FACT SHEET

Methamphetamine

CCSA - CCLAT

www.ccsa.ca

This fact sheet on methamphetamine (MA) was prepared by Anne-Elyse Deguire[*], Senior Research Analyst, Research and Policy Division, Canadian Centre on Substance Abuse. It is intended to provide current, objective and empirically-based information on methamphetamine.

Overview

- Methamphetamine (MA) is an illegal synthetic drug, and one of the amphetamine-type stimulants (ATS). It acts on the central nervous system by releasing large amounts of the neurotransmitter dopamine.
- MA is produced in clandestine laboratories using commonly available chemicals and over-the-counter medications such as ephedrine, pseudoephedrine, phenylpropanolamine, iodine, red phosphorous, hydrochloric acid, ether, hydriodic acid, and anhydrous ammonia.
- On August 11, 2005, the Government of Canada announced that unauthorized production, distribution and possession of MA now is prohibited under provisions of the Controlled Drugs and Substances Act (CDSA)[1] applicable to Schedule I substances. MA had been previously subject to Schedule III.
- The Precursor Control Regulations[2] of the CDSA govern the import, export, production and distribution of Class A precursors such as ephedrine and pseudoephedrine used to manufacture MA. In June, 2005, the Government of Canada proposed to add other substances such as red phosphorous and hydriodic acid to the list of Class A precursors.
- Chemicals used in the production of MA are corrosive, explosive, flammable and toxic and can cause important environmental harms. Every pound of MA produces an average of five or six pounds of chemical waste.
- MA can be found in tablet or powder form or in a waxy form known as “base”, “paste”, “wax” or “point”. “Crystal” or “ice” (d- methamphetamine hydrochloride) is a more potent form of MA that consists of a recrystallized powder.
- Depending on the form, MA can be taken orally, smoked, snorted or injected.
- Common street names associated with MA include Chalk, Crank, Crystal, Fire, Ice, Jib, Meth, Speed, Gak, Glass, Tina, Yaba.

[*] The author was a member of an expert panel at the Western Canadian Summit on Methamphetamine held in Vancouver in November, 2004, and parts of this fact sheet are derived from a consensus statement report developed by the panel.

Immediate and short-term effects of methamphetamine

- If MA is smoked or injected, it can create an intense feeling of euphoria, which is referred to as a "rush" or "flash". This happens within a few seconds, and lasts a few minutes. Depending on the amount and route of administration, the effects of MA can last up to 12 hours or more.

  Effects that result from taking MA, even in small amounts, include:

  - increased wakefulness
  - general sense of well-being
  - increased heart rate and respiration
  - decreased appetite
  - excessive talking
  - increased body temperature

  MA users may also experience:

  - tremors
  - mental confusion
  - hyperthermia, which can cause convulsions
  - insomnia
  - irritability and aggression
  - chest pain, hypertension, cardiovascular collapse

- MA users may also be prone to becoming violent or engaging in risky sexual behaviour.
- Once the effects subside, users usually experience extreme fatigue leading to prolonged and disturbed sleep, which can in turn lead to irritability and depression.

Long-term effects of methamphetamine

- There is no evidence that experimental use (one time) will lead to dependence.
- However, MA users can rapidly develop a strong psychological dependence.
- Chronic use is often characterized by a "binge and crash" pattern associated with higher doses and higher frequency of use.
- Psychological effects can include memory loss, hallucinations, paranoia, mood disturbances, repetitive behaviours and formication (sensation of insects crawling on skin).
- Physiological effects can include structural damage to the brain, inflammation of the heart lining, dental health problems, and decreased sexual functioning.

Prevalence estimates of methamphetamine

- The Canadian Addiction Survey (2004) measured the use of amphetamines (speed) in the Canadian population aged 15 and older; results revealed that 6.4% of respondents reported using amphetamines at least once in their life, and less than 1% reported past-year use[3].
- The provinces of Manitoba and Ontario have specifically included MA in their student drug use surveys. In 2001, 2.7% of students surveyed in Manitoba reported using MA in the past year[4]. In 2003, 3.3% of students in Ontario reported using MA in the past year, and 1.2% reported using "ice"[5].
- The report on the National Synthetic Drugs Action Plan in the U.S. revealed that 5.2% of people 12 years and older used MA at least once in their life, and less than 1% did so in the past year[6].

- The Monitoring the Future Study (2003) in the U.S. showed that 2.5% of Grade 8 students used MA in the past year, whereas 3.3% and 3.2% of Grade 10 and Grade 12 students were current users in that same year[7].
- It is also estimated that past-year use of ATS is less than 1% in the general population in the European Union[8].
- Past-year use of MA in Australia has been reported by 3.4% and 3.2% of the general population aged 14 and older in 2001 and in 2004 respectively[9].
- Studies conducted with street-involved youth and gay men reveal that MA use is more prevalent in these populations. For instance, 71% of a convenience sample of street-involved youth (14-30) in Vancouver had used ATS[10]. Findings from a study in Toronto revealed that 37% of 76 homeless youth used MA at least once a month[11].

Prevention of methamphetamine use and abuse

- Precursor control regulations are designed to control diversion of large quantities of precursor chemicals to "superlabs" that can produce as much as 10 pounds of MA in one "cook". Some initiatives have also been implemented to restrict access to over-the-counter products used by small labs. A common measure is to place cold and allergy medicines behind the counter.
- There is a lack of evidence to support best practices in the prevention of MA use, but promising initiatives include harm reduction and peer outreach programs targeted at street-involved youth, gay men and injection drug users.

Treatment of methamphetamine dependence

- Pharmacotherapy research is in the early stages and there is currently no medication that can quickly and safely help reverse the effects of overdoses, or help reduce withdrawal, paranoia and psychotic symptoms associated with MA use.
- Treatment of MA dependence presents multiple challenges, including problems associated with acute and prolonged withdrawal, cognitive impairment, mood disorders, violence, and poor health conditions.
- In general, there is strong support for cognitive-behavioural techniques and motivational interviewing when treating substance users. An example of an intervention designed for MA users is the Matrix Model, which combines cognitive behavioural therapy, social support and family education groups, individual counselling and urine testing. A multi-site study revealed that participants in the Matrix Model showed better outcomes while undergoing treatment than clients receiving "treatment as usual". All participants showed improvement at follow-up, but differences between the two groups were no longer observed[12].

Endnotes

[1] Government of Canada. (1996). Controlled Drugs and Substances Act.

[2] Government of Canada. (2002). Precursor Control Regulations, Controlled Drugs and Substances Act.

[3] Adlaf, E.M., Begin, P., & Sawka, E. (Eds.). (2005). *Canadian Addiction Survey (CAS): A national survey of Canadians' use of alcohol and other drugs: Prevalence of use and related harms: Detailed report.* Ottawa: Canadian Centre on Substance Abuse.

[4] Addictions Foundation of Manitoba (2001). Substance Use Among Manitoba High School Students. Winnipeg: AFM. Available at http://www.afm.mb.ca/pdfs/HSSU.pdf.

[5] Adlaf, E. & Paglia, A. (2003). Drug Use Among Ontario Students 1977-2003. Detailed OSDUS findings. Toronto: Centre for Addiction and Mental Health. Available at http://www.camh.net/pdf/OSDUS03-drugdetail-final-v4.pdf.

[6] Office of National Drug Control Policy and Department of Justice. (2004). National synthetic drugs action plan: The federal government response to the production, trafficking, and abuse of synthetic drugs and pharmaceutical products. Rockville, MD: Office of National Drug Control Policy.

[7] Johnston, L.D., O'Malley, P.M., Bachman, J.G., Schulenberg, J.E. (2003). Monitoring the Future. National Results on Adolescent Drug Use: Overview of Key Findings, 2003. Institute for Social Research, University of Michigan.

[8] European Monitoring Centre for Drugs and Drug Addiction. Annual Report 2004: The State of the Drugs Problem in the European Union and Norway.

[9] Australian Institute of Health and Welfare (2005). 2004 National Drug Strategy Household Survey: First Results. http://www.aihw.gov.au/publications/index.cfm/title/10122

[10] Buxton, J. (2003). Vancouver Drug Use Epidemiology. Vancouver Site Report for the Canadian Community Epidemiology Network on Drug Use. Vancouver: CCENDU.

[11] Bernstein, J., Adlaf, E., & Paglia, A. (2004). Drug Use in Toronto 2004. Toronto: Research Group on Drug Use.

[12] Rawson, A.R., Marinelli-Casey, P., Anglin, M.D., Dickow, A., Frazier, Y., Gallagher, C., Galloway, G.P., Herrell, J., Huber, A., McCann, M.J., Obert, J., Pennell, S., Reiber, C., Vandersloot, D., Zweben, J. & the Methamphetamine Treatment Project Corporate Authors. (2004). A Multi-Site Comparison of Psychosocial Approaches for the Treatment of Methamphetamine Dependence. *Addiction*, 99, 708-717.

The Canadian Centre on Substance Abuse (CCSA), Canada's national addictions agency, was established in 1988 by an Act of Parliament. CCSA provides a national focus for efforts to reduce health, social and economic harm associated with substance abuse and addictions.

For further information, please write:

Canadian Centre on Substance Abuse
Suite 300, 75 Albert St., Ottawa, ON K1P 5E7
Tel.: (613) 235-4048; fax (613) 235-8101. Visit our website at www.ccsa.ca

ISBN 1-896323-68-5 (revised August 2005).

Prepared by the Canadian Centre on Substance Abuse