Substance Use

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SUBSTANCE USE

The objective of this chapter is to provide an overview of substance use issues as they pertain to the prevention, management and treatment of sexually transmitted infections (STIs). Additional sources of information[1,2] can provide a more comprehensive overview of substance use prevention and treatment in general.

Definition

Substance use may be for medicinal or non-medicinal purposes and may be done legally or illegally. It occurs along a continuum from experimental use to harmful use and dependence[3]:

- No use: the person does not use alcohol or other drugs.
- Experimental use: the person tries a substance out of curiosity and may or may not use the drug again.
- Social or occasional use: the person uses the drug in an amount or frequency that is not harmful (e.g., to health, family, school or work).
- Harmful use: the person experiences negative consequences of drug use (e.g., health, family, school, work or legal problems).
- Dependence: the person is psychologically and/or physically dependent on a drug, which is used excessively, and continues use despite experiencing serious problems.

Epidemiology

- The 2002 Canadian Community Epidemiology Network on Drug Use national report on drug trends in Canada indicates that self-reported alcohol use is rising for both males and females, with an average of 20.2% of Canadians (29.0% male and 11.4% female) reporting frequent heavy alcohol use (five or more drinks on one occasion, 12 or more times a year).[4]
- Cannabis is the most frequently used illicit drug among Canadian youth and adults, with 18.6% of respondents reporting lifetime use; 3.6% report ever using LSD, speed or heroin; and 2.7% report cocaine use.[4]
- There are approximately 50,000 to 100,000 injection drug users in Canada, with concentration in Vancouver, Montreal and Toronto.[5,6] In 2002, 24% of positive HIV tests reported to the Centre for Infectious Disease Prevention and Control were attributable to injection drug use (IDU).[7]
- Aboriginal Canadians and street youth are at greater risk for and have higher rates of alcohol and illicit substance abuse than other Canadians.[5]
- Although there are few data available on the abuse of solvents in Canada, there is particular concern about solvent abuse among Aboriginal youth.[4]
- The use of alcohol and illicit drugs is associated with risky sexual behaviour. Alcohol and illicit drug use, especially the use of crack cocaine[8–13] and methamphetamine,[9,10] are associated with poor and inconsistent condom use,[9,11,13–19] sex with multiple partners,[9,10,13–21] early sexual debut,[20,22] trading sex,[10,11,14,15,18,19] buying sex,[23] sex with known injection drug users,[19] lower condom-use self-efficacy or perceived ability to use condoms,[16] and lower HIV-related knowledge.[16]

- Substance use has also been linked to elevated hepatitis C[24,25] and STI transmission,[19–23] including herpes simplex virus type 2,[21–24] hepatitis B,[24] trichomoniasis,[20,26] syphilis,[24,27] HIV,[19,24,27] chlamydia[20,24,26,27] and gonorrhea.[20,24,26,27]
- Users of more stigmatized substances, such as injection drugs and crack, are at higher behavioural risk for STIs than users of less stigmatized drugs, such as marijuana.[28]
- Youth who abuse substances are more likely to engage in risky sexual behaviour and continue these risky behaviours and drug use into adulthood.[17,29]
- The use of recreational drugs among men who have sex with men (MSM) has risen in recent years and has been linked to increases in risky sexual behaviour and rising STI rates (see *Men Who Have Sex with Men/Women Who Have Sex with Women* chapter).[30–36] Sildenafil citrate (Viagra), vardenafil (Levitra) or tadalafil (Cialis) can be used to counteract the erectile-dysfunction side effect of some of these drugs, a practice that has been linked to multiple sex partners and STI acquisition.[37,38]

Prevention

While the elimination of harmful substance use is the ideal approach to preventing substance use reducing the associated STI risk, this can be a difficult if not unattainable goal, especially when substance dependence has already developed. For substance users, substance abstinence should not be used as the exclusive focus of substance use or STI-prevention efforts and should not be a requirement for using STI treatment services. Two prevention strategies are recommended, depending on the patient's placement on the risk continuum:[39]

- Risk avoidance: to avoid or prevent the adoption of risk behaviours among non-users and low-risk users (e.g., people of legal drinking age who drink at low or moderate levels).
- Harm or risk reduction: to encourage the adoption of acceptable behavioural change, no matter how small, to reduce, if not eliminate, risk (e.g., using clean needles from a needle exchange, cessation of needle sharing).

A harm reduction approach is non-judgmental and takes into account individual needs and a number of potential approaches when discussing realistic personal risk reduction goals.

Some potential harm reduction strategies related to substance use include the following:

- Abstaining from one or more drugs for a limited or open time period.
- Decreasing the frequency and/or amount of a substance used.
- Switching to lower-risk substances and delivery methods (e.g., methadone, cannabis).
- Separating substance use from driving, working and other tasks.
- Creating a safer drug-use environment (where, when and with whom; safer purchases/possession; use of needle-exchange programs; and safer injection sites).
- Considering treatment, rehabilitation, detoxification, counselling or support programs.
- Developing a trusting relationship with a health care professional to help monitor physical and mental health.
- Learning about overdose prevention and response.
- Addressing nutritional needs and ways to improve nutrition.

Harm reduction strategies specific to injection drug users include safer injection practices:[40]

- Use a new needle and syringe for each injection.
- If sharing cannot be avoided, clean the syringe properly before use[40]:
  - Fill syringe completely with clean water, and shake vigorously for 30 seconds. Squirt water out.
  - Fill syringe with full-strength (undiluted) bleach, leave in for at least 30 seconds, and shake vigorously. Squirt bleach out. Do this at least twice, using fresh bleach each time.
  - Rinse bleach from syringe by repeating the first step at least twice, using clean water each time.
- Avoid sharing vials, cotton and spoons, as well as recapping the needles of others.
- Before shooting up, always clean the injection site with a sterile alcohol swab, rubbing alcohol, aftershave lotion (which contains alcohol) or soap and water.
- Sterilize spoons with an alcohol swab or bleach and water before each use.
- Mix drugs using sterile water or, if this is not available, water that has been recently boiled. To remove impurities from the mix, it is best to fill the syringe by drawing the liquid through a cotton filter (or a piece torn from an alcohol swab).

STI prevention should be discussed within the context of potential influences on sexual behaviour, including substance use, and should also focus on harm reduction (see *Primary Care and Sexually Transmitted Infections* chapter). For substance users with poor condom practices, skill-building around condom use and negotiation may help to improve condom use.[41] A motivational-interviewing approach for prevention counselling can help promote harm reduction behaviours (see *Primary Care and Sexually Transmitted Infections* chapter).

Because involvement in illicit drug use is a risk factor for hepatitis A virus (HAV) and hepatitis B virus (HBV) infection, and because vaccination coverage for this population is poor, HAV and HBV vaccination is recommended for injection drug users. HAV vaccination is also recommended for those involved in oral drug use in unsanitary conditions[42] (see *Hepatitis B Virus Infections* chapter).

- As self-reported HBV infection and immunization status among both injection and non-injection drug users may not be accurate,[43] vaccination should be offered to all in these groups.
- To maximize reach in high-risk populations beyond primary-care settings, immunization for HBV and HAV can be successfully delivered in non-traditional settings (e.g., public health nursing outreach to geographic areas with high rates of substance use).[44]

Note:

According to the *Canadian Immunization Guide*,[42] pre-immunization testing for immunity against HAV should be considered for populations with the potential for higher levels of pre-existing immunity. Routine pre-immunization serologic screening for HBsAg, anti-HBs or anti-HBc is recommended for people at high risk of infection, but is not practical for universal immunization programs.

Evaluation

- Evaluation of current and past substance use is an important component of STI risk assessment (see *Primary Care and Sexually Transmitted Infections* chapter). Table 1 outlines the six main elements of a substance use history, including sexual risk associated with substance use and possible questions for each element.
- The word use carries no value judgment, but abuse does. Asking about substance use is more likely to lead to an open, honest answer.
- Elicit information on legal drug use, illegal drug use and harmful use of drugs sold for medicinal purposes.
- When assessing substance use as part of the STI risk assessment, use language that will be easily understood. Becoming familiar with the terms used in your region can help you to effectively communicate. Table 2 provides a quick reference for frequently used substances, street names and possible modes of delivery.

Table 1. Main elements of taking a substance use history[45]

Main element	Possible questions
Substance/alcohol use	Do you or have you ever used drugs? What drugs do you use? How often do you use drugs? Do you drink alcohol? How often?
Injection drug use and equipment	Have you ever injected drugs? Do you have your own injection equipment? Do you prepare your own drug for injection? Do you use a needle-exchange program? Have you ever shared a needle, syringe, cooker, cotton or water — even once?
Other drug-use risks	Do you ever snort drugs? Have you ever shared a snorting straw? Are others present when you inject so that help can be summoned if needed?
Sex under the influence	Have you ever had sex under the influence of alcohol or drugs? If so, have you been more likely to have risky sexual encounters when under the influence, such as having unprotected sex or multiple partners?
Consequences	What effect has drug or alcohol use had on your life? Has your drug or alcohol use caused problems with work? With family? With your health?
Other percutaneous risks	Do you have any body piercings? Any tattoos? Where did you have your piercings or tattoos done?

Table 2. Reference to frequently used substances and their modes of delivery[46]

Substance	Street name	Eat	Free-base*	Inhale	Inject	Oral	Smoke	Sniff/ snort	Spray into mouth
Alcohol	Booze, brew, hooch, grog				Some-times	X			
	Speed, ice, glass, crystal, crank, bennies, uppers				X	X	X		
Barbiturates	Downers, barbs, blue heavens, yellow jackets, red devils				Some-times	X			
Cannabis	Marijuana, pot, grass, hashish, hash oil, weed	X					X		
Cocaine	Crack, coke, C, blow, flake, snow		X		X		X	X	
LSD/ hallucinogens	Derived from mushrooms (psilocybin), cactus (mescaline), glory seeds, jimson weed. Other examples include LSD (acid), PCP (angel dust), hog				X	X		X	
Narcotic analgesic	Derived from Asian poppy; opium, codeine, morphine, heroin			X	X	X	X		
Ritalin, talwin	T and R				X	X			
Solvents/ aerosols	Glue, gas, sniff			X				X	X
Steroids	Juice, white, stuff, roids				X	X			

* Freebase: to use purified cocaine by burning it and inhaling the fumes. Cocaine is “purified” by dissolving it in a heated solvent and separating and drying the precipitate.

Specimen Collection and Laboratory Diagnosis

- Same as for all patients.
- Given the circumstances often surrounding substance use, urine-based testing, rapid point-of-care testing, self-collected specimens and use of locally based clinics should be considered to improve access to STI testing for this population.

Management and Treatment

- Where patient compliance is a concern, effective single-dose or short-course treatments for STIs are recommended; epidemiologic or syndromic treatment without full evaluation or laboratory testing may sometimes be necessary.
- Integrating STI screening, counselling and treatment into substance treatment and outreach programs has been recommended.[24,26,47–49] Entry into substance treatment has been linked to a reduction in risky sexual behaviour.[50]
- Be aware of substance use treatment programs and community resources (including safer injection sites, needle-exchange programs and support networks) for referral as needed.
- Substance users who are infected with HIV may be at particular risk for serious outcomes. For example, methamphetamine use by people infected with HIV can result in hypertension, hyperthermia, rhabdomyolysis and stroke, and it can produce paranoia, auditory hallucinations and violent behaviour when the user is intoxicated.[51] Fatal interactions between antiretroviral medications (stavudine, saquinavir and ritonavir) and methamphetamine, as well as between ritonavir and ecstasy (MDMA), have been reported.[51]

Reporting and Partner Notification

- As with all patients, conditions reportable according to provincial and territorial regulations should be reported to the local public health authority.
- Persons diagnosed with a blood-borne infection such as HIV or infectious syphilis and who share drug-using equipment should have their sharing partners notified about possible infection and encouraged to go for testing.
- There are a number of potential reasons substance using patients may not accurately report their own substance use or their sexual/injection partners, including fear of violence from partner(s), fear of legal repercussions, stigma, confidentiality concerns, lack of information on partner(s) and forgetting.
- Repeat prompting and reading back the list of recalled sexual and injection partners can elicit reports of additional sexual and injection partners.[52]

Follow-up

Patients with substance use problems participating in sexual and/or injection risk behaviours should be encouraged to get regularly screened for STIs, including HIV. Patients whose assessment indicates moderate to severe substance use should be encouraged and facilitated as appropriate to enter a substance treatment/rehabilitation program for follow-up.