FACT SHEET

Crack Cocaine

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This fact sheet examining crack cocaine was prepared for the Canadian Centre on Substance Abuse (CCSA) by Mrs. Michelle Firestone Cruz, Ms. Kate Kalousek, and Dr. Benedikt Fischer, Centre for Addiction and Mental Health (CAMH). It is intended to give a current, evidence-based overview of salient issues.

What is "crack"?

Crack is a highly addictive stimulant drug that is derived from powdered cocaine. Crack or "freebase" cocaine is cocaine that has been dissolved and then boiled in a mixture of water and ammonia or sodium bicarbonate (baking soda) until it forms lumps or rocks. Crack may be liquefied and injected or heated and its vapours smoked. The term "crack" refers to the crackling sound the rock makes when it is heated.[1]

Epidemiology of crack use

There is evidence that crack use has become increasingly prevalent in street drug-use populations across Canada in the past 10 years, although considerable local differences exist.

- A study of 794 injection drug users (IDUs) in Toronto, Regina, Sudbury, and Victoria ("I-Track") indicated that 52.2% of the sample had also used crack in non-injection form (e.g., smoking) in the past six months.[2] However, local prevalence rates differed considerably, ranging from 63.3% (Toronto) to 9.3% (Victoria).
- Recent data from a Canadian cohort of illicit opioid users in five cities (OPICAN study) indicated that 54.6% of baseline participants had used crack in the past 30 days[3] and 87.2% of those crack users reported smoking the drug.[4] Again, local site prevalence rates ranged from 86.6% in Vancouver to 3.4% in Quebec City, indicating stark local differences.
- In 2000, the Research Group on Drug Use revealed that 70% of all IDUs in Toronto reported using cocaine, especially in the form of crack.[5] A study among needle exchange attendees in Toronto revealed that about four-fifths (83%) of respondents had used crack in the past six months,[6] representing an increase from earlier studies conducted between 1991 and 1994.[7]
- Data reported by the Canadian Community Epidemiology Network on Drug Use (CCENDU) revealed that among a cohort of Vancouver IDUs, crack (smoked) cocaine use increased from 35% to 55% between 1998 and 2000, while the percentage using heroin fell in this period.[8]
- Importantly, street-based crack users typically use several types of drugs and many are past or current injectors. In the Canadian OPICAN study, (oral) crack users also reported the use of non-injection opioids.[9] A recent study by the Safer Crack Use Coalition in Toronto reported that 54% of crack users in the city attended a needle exchange in the past 30 days, meaning that they were also injecting drugs in addition to smoking crack.[10]

Health-related risks and harms

While street drug users are generally known to experience increased risk of disease or death, recent research has illustrated some distinct risk characteristics among certain populations of crack users.

- Physical effects of crack use include constricted blood vessels, dilated pupils, and increased temperature, heart rate and blood pressure. Users may also experience feelings of restlessness, irritability, and anxiety, which can lead to a period of paranoid psychosis, particularly after bingeing.[11] Other complications associated with cocaine and crack use are heart attack, respiratory failure, stroke, seizure, and gastro-intestinal problems. In addition, many crack users are malnourished as a result of the appetite suppression caused by the drug.[12]
- Crack users have been shown to be at elevated risk for human immunodeficiency virus (HIV),[13] hepatitis C virus (HCV),[14] sexually transmitted infections (STIs) and tuberculosis (TB).[15] In Toronto, crack users have also been shown to use emergency health care services more often than non-crack users.[16] Mental health disorders are generally present in drug-dependent populations. One study found that personality disorders (24%) were the most common symptom category in a sample of not-in-treatment crack users, followed by depression (18%) and post-traumatic stress disorder (12%).[17]
- Most crack users use makeshift devices such as pop cans, inhalers, or other metal or glass implements to smoke crack. Due to the high temperatures required for smoking crack, the unsafe quality of the paraphernalia used and the high frequency of repeated inhalation, users often have chronic cuts, burns and open sores or wounds in their oral cavity area (i.e., lips, gums, inner mouth lining).[18]
- While HIV is highly unlikely to be spread by oral crack use practices (e.g., crack paraphernalia sharing), it has been suggested that HCV may be transmitted this way (i.e., the HCV virus is transmitted by bodily fluid particles through open wounds in the oral cavity area)[19] although there is not yet sufficient scientific evidence to verify this hypothesis. It may also be that populations of crack users are more likely to engage in high-risk behaviours that facilitate HCV transmission, such as unsafe injection practices or high-risk sexual behaviour.[20]
- Crack users have been shown to rely on sex work for income generation in the context of their drug use. Given its short-term high and powerful withdrawal symptoms, crack use often occurs in the form of so-called "binges", in which both crack use and income generation (e.g., sex work) occur with high frequency. Sexual activities under the influence of crack often involve high-risk practices that may include multiple sex partners, inconsistent condom use, unprotected anal sex and sex under the influence of drugs.[21]

Socio-economic characteristics

Many crack users experience distinct socio-economic circumstances, which in many ways influence their health status. As such, crack users have been described as "the marginalized among the marginalized".[22]

- The close association between crack use and poverty has been well documented for crack users in Canada and the U.S., with many of them being homeless or in transient housing.[23] Housing status has been identified as an important social determinant of health among drug users and other high-risk populations (e.g., as a predictor of elevated risk for disease or death[24,25]).
- In a sample of 602 African-Americans, frequent crack users were less likely to be employed or receive social support compared with less frequent or non-crack users.[26]
- The association between crack use and crime involvement, even when compared with other drug use, has been well documented.[27] A study in the U.K found that crack users reported the highest levels of drug expenditure and the most crime.[28] Similarly, a study comparing heroin and crack users found that crack users reported higher levels of crime, particularly drug dealing.[29] The link between crack use and criminal activity can also be demonstrated by the fact that crack users are disproportionately represented within incarcerated populations.[30]

- In addition to dealing drugs, research suggests that crack users also commonly engage in shoplifting and theft, property crime and, to a lesser extent, robbery.[31,32,33] The National Treatment Outcome Research Study (NTORS) conducted in the U.K. demonstrated that crack users were more likely to have committed some form of "acquisitive" crime than non-crack users.[34] Crack users also tend to be involved in violent crime.[35]
- Data from the Canadian multi-site OPICAN study indicated that crack users reported significantly higher levels of crime and criminal justice involvement compared with non-crack users. Specifically, crack users reported more property crime, arrests and imprisonment than non-crack users. [36, 37]

Interventions

Regrettably, treatment options specifically for crack dependence are scarce and their demonstrated effectiveness is highly limited. The nature and appropriateness of "harm reduction" interventions for crack users is controversial.

- In the absence of much evidence to support a pharmacological intervention for crack dependence, psychotherapy, cognitive therapies or counselling have been used as the primary drug treatment strategies for crack users. However, the effectiveness of these measures in preventing relapse and reducing frequency of drug use has been fairly limited.[38] Overall, it has been observed that crack users are the "stepchild" of the treatment system, "[…being] either not suited for, or not accepted by, the institutionalized addiction treatment services […]".[39]
- Since many crack users are also regular opioid users, they may qualify for methadone maintenance treatment (MMT), which is the main pharmacologic treatment response to illicit opioid dependence. MMT can be effective in improving health status, promoting social and economic stability and reducing illicit drug use.[40] MMT participants are typically expected to reduce or abstain from using opioids and as a result, may increase or initiate cocaine or crack use to counteract the perceived undesirable (e.g., depressing, numbing, debilitating) effects of methadone, despite receiving penalties or even program expulsion.[41]
- Several controversial harm reduction measures for crack users have recently been discussed or introduced:
  - **Expanding supervised injection facilities to provide "safer use" spaces for crack smokers**. Several such combined facilities are in operation in Europe, where they are reported to have led to improvements in health and reductions in high-risk behaviour.[42] It has been proposed that Canada's only existing supervised injection facility in Vancouver be expanded for crack users, although legal and safety concerns have prevented this from happening.
  - **Safer crack use kits**. These kits contain hardware materials for safer crack use paraphernalia (i.e., glass stems, metal filters, rubber mouthpieces), as well as other prevention materials, and are disseminated by outreach services and public health personnel. The objectives of the kits are to provide crack users with "safer use" materials and to connect them with health and social services. While safer crack use kits have generated debate among public health and addiction experts, there is not yet sufficient evidence to assess their effectiveness. Safer crack use kits are currently being distributed in Toronto, Winnipeg, Ottawa, Vancouver, Halifax, Gatineau (Hull sector), Montreal and Guelph.[43]

Endnotes

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