

Substance misuse in adolescents:

ALCOHOL, & CANNABIS & OTHER DRUGS

Despite it being a period of optimal physical health, the risk of injury or death during adolescence is two to three times higher than it is during childhood.¹ The main reason for this increase is the emergence of risk-taking behaviour occurring at a time when many adolescents first experiment with sex, smoking, alcohol and other drugs. It is important to identify substance misuse in people in any age group, however, identifying misuse and providing intervention for adolescents can help to avoid serious substance misuse and addiction in adulthood. In general, adolescents, especially males, attend general practice infrequently, so any encounter should be seen as an opportunity to ask about and offer help for substance misuse issues.

N.B. While smoking is an important issue for all ages, including adolescents, it is not covered in the following article.

Substance misuse is a significant problem in New Zealand

Each year in New Zealand, a large proportion of adolescents are likely to experiment with alcohol, cannabis or other drugs. For some this will be an isolated incident, but for many, this experimentation may be the beginning of a much more serious problem.

Alcohol consumption among New Zealand adolescents is high by international standards.² It is estimated that 90% of New Zealand adolescents will have tried alcohol before age 14 years.² Excessive use of alcohol is also common, with a major study reporting that one-third of secondary school students admitted to binge drinking (more than five drinks in four hours) in the past four weeks.³ Drinking is also particularly problematic among Māori adolescents.⁴

The 2007/08 Alcohol and Drug survey revealed that the most common illegal drug used by New Zealanders aged between 16 and 17 years was cannabis.⁵ Almost one quarter of females and 15% of males in this age group had also used benzylpiperazine (BZP or “party pills” – now banned) and approximately 5% of 16 and 17 year olds had used either stimulants or hallucinogenics, with sedatives, nitrous oxide and injected drugs being less common.⁵

Although the causes of such behaviours are complex, what is clear, is that the earlier that adolescents experiment with alcohol and other drugs, the more likely they are to develop substance misuse issues later in life.²

Alcohol is commonly misused by adolescents

In the 2007 National Survey of Health and Wellness among New Zealand secondary school students, it was identified that:³

- 34% had undertaken binge drinking within the previous four weeks
- 22% had received an alcohol related injury
- 16% had been told by family or friends to “cut-down” on their drinking
- 14% had unsafe sex due to alcohol
- 7% had unwanted sex due to alcohol

Motivations for adolescent drinking fall into three broad categories:⁶

1. Social facilitation – increased social and sexual confidence
2. Individual benefits – escapism, getting a “buzz”, having something to do
3. Social influences – peer pressure, wanting respect, image, accepted culture

Short-term effects of alcohol

Alcohol consumption increases risk behaviours by reducing inhibition and motor control and impairing judgement. Among adolescents alcohol consumption has been shown to increase the risk of sustaining serious injury, having a fatal motor vehicle accident, committing or being the victim of crime (including sexual assault), contracting a sexually transmitted disease and becoming pregnant.²

The lethal dose of alcohol is 5 – 8 g/kg. In a 60 kg person this would equate to approximately 1 L of spirits or four bottles of wine drunk over a short period of time.⁷ Adolescents who binge drink are most at risk of alcohol toxicity. Symptoms of acute alcohol intoxication include nausea, vomiting, dehydration, slowed respiratory rate and loss of consciousness.

Long-term effects of alcohol in adolescents

Excessive drinking is a health problem at any age, however, alcohol misuse during early adolescence is of particular concern as it is a risk factor for alcohol dependence later in life.⁸ Māori males are particularly at risk as they are twice as likely to consume a large amount of alcohol when aged 14 years or younger than other New Zealand males.⁸ A 2009 Australian study reported a lifetime prevalence of alcohol dependence of 47% amongst individuals who began drinking before age 14 years compared to 9% among those beginning after age 21 years.⁹ Early and persistent use of alcohol during

What does the law say?

People aged under 18 years can be supplied with alcohol for responsible consumption in a private home or function by a parent, or legal guardian. People aged under 18 years cannot buy alcohol, or ask anyone else to buy it for them, or drink in a public place, or enter a pub or bar without their parent or legal guardian. It is also illegal for any person aged under 20 years to have a blood alcohol concentration above zero while driving.

The Alcohol Reform Bill was passed in September 2011. This Bill provides further guidelines for reducing the impact and harms from drinking in New Zealand.

 For full details of the laws around alcohol, see: http://www.parliament.nz/en-NZ/PB/Legislation/Bills/8/2/7/00DBHOH_BILL10439_1-Alcohol-Reform-Bill.htm

Harm reduction when drinking

Encouraging adolescents to plan ahead for any social occasions involving alcohol may reduce the risk, or severity of intoxication. Specific advice for adolescents who will be drinking alcohol may include:

- Eating before going to a party and during the event if food is available
- Drinking slowly and alternating alcoholic and non-alcoholic drinks
- Making prior arrangements for safe transport home
- Looking after friends

adolescence increases the risk later in life of anxiety, eating disorders, suicide, cirrhosis of the liver, cancer, coronary heart disease and stroke.¹⁰ Māori are four times more likely than non-Māori to die of an alcohol related condition.¹¹

Cannabis is the most widely used illegal drug in New Zealand

It is now estimated that by the age of 21 years, 80% of New Zealanders will have tried cannabis on at least one occasion, with 10% developing signs of dependence.² Previous figures from the 2007/08 New Zealand Alcohol and Drug use survey showed that almost half (46%) of people aged 16 to 64 years reported using cannabis at some point in their life.⁵ Cannabis use was higher amongst Māori with almost two-thirds (63%) of Māori aged 16 to 64 years reporting having used it.⁵

Short term effects of cannabis

The main psychoactive component of cannabis is delta-9 tetrahydrocannabinol (THC). The effects of THC are wide ranging and include:

- Relaxation and laughter
- Increased appetite
- Confusion, paranoia and hallucinations

There have been no reported fatalities from cannabis overdose. However, in the 2007/08 Alcohol and Drug use survey, one in six people reported having experienced a harmful effect with cannabis and 2% reported having sustained an injury in the past 12 months due to cannabis use.⁵ Cannabis is also reported to be a major contributor to road deaths.¹²

Long term effects of cannabis

Evidence is increasing that the adolescent brain is particularly sensitive to the effects of heavy cannabis use.¹³ The following long-term adverse effects have been reported in adolescent cannabis users:

Poor educational outcomes are more common amongst adolescents using cannabis than those that are not. Adolescents who use cannabis are more likely to drop-out of school, less likely to enter University and less likely to earn a University degree.²

Other illegal drug use has been shown to be approximately 70 times higher amongst weekly cannabis users, compared to non-users.¹⁴ Cannabis is described as a “gateway drug” as its use often precedes the use of other illicit substances.¹⁵ Tobacco use prior to cannabis experimentation is also common.

Mental disorders such as depression, anxiety and suicidal thoughts are more common amongst adolescents who are heavy cannabis users.²

Adolescents who are heavy users of cannabis are two to 2.5 times more likely to develop **psychosis** or **schizophrenia** than non-users.¹⁶

Young people who start using cannabis before age 18 years are eight times more likely to develop symptoms of dependence later in life. This is of particular concern for Māori, who are significantly more likely to have tried cannabis before the age of 14 years than non-Māori.^{5, 17}

Other drugs of misuse

Until BZP based “party pills” were banned in 2008, they were a significant source of drug misuse among adolescents, particularly young females.⁵ While BZP is still illegally available in some areas, it is likely that in the absence of an easy supply of this drug, alternative substances are now being used more frequently. It can be helpful for clinicians to be familiar with current drug trends among adolescents and the street names used to describe these drugs (Table 1, over page).

Identifying the problem

Assess for substance use and mental health problems using HEEADSSS

In general, adolescents, especially young males, do not frequently consult with a primary care provider. Therefore, every encounter should be regarded as an opportunity to perform a mental health assessment and in particular, to ask about substance use. New Zealand guidelines recommend that every adolescent’s psychosocial welfare should be routinely assessed using a standardised interview format such as **HEEADSSS** (Page 35).¹⁸

It is preferable to conduct the interview when the patient is otherwise well. However, the acute distress of a crisis may assist in revealing important information.

Identifying substance misuse or dependence

During a HEEADSSS assessment, if an adolescent discloses alcohol or drug use, this should be assessed further with more direct questioning.¹⁸ Verbal or physical aggression, academic under-performance, impulsivity, hyperactivity, depressed mood and poor social skills may also be indicators of substance misuse.¹⁹

Table 1: Illicit drugs reportedly used by adolescents in New Zealand

Category	Drug	Street name(s) / notes
Stimulants	Amphetamines	P (pure methamphetamine) Ice (crystal methamphetamine) Speed (amphetamine sulphate)
	Cocaine	Cocaine (cocaine hydrochloride powder for inhaling) Crack cocaine (freebase form for smoking)
	Prescription stimulants	Ritalin (methylphenidate) Duromine (phentermine) Dexamphetamine, modafinil Pseudoephedrine based decongestants
Hallucinogenics	Synthetic hallucinogens	LSD (d-lysergic acid diethylamide): Acid, Trips DMT (dimethyltryptamine) N.B. usually prepared for ingestion by infusion into blotting paper
	Natural hallucinogens	Magic mushrooms (Blue Meanies, Gold Tops – contain psilocine and psilocybine) Datura and angel's trumpet (Solanaceae – contain atropine-like substances) Morning glories (Ipomoea – contain psychogenic alkaloids) Peyote cactus (contain mescaline)
	Ketamine	Special K, Vitamin K, Kitkat
Ecstasy	Ecstasy	E Has both stimulant and hallucinogenic properties. Main component is generally MDMA, but active constituents can vary considerably, e.g. BZP, mephedrone, methylone, caffeine
Sedatives	Gamma-hydroxybutyrate	GHB, Fantasy, Grievous Bodily Harm, Liquid E, Liquid X
	Kava (Piper methysticum)	Also widely used in Pacific communities for ceremonial purposes
	Prescription sedatives	Barbiturates, benzodiazepines, zopiclone Downers, Reds, Purple Hearts
Nitrous oxide	Nitrous oxide	NOS, Laughing Gas
Opiates	Natural opiates	Heroin, poppy seeds (tea), homebake (monoacetylmorphine)
	Prescription opiates/opioids,	Morphine sulphate (MST, Misties), oxycodone, methadone
Inhalants	Amyl nitrite, butyl nitrite	Rush
Solvents	Aerosols, glue, petrol, butane, paint thinners, paint, methylated spirits	Huffing
Steroids	Testosterone	Roids, Juice, Gear N.B. Used for image enhancement and sporting performance

CRAFFT is a set of questions designed to detect alcohol and substance misuse in adolescents:²⁰

1. Have you ever been in a Car driven by someone (including yourself) who had been using alcohol or drugs?
2. Do you ever use alcohol or drugs to Relax, feel better or “fit in”?
3. Do you ever use alcohol or drugs when you are Alone?
4. Do you ever Forget things you did while using alcohol or drugs?
5. Have Family or friends ever told you to cut down your use of alcohol or drugs?
6. Have you ever got into Trouble while you were using alcohol or drugs?

Answering “yes” to two or more questions indicates that substance misuse may be a problem. Red flags for a more serious problem are:

- Substance use when the adolescent is alone
- Friends expressing concern about usage

Co-existing mental illness

It is estimated that 60–75% of adolescents with a substance misuse disorder also have some other form of mental illness.¹⁹ The most common mental disorders amongst adolescents in New Zealand are anxiety, depression and conduct disorders.¹⁸ All people identified with a substance misuse disorder should be also screened for mental health disorders and treated appropriately.

 For further information see: “Depression in young people”, BPJ special edition (Jan, 2010).

Treating adolescents for substance misuse in primary care

Goals of treatment

The overall objective of treatment for substance misuse is to return the patient to a state of medical and social wellbeing. The combination of education and harm reduction strategies has been shown to reduce substance misuse in adolescents.²¹

Psychological treatments are recommended first-line in adolescents. There is little evidence supporting the use of pharmacological treatments (e.g. benzodiazepines) for adolescents with substance misuse problems. Substitution medication (e.g. methadone) is also not recommended for young people.²¹

It is important that adequate follow-up and support is provided. The aim is for the general practice team to be viewed as helpful, accessible and safe. Text messages are a non-confrontational way of maintaining contact with adolescents and reminding them of future appointments. Phone calls and face-to-face contact with practice nurses can also promote accessibility to the general practice team. A multidisciplinary approach involving social agencies, school counsellors and other health professionals is often required.

Treatment techniques

Self-management involves reducing drug and alcohol consumption and avoiding triggers which may cause a relapse, by encouraging positive daily routines. Examples of this include; exercise, sleep hygiene, scheduling of activities, keeping a diary and stress management.¹⁸ For further information about self-management see “Treatment resources” (over page).

Brief interventions of five to ten minutes, where the adolescent is given advice on the harms of excessive consumption, can be effective in reducing alcohol and other drug use.²¹ Practitioners should discuss the health consequences of the substance misuse and ask if the adolescent is willing to try to change their behaviour. Those who are willing should be encouraged to set a goal (e.g. not using cannabis for a week) and be provided with supportive educational material.

Motivational interviewing is a form of brief intervention which can help a person to make the decision to stop misusing a substance by highlighting and resolving factors such as denial and ambivalence.²² The aim is to encourage people to recognise that there is a problem, to make a change and to stick with it. Motivational interviewing is of particular benefit in encouraging engagement with more intensive treatment for substance misuse for those who require it.²³

 For further information see “Motivational interviewing”, BPJ 17 (Oct, 2008)

Cognitive behavioural therapy (CBT) is a technique used to help the patient identify their thoughts, beliefs and feelings which may be contributing to their behaviour. With the assistance of the therapist over a series of sessions, the patient develops coping strategies for events that may trigger substance use. CBT should only be performed by a health professional trained in the technique.

Sexual health

Substance misuse amongst adolescents is associated with increased numbers of sexual partners and unprotected sex, leading to higher rates of sexually transmitted infections, pregnancy and abortion.² In some cases sexual abuse may be a causative factor in substance misuse. Adolescents may find it difficult to confide in someone about their sexual behaviour – particularly if they do not identify as being heterosexual. A confidential and non-judgemental approach is required to build trust and communication.

Adolescents should be instructed and encouraged in the consistent and correct use of condoms. Condoms can be obtained under “Practitioner’s Supply Order” or prescribed fully subsidised on the Pharmaceutical Schedule. Sexually active adolescent females should be encouraged to use condoms and one other form of contraceptive. Long-acting forms of contraception may be considered for adolescent females who may have difficulty with daily contraceptive compliance.

A Public Health Officer or Child, Youth and Family Services (CYF) should be contacted where a person aged under 16 years is having consensual sex with a person significantly older than them, or where there are issues that may place the young person in danger. Where non-consensual sex or any other form of abuse is involved, the police or CYF should be contacted and, if necessary, a paediatrician consulted. If local resources are limited, it is essential for the practitioner to give advice on how the adolescent can remove themselves from harm. In all cases the safety of the adolescent is the paramount consideration.

 For further information see “Treatment resources” (opposite) and “Let’s talk about sex”, BPJ 20 (Apr, 2009).

Best Practice Tip: “Become a coach”

Negative health behaviours such as substance misuse are often the “tip of the iceberg” in adolescents. Psychosocial issues that underpin behaviours will influence any health intervention that occurs. For example, an adolescent will smoke marijuana to cope with chronic stress (e.g. financial problems, abusive parents, relationship problems), and they are unlikely to successfully address the substance misuse problem without also making a positive change in their circumstances (e.g. finding employment). Merely supplying information on the harms of cannabis is by itself would be ineffective. Primary care clinicians have an important role in coaching adolescents so that they can make positive changes in their social circumstances and learn coping skills to manage their reactions to adversity. An example of coaching may be: “You can’t change the situation, but you can change how you deal with it”.

Treatment resources

A searchable directory of **addiction treatment and advice services** (including Kaupapa Māori) in New Zealand is available from: www.addictionshelp.org.nz

The **alcohol drug helpline** is available from 10 am – 10 pm, Ph: 0800 787 797 or visit: www.alcoholdrughelp.org.nz

Education material is available from: the Alcohol Advisory Council of New Zealand (ALAC) at: www.alac.org.nz, the Alcohol and Drug Association of New Zealand (ADANZ) at: www.adanz.org.nz and the Foundation for Alcohol and Drug Education (FADE) at: www.fade.org.nz

The **Low Down** is a Ministry of Health sponsored website focused on self-management of adolescent problem solving, and is available from: www.thelowdown.co.nz

Family planning provide resources for promoting sexual health. Clinics are available around the country or visit: www.familyplanning.org.nz

Rainbow Youth is an organisation for gay, lesbian and bisexual youth, run by youth. Visit: www.rainbowyouth.org.nz

Training in **cognitive behavioural therapy** is available from The Werry Centre in Auckland, which has occasional seminars on CBT and has strong links with Auckland University which offers several papers in CBT, for further information visit: www.werrycentre.org.nz

Performing a HEEDSSS assessment with an adolescent

Step 1 – Discuss confidentiality: The patient should be told that their personal information will not be disclosed without their permission, unless the information reveals that someone might harm them or they might harm themselves or someone else.¹⁸ Parents or caregivers should not be present during the interview.

Step 2 – Begin the interview: The interviewer creates their own questions which relate to the subjects which make up the HEEDSSS acronym. The interview itself, including the order of questioning should not be treated rigidly and should evolve naturally, based on the direction of conversation. More specific questions can be asked at the interviewer's discretion. Questions should cover:

- Home
- Education/employment
- Eating
- Activities
- Drugs
- Sexuality
- Suicide/depression
- Safety

Questions should be open-ended and non-judgemental. It is important not to make any assumptions about the adolescent's personal, family or social circumstances. In some cases it may be appropriate to discuss issues of culture and spirituality. Questions that require a description, rather than an opinion, help to avoid a "dunno" type of response. Some examples of questions are shown in Table 2 (over page).

It is recommended that the adolescent is asked if they have a trusted adult they can discuss personal matters with.²⁴ A connection to supportive parents or other adults has been shown to be protective against a range of negative behaviours, including substance misuse.²⁵

Step 3 – Wrapping up: By the end of the session, the interviewer should have a clear idea about how the adolescent feels about their home-life, schooling or employment, interactions with peers and sexuality. The interviewer should also have identified any factors such as peer pressure, bullying or substance misuse which may be placing the adolescent at risk. The adolescent also needs to be given the opportunity to raise any concerns, or request further information on specific topics.

It is important that the interview should also highlight the successful elements of an adolescent's life. Commenting on things that are going well provides a positive aspect to the interview and a source of encouragement for the adolescent.

 **Best Practice Tip:** For a useful and detailed account of how to perform an effective HEEDSSS assessment see: Goldenring J, Rosen D. Getting into adolescent heads: An essential update. *Contemporary Pediatrics* 2004;21(1):64-89.

Table 2: Examples of positive questions that may be asked and negative questions that are discouraged during a HEEADSSS assessment

	Ask questions more like	Ask questions less like	Reason
Home	Where do you live and who lives there with you?	Tell me about your mother and father?	If the person's situation does not conform to the question then they may be defensive
Education or employment	What are your favourite subjects at school?	What marks are you getting at high school?	Open-ended questions allow adolescents to present their own views
Eating	What do you like and not like about your body?	Do you think you are overweight?	Issues of body image are often complex
Activities	What do you and your friends enjoy doing?	What sports do you play?	Try not to restrict self-expression with narrow questions
Drugs	Have any of your friends experimented with tobacco, alcohol or other drugs?	Do you take drugs?	Asking about friends allows the adolescent to reveal information without implicating themselves
Sexuality	Have you ever been involved in a romantic relationship? Describe the people that you have been "seeing". Have you ever had any unpleasant sexual experiences?	Have you ever had sex?	Asking about "having sex" is an ambiguous question and avoids wider issues such as sexual preference
Suicide	Have you ever felt sad or down?	Have you ever tried to kill yourself?	These questions should focus on identifying thoughts or feelings that may lead to suicidal ideation
Safety	Are there any people or situations which make you feel unsafe?	Are you being bullied at school?	Open-ended questions are more likely to uncover issues of concern

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