about the use of the drug in the UK will increase too and appropriate services will, hopefully, be developed.

In the meantime, we are trying to understand the extent of the problem. While we are aware of the individuals who admit to meth use and who ask for help at the Chelsea and Westminster Hospital, we also investigated the prevalence of meth use among general HIV clinic attendees who have not yet identified it as a problem. In October 2010, we left anonymous questionnaires in the Kobler Clinic, Chelsea and Westminster Hospital, the Nkosi Johnson Unit at Charing Cross and at 56 Dean Street, that asked HIV-positive people about crystal meth use.

We received 418 returned questionnaires and the answers gave the results shown in Panel 1.

Further reading:

Wainberg ML, Kolodny AJ, Drescher J (eds). *Crystal Meth and Men who have Sex with Men: What Mental Health Care Professionals need to know*. Haworth Medical Press, Binghamton, NY, 2006.

Panel 1

- * 332/418 (80%) respondents were MSM
- * 85 (20%) in total had used crystal meth in the past 12 months (all MSM)
- * Only 35/85 had told a health professional
- * Use ranged between daily and yearly
- * Most common route for taking crystal was smoking, followed by snorting and then injecting 1% (4)
- * 12% (48) reported unprotected penetrative sex while using crystal meth, 1% (5) were not sure whether this had happened or not.
- * When asked about antiretroviral use, 11% (45) stated they had not missed any doses because of crystal meth in the past year, one person reported missing more than 50 doses, 3% (13) reported missing between 1 and 10 times.
- * Of those who reported crystal use, 13/85 (15.3%) reported missing at least one HIV clinic appointment in the past year.
- * Of those who missed at least one HIV clinic appointment, 9/13 (69%) were using crystal either monthly or more frequently.

References:

- [1.] Nagai N. 'Kanyaku maou seibun kenkyuu seiseki (zoku)' (in Japanese). *Yakugaku Zasshi* 1893, 127, 832-860. Available at www.ci.nii.ac.jp/naid/110003609935 (last accessed September 2010).
- [2.] Mitler MM, Hajdukovic R, Erman MK. Treatment of narcolepsy with methamphetamine. *Sleep*, 1993, 16, 306-317.
- [3.] Grollman A. *Pharmacology and Therapeutics: A Textbook for Students and Practitioners of Medicine*. Lea & Febiger, Philadelphia, 1954; p. 209.
- [4.] Ulrich A. The Nazi death machine: Hitler's drugged soldiers. *Spiegel Online*, 5 June 2006. Available at: www.spiegel.de/international/0,1518,354606,00.html (last accessed September 2010).
- [5.] Hunt D, Kuck S, Truitt L. Methamphetamine Use: Lessons Learned. Final report to the National Institute of Justice, February 2006 (NCJ 209730). Available at: www.ncjrs.gov/pdffiles1/nij/grants/209730.pdf (last accessed September 2010).
- [6.] 'What are the signs that a person may be using methamphetamine?'. The Methamphetamine Problem: Question-and-Answer Guide. Tallahassee: Institute for Intergovernmental Research, 2009. Available at: www.iir.com/centf/guide.htm (last accessed September 2010).
- [7.] Winslow BT, Voorhees KI, Pehl KA. Methamphetamine abuse. *American Family Physician*, 2007, 76, 1169-1174.
- [8.] Bennett BA, Hollingsworth CK, Martin RS, Harp JJ. Methamphetamine-induced alterations in dopamine transporter function. *Brain Research*, 2008, 782, 219-227.
- [9.] Thompson PM, Hayashi KM, Simon SL et al. Structural abnormalities in the brains of human subjects who use methamphetamine. *Journal of Neuroscience*, 2004, 24, 6028-6036.

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