Drugs, Health, Addictions & Behaviour - 1st Canadian Edition

DRUGS, HEALTH, ADDICTIONS & BEHAVIOUR - 1ST CANADIAN EDITION

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Affordable Course Transformation: Centennial College
Toronto

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LAND ACKNOWLEDGEMENT

Through Centennial College, contributors to this resource are connected to the homelands and treaty lands of the Haudenosaunee, Anishinabewaki, Chippewa, Mississaugas of the Credit First Nation, Mississauga and Wendake-Nionwetsïo (https://native-land.ca/) among other peoples who historically lived on the lands, fished from the lakes and rivers and hunted from the forests of Tkaronto, or what some now know as Toronto.

Some of us live here among ancient ancestors and carry on the legacies of First Peoples of these lands. Others of us arrived recently as colonizers, refugees or immigrants. Residing here and being sustained by this land, we all are treaty people governed by several of the over 40 treaties and other agreements that First Nations signed as independent, self-governing nations and by the Dish With One Spoon Treaty between Anishinaabe, Mississaugas and Haudenosaunee that binds us all to share the territory in peace and to protect the land.

In our teaching and learning, we aspire to good hearts and good minds. We acknowledge the land as a sentient and life-sustaining being that surrounds us with cooling forests that refresh our air, with rivers and lakes that provide fresh water and with rich soils that grow our food. We acknowledge the land as a suffering being, ravaged by centuries of colonization, extraction and neglect.

If we truly acknowledge the land, we must acknowledge fully the destruction and loss experienced by those who are dispossessed and dislocated across these lands some call Canada. We must listen now actively to Indigenous, Metis and Inuit peoples and learn how we might atone for ongoing colonization and reconcile ourselves to all our relations.

"This land acknowledgement was created by a student in TLHE720 (June 2021), shaped by content and perspectives from:

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The following is a revised version of [What is an Open Textbook?] by Christina Hendricks

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- The .odt format can be opened by Open Office, Libre Office, or Microsoft Word. Note that there may be some issues with formatting on this format, and hyperlinks may not appear if opened with MS Word.
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If you plan to use or adapt the book (or chapters), we'd love to hear about it! Please let us know on Adoption Form

And if you have Feedback Form for Drugs, Health, Addictions & Behaviour, we would really appreciate those as well. We have a separate Accessibility Feedback, so please let us know if you find any.

Attribution:

INTRODUCTION TO THE BOOK

Welcome to Drugs, Health, Addictions & Behaviour!

In this open textbook, you will find nine chapters.

1. What are Drugs?
2. Language and Substance Use
3. Why People Use Substances
4. How the Body Works
5. Types of Drugs Commonly Misused
6. Prescriptions, Over The Counter Medications (OTC), and Supplements (medications & supplements)
7. Law, Regulation, and Social Policy
8. Use, Abuse, Addiction & Treatment
9. Prevention & Treatment of Addiction, COVID-19 & Recovery

Pressbooks pages are called chapters. When you click on the "next chapter" arrow at the bottom right, you are just going to the next page.

ACKNOWLEDGEMENTS

It truly takes a village to create an open textbook! This project was made possible by the efforts of many people – there are so many to thank. This project was made possible because of our village.

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Denise Halsey

ATTRIBUTIONS

Cloned Book

Adapted Book or Chapters

Front Matter

- What is an Open Textbook?
- How to Access and Use the Books

Back Matter

- Feedback and Suggestions
- Adoption Form
- Licensing and Attribution
- Accessibility Assessment
- Version History

CHAPTER 1: WHAT ARE DRUGS?

CHAPTER 1 INTRODUCTION

Mention the word **drugs/substances** and most of us will think of opioids or marijuana. But when we consider where drugs come from or how they are made and what we can buy at the drug store (prescription drugs, over-the-counter medications, supplements), the categories become much broader. The goal of this chapter is to take a look at what substances are considered to be drugs and how they are classified. This will provide a good base of understanding to delve into how drugs impact the body, health and society.

LEARNING OBJECTIVES

Learning Objectives

By the end of this chapter you should be able to:

1. Explain how the body makes chemicals that are drugs
2. Describe how illicit drugs range from natural to synthetic which have increasingly stronger effects on the body
3. Identify the most commonly misused and abused drugs
4. Connect several illicit drugs to their schedules set by current law and regulations
5. Describe Incidents of Drug Use and how it has Economic Implications

1.1 TYPES OF DRUGS: ENDOGENOUS, NATURAL, SEMISYNTHETIC AND SYNTHETIC

Many drugs can change a person's thinking and judgment, and can lead to many consequences including: addiction, driving under the influence, adverse effects on pregnancy, many health risks, and infectious disease. Information on commonly used drugs with the potential for misuse or addiction can be found here in the websites below provide additional information on all kinds of medications and commonly misused drugs.

Figure 1.1.1 – Photo by Roberto Sorin on Unsplash

There are four types of drugs:

Endogenous

Endogenous substances and processes are those that originate from within the body or system such as an organism, tissue, or cell. For example: naturally occurring pain-relieving substance like opioids, vs to opioid drugs like heroin, which are exogenously (outside the body) administered.

Figure 1.1.2 – DNA Photo by Braňo on Unsplash

Natural (both Crude Forms and Refined forms)

Natural substances extracted from plants and animals (chemical and structural diversity and the biodiversity of their components). These natural sources may avoid the side effects, as they produce physiological and pharmacological effects within living cells, they also have more interaction with proteins, enzymes and other biological molecules. Examples: marijuana, heroin, (willow tree bark), digoxin (flower Digitalis lanata), morphine (from opium)

Figure 1.1.3 – by Roberto Valdivia on Unsplash

Semisynthetic

A substance made by synthesis from a naturally occurring material. These natural compounds have many advantageous. These are a hybrid of natural and synthetic sources, by transforming starting materials from natural sources into final products via chemical reactions. Examples: antibiotic penicillin, paclitaxel (an anticancer drug derived from the Pacific yew tree)

Figure 1.1.4 – photo by Towfiqu barbhuiya on Unsplash

Synthetic

Drugs are produced via chemical synthesis. Examples of synthetic drugs are called Designer Drugs which include: bath salts, K2 and are listed on websites as "plant food" or "bath salts," however, the powdered form is also compressed in gelatin capsules. The synthetic stimulants are sold in smoke shops, head shops, convenience stores, adult bookstores, gas stations, and on Internet sites and often labeled "not for human consumption. Our bodies have challenges processing synthetic drugs which make them very toxic and dangerous

Figure 1.1.5 – Legal order synthetic smoke, Public domain, via Wikimedia Commons

Neither synthetic nor organic drugs are more dangerous than the other, because both of them have the potential for abuse. They all cause a chemical reaction in the brain and body, the longer the chemical, organic or synthetic is used the more change it will cause.

For more Information on Types of Drugs

- Drug development: Lessons from nature – NCBI
- Drug Product Database: Access the database – Government of Canada
- Bringing health products into Canada for personal use – Government of Canada
- Drug Information Resources – Pharmacology – Research guides -uOttawa

RCMP Drug Identification Chart (identifies drug types, including common street names, effects, and methods of use and detection)

- Drug Identification Chart – RCMP

A comprehensive list of Medical Information on prescription drugs, vitamins and over-the-counter medicines from WebMd.com

Key Takeaways

To make the most of these resources you should be able to do the following after carefully reading the information they provide:

- Describe each type of drug in your own words.
- Explain the benefits and dangers associated with each type of drugs.
- List several examples of each type of drug.

ATTRIBUTION: This chapter is not covered by the adaptation statement, it is an original work.

References

Guides de Recherche · research guides: Pharmacology: Drug information resources. Drug Information Resources – Pharmacology – Guides de recherche · Research guides at University of Ottawa. (n.d.). Retrieved April 22, 2023, from https://uottawa.libguides.com/c.php?g=265347&p=1772705

1.2 BRIEF INTRODUCTIONS INTO THE MOST COMMONLY MISUSED AND ABUSED DRUGS/SUBSTANCES

While we all experience altered states of consciousness in the form of sleep on a regular basis, some people use drugs and other substances that result in altered states of consciousness as well. This section will present information relating to the use of various psychoactive drugs and problems associated with such use. This will be followed by brief descriptions of the effects of some of the more well-known drugs commonly used today.

SUBSTANCE USE DISORDERS

The fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders*, *Fifth Edition* (DSM-5) is used by clinicians to diagnose individuals suffering from various psychological disorders. Drug use disorders are addictive disorders, and the criteria for specific substance (drug) use disorders are described in DSM-5. A person who has a substance use disorder often uses more of the substance than they originally intended to and continues to use that substance despite experiencing significant adverse consequences. In individuals diagnosed with a substance use disorder, there is a compulsive pattern of drug use that is often associated with both physical and psychological dependence.

Physical dependence involves changes in normal bodily functions—the user will experience withdrawal from the drug upon cessation of use. In contrast, a person who has psychological dependence has an emotional, rather than physical, need for the drug and may use the drug to relieve psychological distress. Tolerance is linked to physiological dependence, and it occurs when a person requires more and more drug to achieve effects previously experienced at lower doses. Tolerance can cause the user to increase the amount of drug used to a dangerous level—even to the point of overdose and death.

Drug withdrawal includes a variety of negative symptoms experienced when drug use is discontinued. These symptoms usually are opposite to the effects of the drug. For example, withdrawal from sedative drugs often produces unpleasant arousal and agitation. In addition to withdrawal, many individuals who are diagnosed with substance use disorders will also develop tolerance to these substances. Psychological dependence, or drug craving, is a recent addition to the diagnostic criteria for substance use disorder in DSM-5. This is an important factor because we can develop tolerance and experience withdrawal from any number of drugs that we do not abuse. In other words, physical dependence in and of itself is of limited utility in determining whether or not someone has a substance use disorder.

DRUG CATEGORIES

The effects of all psychoactive drugs occur through their interactions with our endogenous neurotransmitter systems. Many of these drugs, and their relationships, are shown in [link]. As you have learned, drugs can act as agonists or antagonists of a given neurotransmitter system. An agonist facilitates the activity of a neurotransmitter system, and antagonists impede neurotransmitter activity.

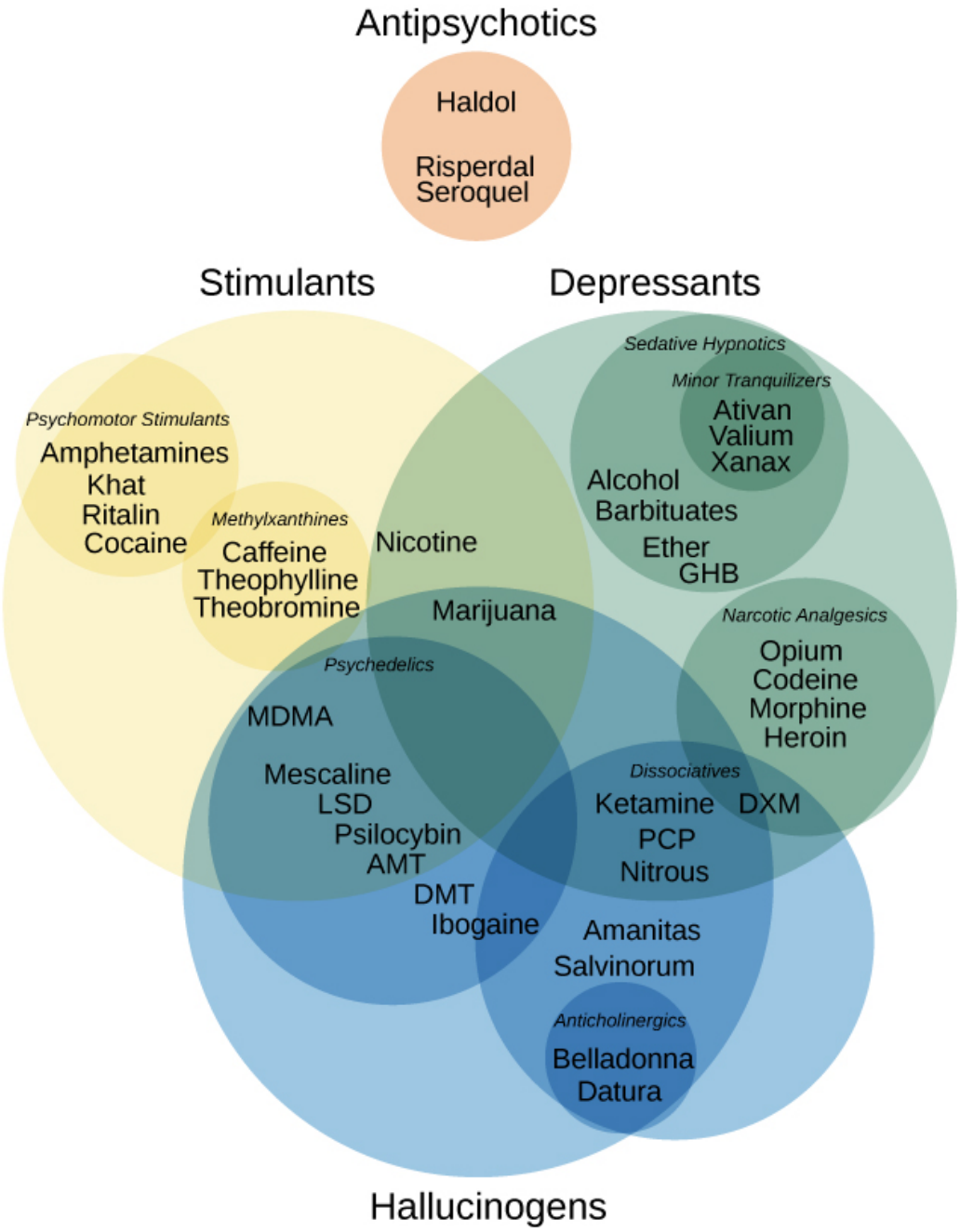


Figure 1.2.1 Hallucinogens: This figure illustrates various drug categories and overlaps among them. (credit: modification of work by Derrick Snider) [See Long description]

Alcohol and Other Depressants

Ethanol, which we commonly refer to as alcohol, is in a class of psychoactive drugs known as depressants (Figure 1.2.2 Drug Types). A depressant is a drug that tends to suppress central nervous system activity. Other depressants include barbiturates and benzodiazepines. These drugs share in common their ability to serve as agonists of the gamma-Aminobutyric acid (GABA) neurotransmitter system. Because GABA has a quieting effect on the brain, GABA agonists also have a quieting effect; these types of drugs are often prescribed to treat both anxiety and insomnia.

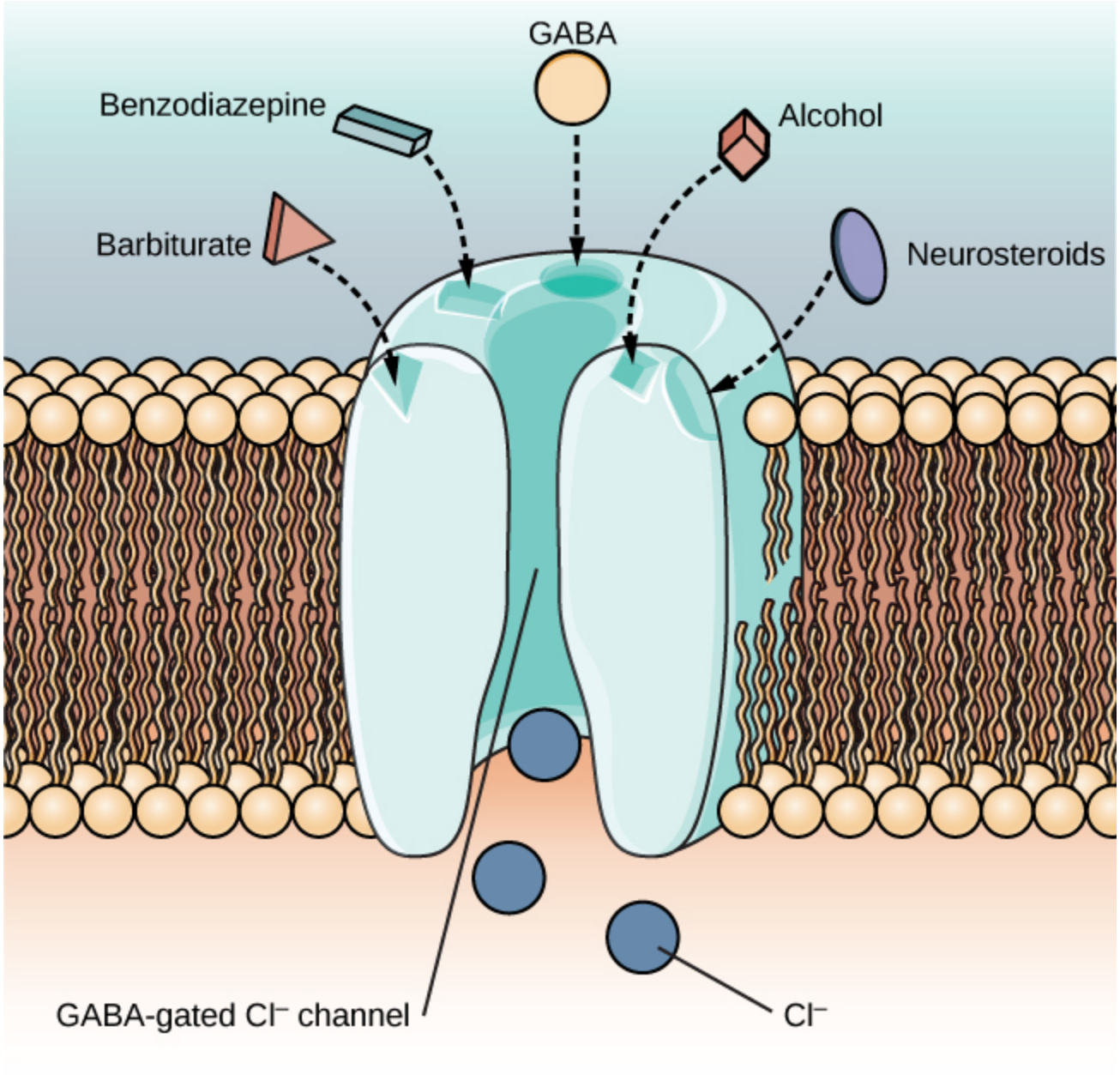


Figure 1.2.2 – The GABA-gated chloride (Cl-) channel is embedded in the cell membrane of certain neurons. [See Long Description]

Acute alcohol administration results in a variety of changes to consciousness. At rather low doses, alcohol use is associated with feelings of euphoria. As the dose increases, people report feeling sedated. Generally, alcohol is associated with decreases in reaction time and visual acuity, lowered levels of alertness, and reduction in behavioural control. With excessive alcohol use, a person might experience a complete loss of consciousness and/or difficulty remembering events that occurred during a period of intoxication (McKim & Hancock, 2013). In addition, if a pregnant woman consumes alcohol, her infant may be born with a cluster of birth defects and symptoms collectively called fetal alcohol spectrum disorder (FASD) or fetal alcohol syndrome (FAS).

With repeated use of many central nervous system depressants, such as alcohol, a person becomes physically dependent upon the substance and will exhibit signs of both tolerance and withdrawal. Psychological dependence on these drugs is also possible. Therefore, the abuse potential of central nervous system depressants is relatively high.

Drug withdrawal is usually an aversive experience, and it can be a life-threatening process in individuals who have a long history of very high doses of alcohol and/or barbiturates. This is of such concern that people who are trying to overcome addiction to these substances should only do so under medical supervision.

Stimulants

Stimulants are drugs that tend to increase overall levels of neural activity. Many of these drugs act as agonists of the dopamine neurotransmitter system. Dopamine activity is often associated with reward and craving; therefore, drugs that affect dopamine neurotransmission often have abuse liability. Drugs in this category include cocaine, amphetamines (including methamphetamine), cathinones (i.e., bath salts), MDMA (ecstasy), nicotine, and caffeine.

Cocaine can be taken in multiple ways. While many users snort cocaine, intravenous injection and ingestion are also common. The freebase version of cocaine, known as crack, is a potent, smokable version of the drug. Like many other stimulants, cocaine agonizes the dopamine neurotransmitter system by blocking the re-uptake of dopamine in the neuronal synapse.

Dig Deeper: Crack Cocaine

Crack is often considered to be more addictive than cocaine itself because it is smokable and reaches the brain very quickly. Crack is often less expensive than other forms of cocaine; therefore, it tends to be a more accessible drug for individuals from impoverished segments of society. During the 1980s, many drug laws were rewritten to punish crack users more severely

than cocaine users. This led to discriminatory sentencing with low-income, inner-city minority populations receiving the harshest punishments. The wisdom of these laws has recently been called into question, especially given research that suggests crack may not be more addictive than other forms of cocaine, as previously thought (Haasen & Krausz, 2001; Reinerman, 2007).

Rock of Crack Cocaine – Wikimedia Commons

Link to Learning

Read this interesting newspaper article describing myths about crack cocaine.

Amphetamines have a mechanism of action quite similar to cocaine in that they block the re-uptake of dopamine in addition to stimulating its release ([link]). While amphetamines are often abused, they are also

commonly prescribed for children diagnosed with attention deficit hyperactivity disorder (ADHD). It may seem counterintuitive that stimulant medications are prescribed to treat a disorder that involves hyperactivity, but the therapeutic effect comes from increases in neurotransmitter activity within certain areas of the brain associated with impulse control.

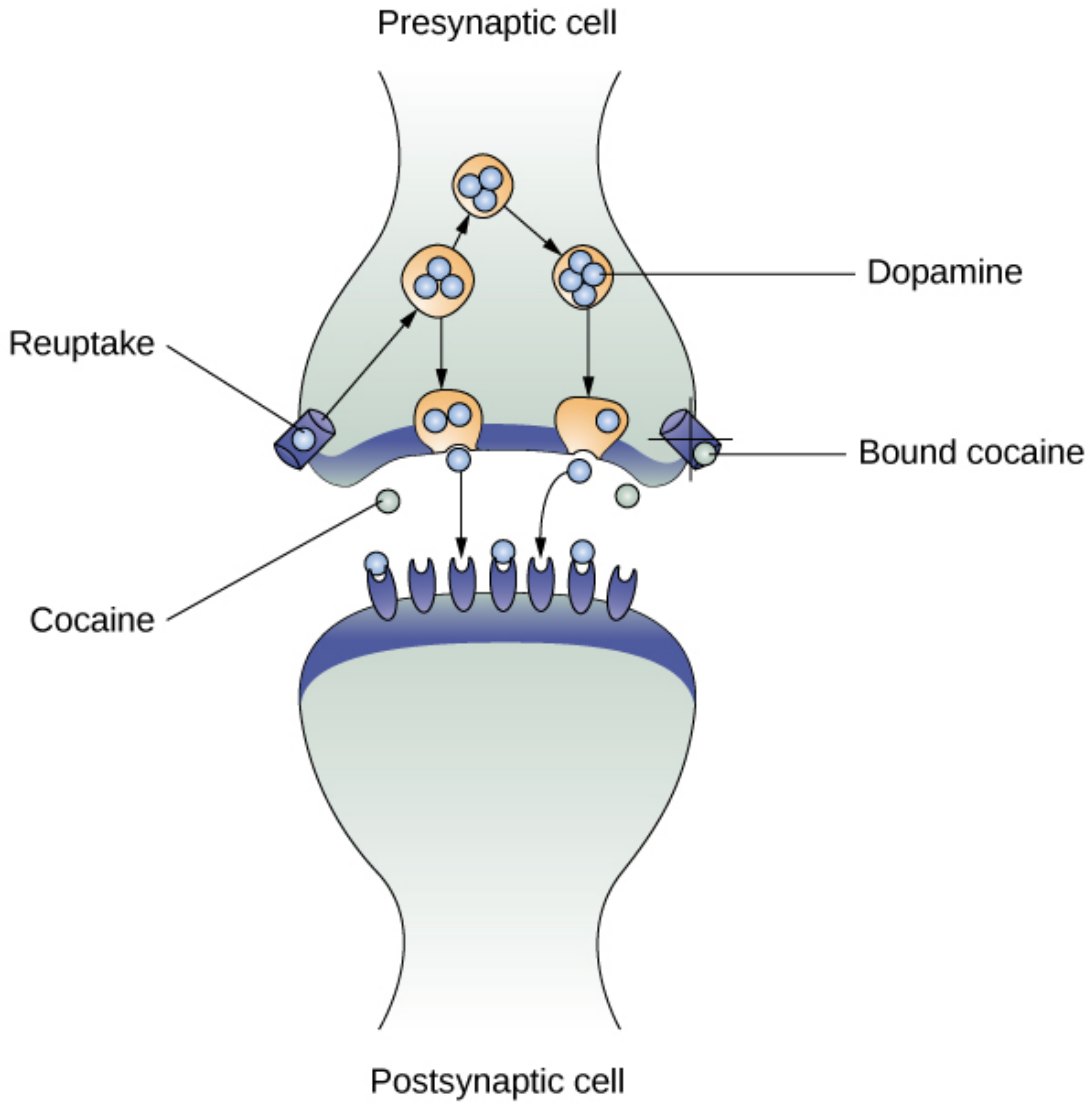


Figure 1.2.4 – As one of their mechanisms of action, cocaine and amphetamines block the reuptake of dopamine from the synapse into the presynaptic cell. [See Long description]

In recent years, methamphetamine (meth) use has become increasingly widespread. Methamphetamine is a type of amphetamine that can be made from ingredients that are readily available (e.g., medications containing pseudoephedrine, a compound found in many over-the-counter cold and flu remedies). Despite recent changes in laws designed to make obtaining pseudoephedrine more difficult, methamphetamine continues to be an easily accessible and relatively inexpensive drug option (Shukla, Crump, & Chrisco, 2012).

The cocaine, amphetamine, cathinone, and MDMA users seek a euphoric high, feelings of intense elation

and pleasure, especially in those users who take the drug via intravenous injection or smoking. Repeated use of these stimulants can have significant adverse consequences. Users can experience physical symptoms that include nausea, elevated blood pressure, and increased heart rate. In addition, these drugs can cause feelings of anxiety, hallucinations, and paranoia (Fiorentini et al., 2011). Normal brain functioning is altered after repeated use of these drugs. For example, repeated use can lead to overall depletion among the monoamine neurotransmitters (dopamine, norepinephrine, and serotonin). People may engage in the compulsive use of these stimulant substances in part to try to reestablish normal levels of these neurotransmitters (Jayanthi & Ramamoorthy, 2005; Rothman, Blough, & Baumann, 2007).

Caffeine is another stimulant drug. While it is probably the most commonly used drug in the world, the potency of this particular drug pales in comparison to the other stimulant drugs described in this section. Generally, people use caffeine to maintain increased levels of alertness and arousal. Caffeine is found in many common medicines (such as weight loss drugs), beverages, foods, and even cosmetics (Herman & Herman, 2013). While caffeine may have some indirect effects on dopamine neurotransmission, its primary mechanism of action involves antagonizing adenosine activity (Porkka-Heiskanen, 2011).

While caffeine is generally considered a relatively safe drug, high blood levels of caffeine can result in insomnia, agitation, muscle twitching, nausea, irregular heartbeat, and even death (Reissig, Strain, & Griffiths, 2009; Wolt, Ganetsky, & Babu, 2012). In 2012, Kromann and Nielson reported on a case study of a 40-year-old woman who suffered significant ill effects from her use of caffeine. The woman used caffeine in the past to boost her mood and to provide energy, but over the course of several years, she increased her caffeine consumption to the point that she was consuming three litres of soda each day. Although she had been taking a prescription antidepressant, her symptoms of depression continued to worsen and she began to suffer physically, displaying significant warning signs of cardiovascular disease and diabetes. Upon admission to an outpatient clinic for the treatment of mood disorders, she met all of the diagnostic criteria for substance dependence and was advised to dramatically limit her caffeine intake. Once she was able to limit her use to less than 12 ounces of soda a day, both her mental and physical health gradually improved. Despite the prevalence of caffeine use and a large number of people who confess to suffering from caffeine addiction, this was the first published description of soda dependence appearing in scientific literature.

Nicotine is highly addictive, and the use of tobacco products is associated with increased risks of heart disease, stroke, and a variety of cancers. Nicotine exerts its effects through its interaction with acetylcholine receptors. Acetylcholine functions as a neurotransmitter in motor neurons. In the central nervous system, it plays a role in arousal and reward mechanisms. Nicotine is most commonly used in the form of tobacco products like cigarettes or chewing tobacco; therefore, there is a tremendous interest in developing effective smoking cessation techniques. To date, people have used a variety of nicotine replacement therapies in addition to various psychotherapeutic options in an attempt to discontinue their use of tobacco products. In general, smoking cessation programs may be effective in the short term, but it is unclear whether these effects persist (Cropley, Theadom, Pravettoni, & Webb, 2008; Levitt, Shaw, Wong, & Kaczorowski, 2007; Smedslund, Fisher, Boles, & Lichtenstein, 2004).

Opioids

An opioid is one of a category of drugs that includes heroin, morphine, methadone, and codeine. Opioids have analgesic properties; that is, they decrease pain. Humans have an endogenous opioid neurotransmitter system—the body makes small quantities of opioid compounds that bind to opioid receptors reducing pain and producing euphoria. Thus, opioid drugs, which mimic this endogenous painkilling mechanism, have an extremely high potential for abuse. Natural opioids, called opiates, are derivatives of opium, which is a naturally occurring compound found in the poppy plant. There are now several synthetic versions of opiate drugs (correctly called opioids) that have very potent painkilling effects, and they are often abused. There is multiple sponsored research that suggests the misuse and abuse of the prescription painkillers hydrocodone and oxycodone are significant public health concerns in Canada and worldwide.

Historically, heroin has been a major opioid drug of abuse ([link]). Heroin can be snorted, smoked, or injected intravenously. Like the stimulants described earlier, the use of heroin is associated with an initial feeling of euphoria followed by periods of agitation. Because heroin is often administered via intravenous injection, users often bear needle track marks on their arms and, like all abusers of intravenous drugs, have an increased risk for contraction of both tuberculosis and HIV.

(a) (b)

Figure 1.2.5 – (a) Common paraphernalia for heroin preparation and use are shown here in a needle exchange kit. (b) Heroin is cooked on a spoon over a candle. (credit a: modification of work by Todd Huffman)

Aside from their utility as analgesic drugs, opioid-like compounds are often found in cough suppressants, anti-nausea, and anti-diarrhea medications. Given that withdrawal from a drug often involves an experience opposite to the effect of the drug, it should be no surprise that opioid withdrawal resembles a severe case of the flu. While opioid withdrawal can be extremely unpleasant, it is not life-threatening (Julien, 2005). Still, people experiencing opioid withdrawal may be given methadone to make the withdrawal from the drug less difficult. Methadone is a synthetic opioid that is less euphorigenic than heroin and similar drugs. Methadone clinics help people who previously struggled with opioid addiction manage withdrawal symptoms through the use of methadone. Other drugs, including the opioid buprenorphine, have also been used to alleviate symptoms of opiate withdrawal.

Codeine is an opioid with relatively low potency. It is often prescribed for minor pain, and it is available over-the-counter in some other countries. Like all opioids, codeine does have abuse potential. In fact, abuse of prescription opioid medications is becoming a major concern worldwide (Aquina, Marques-Baptista, Bridgeman, & Merlin, 2009; Casati, Sedefov, & Pfeiffer-Gerschel, 2012).

Hallucinogens

A hallucinogen is one of a class of drugs that results in profound alterations in sensory and perceptual experiences ([link]). In some cases, users experience vivid visual hallucinations. It is also common for these types of drugs to cause hallucinations of body sensations (e.g., feeling as if you are a giant) and a skewed perception of the passage of time.

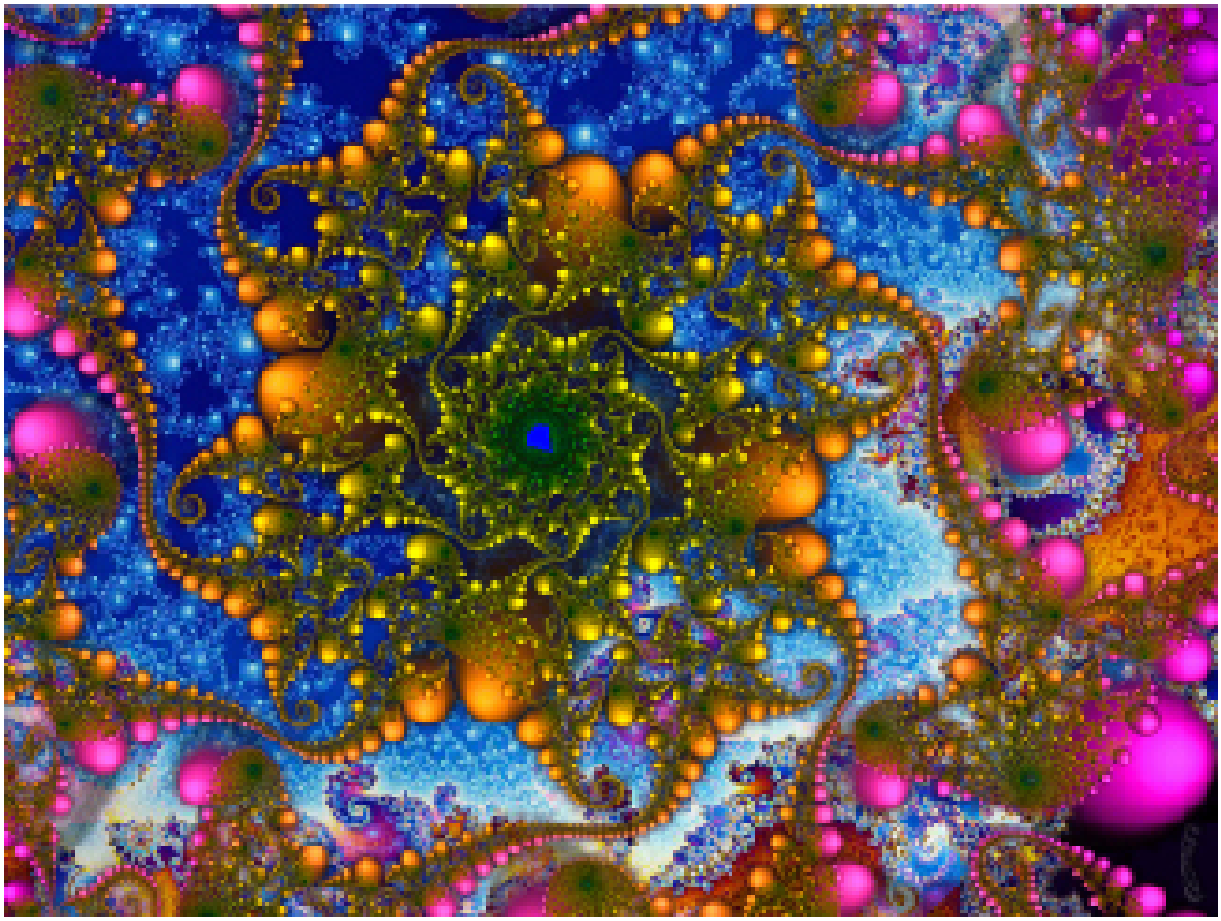


Figure 1.2.6 – Psychedelic images like this are often associated with hallucinogenic compounds. (credit: modification of work by "new 1lluminati"/Flickr)

As a group, hallucinogens are incredibly varied in terms of the neurotransmitter systems they affect. Mescaline and LSD are serotonin agonists, and PCP (angel dust) and ketamine (an animal anesthetic) act as antagonists of the NMDA glutamate receptor. In general, these drugs are not thought to possess the same sort of abuse potential as other classes of drugs discussed in this section.

Link to Learning

To learn more about some of the most commonly abused prescription and street drugs, check out the Commonly Abused Drugs Chart and the Commonly Abused Prescription Drugs Chart from the National Institute on Drug Abuse.

Dig Deeper: Medical Marijuana

Access to Medical Marijuana in Canada has regulations. Cannabis Legalization and Regulation is legal in all Provinces and Territories. ***The Cannabis Act*** creates a strict legal framework for controlling the production, distribution, sale, and possession of cannabis across Canada. The Cannabis Act

The Act aims to accomplish 3 goals:

- Keep cannabis out of the hands of youth
- Keep profits out of the pockets of criminals
- Protect public health and safety by allowing adults access to legal cannabis.

Figure 1.2.7 – Medical marijuana shops are becoming more and more common in Canada (credit: Laurie Avocado)

While medical marijuana laws have been passed access to cannabis for medical purposes is only permitted under the terms and conditions set out in the regulations. Storefronts selling marijuana, commonly known as "dispensaries" and "compassion clubs", clubs are not authorized to sell cannabis for medical or any or any other purposes. These operations are illegally supplied, and provide products that are unregulated and may be unsafe. Illegal storefront distribution and sale of cannabis in Canada are subject to law enforcement action.

If an individual is registered to produce a limited amount of cannabis for him/herself, they may not sell, provide, or give cannabis to another person. It is also illegal for an individual or company to advertise cannabis to the general public. Understanding the New Access to Cannabis for Medical Purposes Regulations – Government of Canada

Pharmacokinetics and Pharmacodynamics

Pharmacokinetics is how a body processes a drug (movement), which has four different phases: **absorption, distribution, metabolism, and excretion** (ADM). Pharmacodynamics is the effect of the drug to the body. **Pharmacodynamics** is defined as the body's biological response to a

drug, which takes into many considerations which include: molecular biology, biological chemistry, genetics and how it's administered.

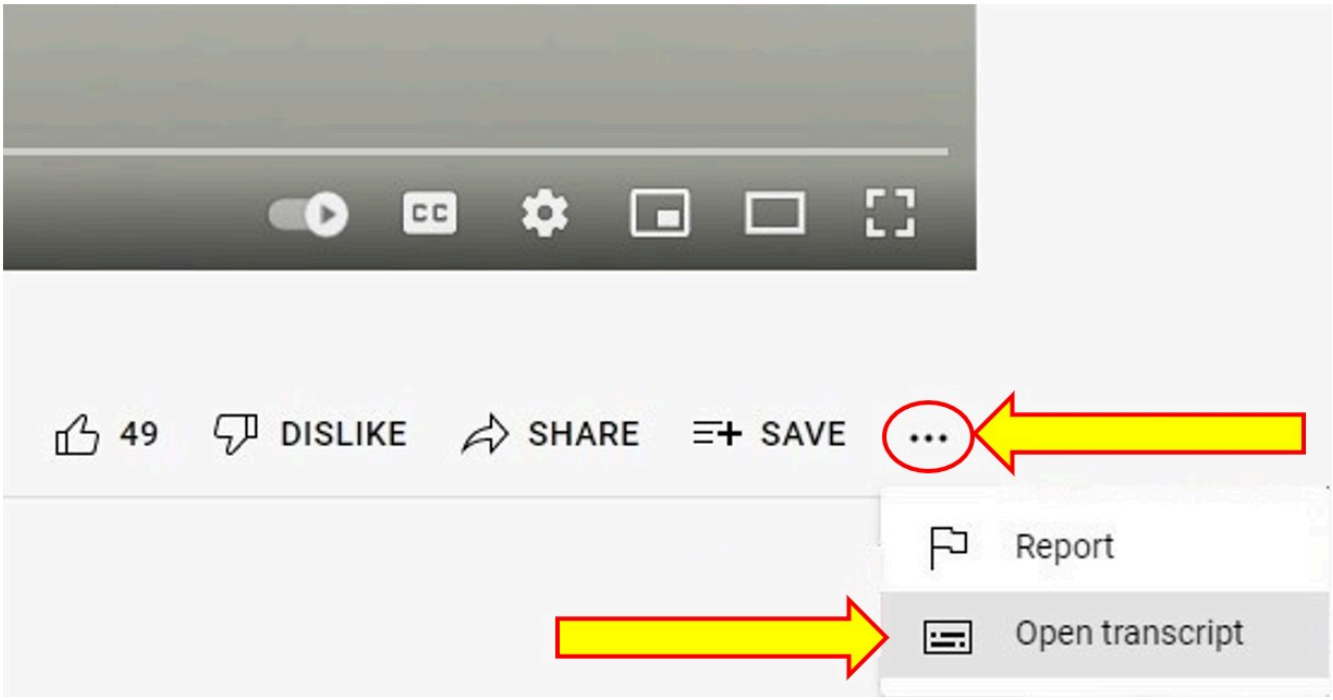
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=32#oembed-1

What is the Difference Between Pharmacokinetics and Pharmacodynamics? By Contagion_Live. Elizabeth Dodds-Ashley, PharmD, MHS, at the Department of Medicine at Duke University School of Medicine, outlines the differences between Pharmacokinetics and Pharmacodynamics

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



Summary

Substance use disorder is defined in DSM-5 as a compulsive pattern of drug use despite negative consequences. Both physical and psychological dependence are important parts of this disorder. Alcohol, barbiturates, and benzodiazepines are central nervous system depressants that affect GABA neurotransmission. Cocaine, amphetamine, cathinone, and MDMA are all central nervous stimulants that agonize dopamine neurotransmission, while nicotine and caffeine affect acetylcholine and adenosine, respectively. Opiate drugs serve as powerful analgesics through their effects on the endogenous opioid neurotransmitter system, and hallucinogenic drugs cause pronounced changes in sensory and perceptual experiences. The hallucinogens are variable with regards to the specific neurotransmitter systems they affect.

Glossary

codeine opiate with relatively low potency often prescribed for minor pain
depressant drug that tends to suppress central nervous system activity
euphoric high feelings of intense elation and pleasure from drug use
hallucinogen one of a class of drugs that results in profound alterations in sensory and perceptual experiences, often with vivid hallucinations
methadone synthetic opioid that is less euphorogenic than heroin and similar drugs; used to manage withdrawal symptoms in opiate users
methadone clinic uses methadone to treat withdrawal symptoms in opiate users
methamphetamine type of amphetamine that can be made from pseudoephedrine, an over-the-counter drug; widely manufactured and abused
opiate/opioid one of a category of drugs that has strong analgesic properties; opiates are produced from the resin of the opium poppy; includes heroin, morphine, methadone, and codeine
physical dependence changes in normal bodily functions that cause a drug user to experience withdrawal symptoms upon cessation of use
psychological dependence emotional, rather than a physical, need for a drug which may be used to relieve psychological distress
stimulant drug that tends to increase overall levels of neural activity; includes caffeine, nicotine, amphetamines, and cocaine
tolerance state of requiring increasing quantities of the drug to gain the desired effect
withdrawal variety of negative symptoms experienced when drug use is discontinued

Long Descriptions

Figure 1.2.1 Hallucinogens – The four main drug categories are "antipsychotics," "stimulants," "depressants," and "hallucinogens." The circle titled "Antipsychotics" includes the drug names "Haldol," "Risperdal," and "Seroquel." The circle titled "Stimulants" contains a subcircle titled "Psychmotor stimulants" with the drug names "Amphetamines," "Khat," "Ritalin," and "Cocaine."

The "Stimulants" circle contains another subcircle titled "Methylxanthines" with the drug names "Caffeine," "Theophylline," and "Theobromine." The circle titled "Depressants" contains a subcircle titled "Sedative Hypnotics" with the drug names "Alcohol," "Barbituates," "Ether," and "GHB"; within that circle is a subcircle titled "Minor tranquilizers" with the drug names "Ativan," "Valium," and "Xanax." "Nicotine" falls in the overlap between the "Stimulants" and "Depressants" circles.

The circle titled "Depressants" also contains a subcircle titled "Narcotic Analgesics" with the drug names "Opium," "Codeine," "Morphine," "Heroin," and "DXM." "DXM" falls in the overlap between the "Depressants" circle and the "Dissociatives" subcircle of the "Hallucinogens" circle. The circle titled "Hallucinogens" contains a subcircle labeled "Dissociatives" including the drug names "Ketamine," "PCP," "Nitrous," "Amanitas," and "Salvinorum." Within that subcircle, "Ketamine," "PCP," and "Nitrous" overlap with with the "depressants" circle The circle titled "Hallucinogens" also contains a subcircle titled "Psychedelics" including the drug names "MDMA," "Mescaline," "LSD," "Psilocybin," "AMT," "DMT," and "Ibogaine."

Within that subcircle, "MDMA," "Mescaline," "LSD," "Psilocybin," and "AMT" fall within the overlap between the "Hallucinogens" and "Stimulants" circles. "Ibogaine" falls within the overlap between the "Psychadelics" and "Dissociatives" subcircles. Outside of all subcircles, "Marijuana" falls within the overlap between the "Stimulants," "Depressants," and "Hallucinogens" circles.

Figure 1.2.2 – The channel has multiple receptor sites where alcohol, barbiturates, and benzodiazepines bind to exert their effects. The binding of these molecules opens the chloride channel, allowing negatively-charged chloride ions (Cl-) into the neuron's cell body. Changing its charge in a negative direction pushes the neuron away from firing; thus, activating a GABA neuron has a quieting effect on the brain.

Figure 1.2.4 – The presynaptic cell contains two cylinder-shaped channels, one on each side near where it faces the postsynaptic cell. The postsynaptic cell contains several receptors, side-by-side across the area that

faces the presynaptic cell. In the space between the two cells, there are both cocaine and dopamine molecules. One of the cocaine molecules attaches to one of the presynaptic cell's channels.

This cocaine molecule is labelled "bound cocaine." An X-shape is shown over the top of the bound cocaine and the channel to indicate that the cocaine does not enter the presynaptic cell. A dopamine molecule is shown inside of the presynaptic cell's other channel. Arrows connect this dopamine molecule to several others inside of the presynaptic cell. More arrows connect to more dopamine molecules, tracing their paths from the channel into the presynaptic cell, and out into the space between the presynaptic cell and the postsynaptic cell. Arrows extend from two of the dopamine molecules in this in-between space to the postsynaptic cell's receptors. Only the dopamine molecules are shown binding to the postsynaptic cell's receptors.

References

Licenses and Attributions

Figure 1.2.1, 1.2.2, 1.2.4, 1.2.5, 1.2.6 & 1.2.7- Openstax. (2022, April 22). *Substance Use and Abuse* [Photo]. Openstax. https://openstax.org/books/psychology-2e/pages/4-5-substance-use-and-abuse

Figure 1.2.2 -Openstax. (2022, April 22). *Substance Use and Abuse* [Photo]. Openstax. https://openstax.org/books/psychology-2e/pages/4-5-substance-use-and-abuse

1.3 INCIDENTS OF DRUG USE AND ECONOMIC IMPLICATIONS

In 2017, the estimated overall cost of substance use in Canada was $46 billion. That amounts to $1,258 for every Canadian.

These updated figures were calculated by the Canadian Substance Use Costs and Harms project. The project is co-led by the Canadian Centre on Substance Use and Addiction and the Canadian Institute for Substance Use Research. The update calculates the costs of substance use in Canada from 2015 to 2017.

Figure 1.3.1 – Photo by PiggyBank on Unsplash

When we think of substance use we think of the person struggling with Drug Use instead of looking at it

through the lens of how drug use has economic implication to all of us. Substance use has a big impact on our economy and not just Canada's health.

Some of the areas that it affects include: healthcare, criminal justice, communities, lost productivity and health and wellness. When we take into consideration the economic, health and social costs of substance use in Canada allows public health experts to:

- Identify information gaps and research needs;
- Determine the effectiveness of harm reduction programs.
- Create new programs where there are gaps and research needs;
- Focus on the harms that impact are caused by substance abuse
- Improve health care systems to record the impact

CCSA has worked collaborating with **Canadian Institute for Substance Use Research** and the **Canadian Substance Use Costs and Harms** project to publish detailed information with reports and infographics providing in-depth information around costs and harms of substance use in Canada.

Online data visualization tool is interactive and allows users to explore the costs and harms of substance use by the following categories (data from the years 2015-–2017). You can create your own graphs, maps and data to see the trends in the harms that are created, and the cost due to substance use in Canada

Food for Thought

When we look at the Incidents of Drug Use and Economic Implications in Canada through Bronfenbrenner's Ecological Systems, we can see the complex system of multiple layers that are impacted.

These systems include: family, school, cultural values, laws, customs, environments, finances, services, health care, and policies, and environment

Figure 1.3.2 – Wordart by Denise Halsey

In Canada the current state Incidents of Drug Use and Economic Implications continues to worsen and there is an overdose crisis which is exacerbated by the challenges of the COVID-19 pandemic. On March 23, 2022 Public Health Agency of Canada issues a statement around the data that was collected on opioid and stimulant related harms – January 2016 to September 2021.

Figure 1.3.3 –Photo by Travis Essinger on Unsplash

Although most of the opioid-related deaths continue to be accidental, there is a public health crisis that continues to affect communities across the country and with people from all cultures, walks of lives and communities. The use of a stimulant (e.g., cocaine, methamphetamine) is prevalent, and is underscoring the polysubstance nature of the overdose crisis.

What Does Substance Use in Canada Cost?

The four substances associated with the largest costs are: alcohol, Tobacco, Opioids and Cocaine. The Cost affects economic, public health, personal health, communities, families, work environments, and health care to name a few.

Figure 1.3.4 –Photo by Mathieu Stern on Unsplash

More information from CCSA (Canadian Centre on Substance Abuse):

- More detailed results and methods can be found in the Canadian Substance Use Cost and Harms Report (2015–2017)
- The Impact of Substance Use Disorders on Hospital Use (Technical Report)
- Substance Use in Canada Costs Almost $46 Billion a Year According to Latest Data
- Provincial and Territorial Substance Use Costs and Harms 2015–2017
- Infographics by Province or Territory
- Substance Use-Related Deaths Among Canadian Females [Infographic]
- Substance Use – Related Deaths Among Canadian Males (Infograph)

For More Information from CSUCH (Canadian Substances Use Costs and Harms:

- Canadian Substance Use Costs and Harms Report
- How to Use the CSUCH Visualization Tool – Explore the Data

ATTRIBUTION: This chapter is not covered by the adaptation statement, it is an original work. with Canadian Content

References

Government of Canada. (2022, March 23). *Opioid and Stimulant related Harms in Canada Published:(March 2022)*. Opioid- and Stimulant-Related Harms in Canada Published:(March 2022). Retrieved March 30, 2022, from https://health-infobase.canada.ca/substance-related-harms/opioids-stimulants/

CSUCH – Canadian Substance Use Costs and Harm. (n.d.). *How to use the CSUCH Visualization Tool*. CSUCH. Retrieved March 22, 2022, from https://csuch.ca/explore-the-data/

1.4 CONTROLLED DRUGS AND SUBSTANCES ACT (CDSA)

In Canada, drug scheduling is done by Health Canada and the National Association of Pharmacy Regulatory Authorities (NAPRA), who both have roles related to drug scheduling. Each organization has roles that are separate and distinct, with each organization performing specific functions within the drug scheduling process.

Figure 1.4.1 – Photo by Olga DeLawrence on Unsplash

Health Canada

Health Canada is responsible to evaluate the safety, efficacy and quality of all health products before giving a license or authorization for products to be sold in Canada. Manufacturers need the authorization and/or license from Health Canada to sell a health product in Canada.

NAPRA and the National Drug Schedules

Once Health Canada has authorized a drug for sale in Canada, and whether a prescription is necessary for sale, then NAPRA's role in the drug scheduling process occurs. Health Canada authorizes all drugs and classification of any new health product for the Canadian market. NAPRA does not have any role or authority in this process.

Individual provinces and territory prior to 1995 had its own systems to determine the conditions of sale for non-prescription drugs in Canada. This lead to a wide variability in the way all drugs were sold. Currently the federal government determines the need for a prescription and certain conditions of sale, but all provincial/territorial governments have the ability to further specify the conditions of sale of drug products.

Drug Scheduling in Canada

Figure 1.4.2 – Atlas of Canada Small scale Reference Maps – Government of Canada (Open Government Licence – Canada)

A proposal for a national drug scheduling model was created in 1995 by the National Association of Pharmaceutical Regulatory Authorities so that drugs could be sold across the country with consistent regulations. It is now the National Drug Schedules Program (NDS) [1]

The program consists of:

- 3 schedules
- four categories of drugs
- established factors for each schedule
- a standard process for scheduling

- National Drug Scheduling Advisory Committee (NDSAC) [2] (scheduling recommendations)

All narcotics and controlled substances are scheduled according to a regulatory framework under the Narcotic Control Regulations within the Controlled *Drugs and Substances Act* (CDSA)[3] are scheduled according to a regulatory framework.

Drug Scheduling Process

The drug scheduling process begins when a drug scheduling submission from a pharmaceutical company is submitted to NAPRA. The National Drug Scheduling Advisory Committee reviews the drug scheduling submissions and formulates drug scheduling recommendations. NAPRA's By-law No. 2 and Rules of Procedures outline the specific process that must be followed for each step of the drug scheduling review. Drug scheduling recommendations embodies a "cascading principle", where drugs are assessed against specific scheduling factors.

The drug is first assessed through Schedule I, and if the drug factors apply, then the drug remains in that schedule. If the drug does not apply then the drug is assessed against, Schedule II factors and then Schedule III if needed. If the drug does not meet Schedule I, II or II then it becomes "Unscheduled" (the fourth category). Occasionally Health Canada has classified as a product in non-prescription product but NAPRA will place it in Schedule I.

This could occur because of the NAPRA policy for drugs not reviewed process, due to a range of factors to be considered by the expert advisory committee. The provinces and territories for non-prescription drugs can add additional conditions of sale for non-prescription drugs, but they cannot be less restrictive than federal legislation.

Health Products and Food branch of Health Canada determines which health products will be marketed in Canada, and whether or not they require prescriptions for consumer use. This list of products includes drugs, medical devices, disinfectants, and sanitizers with disinfectant claims. Without authorization from Health Canada, a drug or drug accessories manufacturer is not permitted to sell its products within the country.

Once Health Canada has determined whether or not a particular drug can be sold within Canada, the assigned a Drug Identification Number (DIN), and then the individual provinces, territories, and NAPRA, under advisement from the NDSAC make decisions regarding where the product can be sold.

Canada's National Drug Schedules

The NDS program consists of three schedules and four categories of drugs.

Schedule I drugs require a prescription for sale and are provided to the public by the pharmacist following the diagnosis and professional intervention of a practitioner. The sale is controlled in a regulated environment as defined by provincial pharmacy legislation. (Heroin, cocaine, opium, oxycodone, fentanyl, morphine, MDMA, Ketamine, methamphetamine)

Schedule II drugs, while less strictly regulated, do require professional intervention from the pharmacist at the point of sale and possibly referral to a practitioner. While a prescription is not required, the drugs are available only from the pharmacist and must be retained within an area of the pharmacy where there is no public access and no opportunity for patient self-selection.

Schedule III drugs may present risks to certain populations in self-selection. Although available without a prescription, these drugs are to be sold from the self-selection area of the pharmacy which is operated under the direct supervision of the pharmacist, subject to any local professional discretionary requirements which may increase the degree of control. Such an environment is accessible to the patient and clearly identified as the "professional services area" of the pharmacy. The pharmacist is available, accessible and approachable to assist the patient in making an appropriate self-medication selection. (LSD, psilocybin and psilocin (magic mushrooms), mescaline (peyote and San Pedro cactus), and DMT (found in many plants, but most commonly an ingredient in ayahuasca).

Schedule IV – (Benzodiazepines, Salvia, Khat)

Unscheduled drugs can be sold without professional supervision. Adequate information is available for the patient to make a safe and effective choice and labeling is deemed sufficient to ensure the appropriate use of the drug. These drugs are not included in Schedules I, II or III and may be sold from any retail outlet.

Source: Outline of the Schedules by NAPRA schedules and four categories of drugs

For more information regarding Prescription Drug List:

- Controlled Drugs and Substances Act (S.C. 1996, c. 19)

- Health Canada Prescription Drug List
- Health Canada website
- National Drug Schedules (NDS) Updates (Dec 2021) – NAPRA
- Notices of Changes to the Prescription Drug List – Government of Canada
- Drug Products RSS Feed – Government of Canada
- rules in each particular province or territory.

ATTRIBUTION: This chapter is not covered by the adaptation statement, it is an original work.

References:

1. Jones, T. (2022). What Are the National Drug Schedules (NDS)? – NAPRA. *NAPRA*. https://www.napra.ca/national-drug-schedules/national-drug-schedules-program/what-are-the-national-drug-schedules-nds/
2. Jones, T. (2023). National Drug Scheduling Advisory Committee (NDSAC) – NAPRA. *NAPRA*. https://www.napra.ca/national-drug-schedules/national-drug-scheduling-advisory-committee-ndsac/
3. Legislative Services Branch. (2023, January 14). *Consolidated federal laws of Canada, Controlled Drugs and Substances Act*. https://laws-lois.justice.gc.ca/eng/acts/c-38.8/
4. Jones, T. (2023a). NDS Policies – NAPRA. *NAPRA*. https://www.napra.ca/national-drug-schedules/national-drug-schedules-program/nds-policies/

1.5 KEY TERMS STUDY GUIDE

The material in this chapter assisted in having a look at what substances are considered to be drugs and how they are classified. Once you understand the important topics we discussed in this chapter you will have a better understanding of how drugs impact the body, health and society. You may be familiar with these terms, but If you are not familiar with the terms below, I recommend you download this study sheet, add more spaces to write in definitions and relevant information (or make flashcards) as you read the chapter and watch videos.

1. abused
2. alcohol
3. antipsychotics
4. cannabis
5. Controlled Drugs and Substances Act (CDSA)
6. depressants
7. drug schedules
8. Drug Identification Chart
9. drug categories
10. drug withdrawal
11. economic implications
12. endogenous
13. hallucinogens
14. Illicit drugs
15. misused drugs
16. natural
17. opioids
18. pharmacokinetics
19. pharmacodynamics
20. psychoactive drugs
21. semisynthetic
22. stimulants
23. Substance Use Disorder
24. synthetic

ATTRIBUTION: This chapter is not covered by the adaptation statement, it is an original work.

1.6 SELF-CARE

Figure 2.10.1 – Self Care – Photo by Kaylee Garrett on Unsplash

Each chapter has a self-care section because taking care of oneself is an important part of being an effective Professional. In this self-care section we will be exploring strategies for coping while working in the field of substance use and living in the world of the Covid pandemic. Please take a moment to review the document below and try one of the strategies suggested. Reflect back on your experience.

READ

Please take a moment to review the Health-Care Providers Infographic by the Canadian Centre on Substance Use & Addiction.

- Try one of the strategies suggested.
- Share with someone your experience.

Figure 1.10.2 – Photo by Connor McSheffrey on Unsplash

Attribution

Reference:

Canadian Centre on Substance Use & Addiction. (2020). Managing stress anxiety and stress during Covid-19. https://www.ccsa.ca/sites/default/files/2020-04/CCSA-COVID-19-Stress-Anxiety-and-Substance-Use-Health-Care-Providers-Infographic-2020-en.pdf

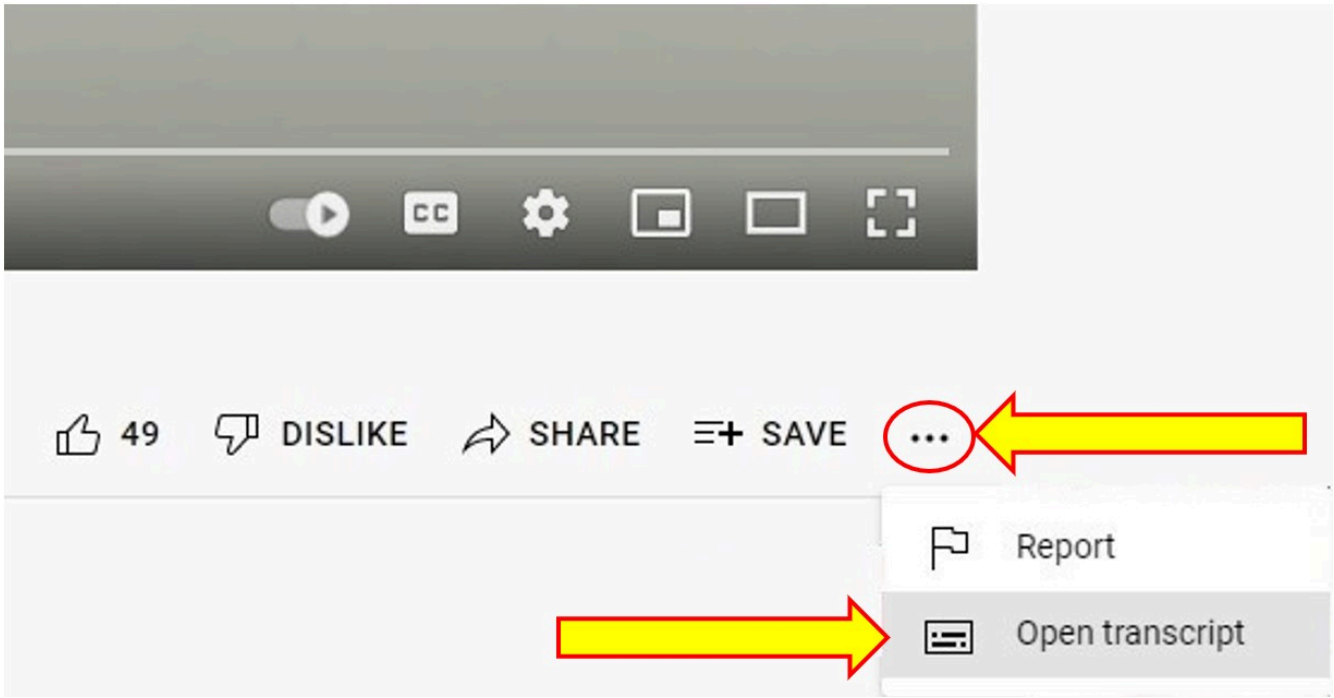
ADDITIONAL RESOURCES

Videos

Fuseschool – What is a Drug? | Health | Biology | FuseSchool – Global Education

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1708#oembed-1

Transcript



Drug Education Video | Cormatt Abbott | An Educational Video by Andrew Bannister & Cormatt Abbott

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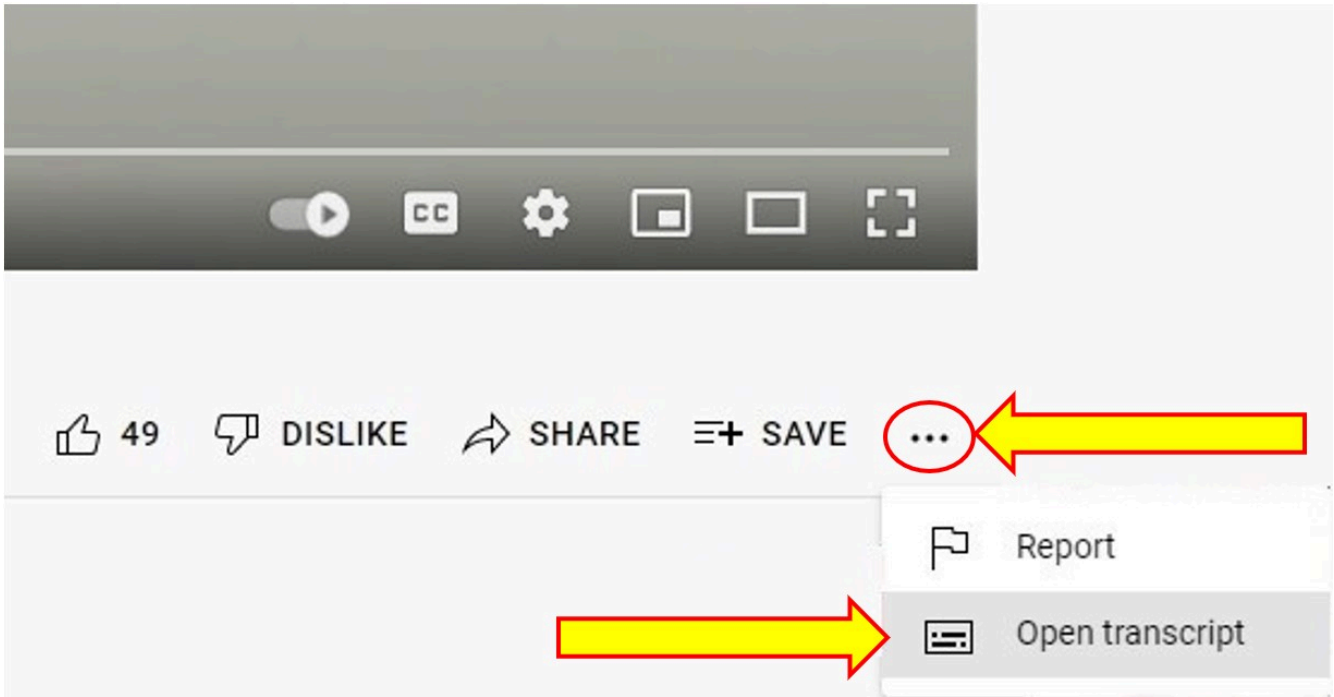

Drug Use and Mental Health: Comorbidity Explained | Peer2Peer Project

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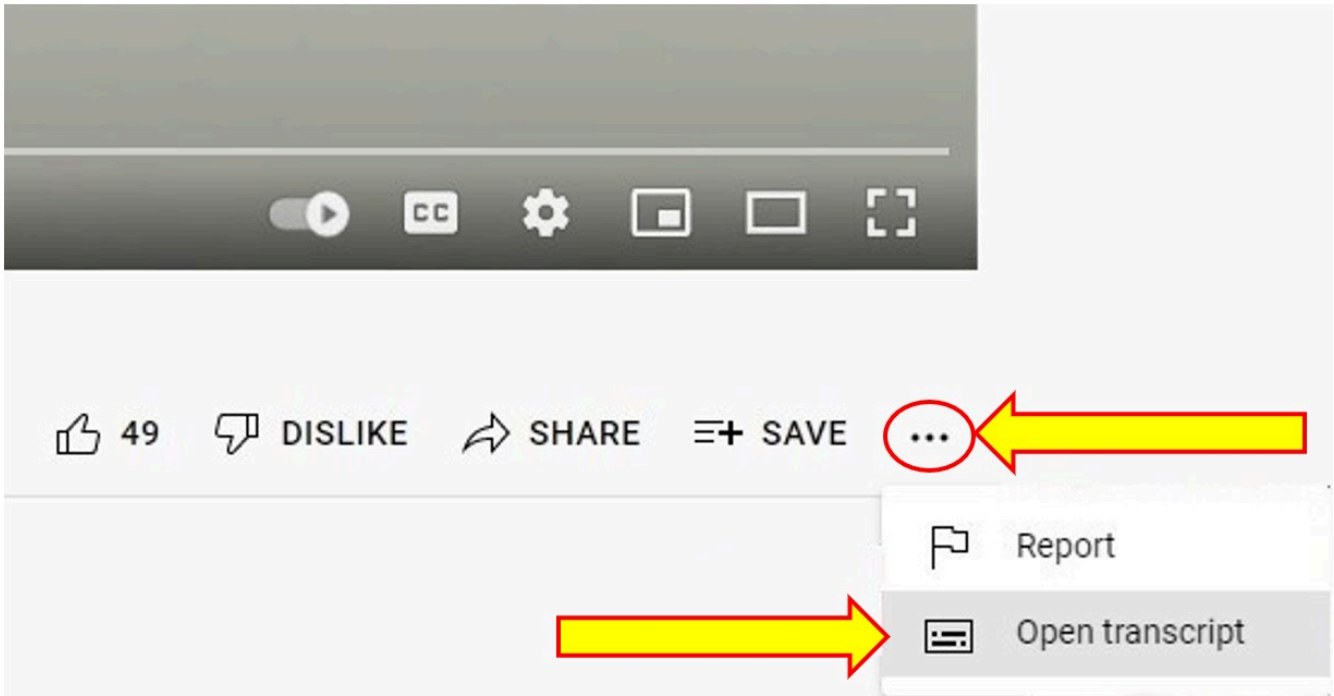
Transcript



ATTRIBUTION: This chapter is not covered by the adaptation statement, it is an original work.

References

Fuse School – Global Education . (2020). *Developing new drugs | Health | Biology | FuseSchool. YouTube*. Retrieved April 23, 2023, from https://www.youtube.com/watch?v=_hjBfbMuvPA.

Abbott, C. (2016). *Drug Abuse Video. YouTube*. YouTube. Retrieved April 23, 2023, from https://www.youtube.com/watch?v=shtRXgefI9U&embeds_euri=https%3A%2F%2Fecampusontario.pressbooks.pub%2F&source_ve_path=OTY3MTQ&feature=emb_imp_woyt.

YouTube. (2021). *Drug Use and Mental Health: Comorbidity Explained. YouTube*. Retrieved April 23, 2023, from https://www.youtube.com/watch?v=sqV70WCYp_g.

CHAPTER 2: LANGUAGE AND SUBSTANCE USE

CHAPTER 2 INTRODUCTION

As we start our journey into substance use and process addiction/behavioural disorders we will start with an exploration of the power of language. Can we change how we treat substance use by changing the language?

Let us explore the possibilities. Perhaps this is your first exploration of the complex world of substances, substance use, and substance use disorders; maybe you have direct experience with this topic, through family, friends, or community. You may even have struggled with substances yourself. If so, I appreciate your engagement with this topic, all are welcome here! This text will help guide your educational journey from why people use substances, substance use disorders, Canada's policies on substances, theories of substance use, as well as supporting individuals who use substances and finally recovery and prevention.

We will also cover so many other areas that are important as well such as Cultural Competence, Race, Stigma, Gender and Compassion.

I hope this resource will be a helpful guide as we delve into a topic that is complex and challenging. I encourage you to take care of yourself as you work through each chapter, including reaching out to your support system as needed.

Attribution

LEARNING OBJECTIVES

Learning Objectives

By the end of this chapter you should be able to:

1. Recognize the role of the social determinants of health on individuals
2. Define intersectionality
3. Describe stigma
4. Recognize appropriate and inappropriate language regarding substance use
5. Explain how language contributes to stigma
6. Explain how stigma can impact a person's health
7. Illustrate the role of compassion for others and self

ATTRIBUTION: This chapter is not covered by the adaptation statement, it is an original work.

2.1 SUBSTANCE USE AND THE DETERMINANTS OF HEALTH

What makes you who you are? When you think about who you are, everything matters; for example, your physiology (body and brain), the environment around you, your biological makeup, your life experience, your gender, your abilities, your ethnicity, and your psychological well-being (mental health). These are just some of the factors that have gone into your development and where you find yourself at this moment in time. These are part of Canada's Determinants of Health.

The determinants of health [1] are a broad range of factors that impact every person's health, including

1. Income and social status
2. Employment and working conditions
3. Education and literacy
4. Childhood experiences
5. Physical environments
6. Social supports and coping skills
7. Healthy behaviours
8. Access to health services
9. Biology and genetic endowment
10. Gender
11. Culture
12. Race / Racism

These factors, along with other social factors like systemic racism and sexism impact your health. For example, "studies have shown that people exposed to racism have poorer health outcomes (particularly for mental health), alongside both reduced access to health care and poorer patient experiences" [2]. The social determinants of health therefore tell us our health is affected by more than just exercise and healthy eating. When we use the social determinants of health to explore our health we are looking at the big picture.

Sometimes we are not always aware of the various systems which play a role in our life. To help us understand ourselves a little more, let us start with reflecting on our own experiences.

Activities

1. Review the Government of Canada's determinants of health website.
2. Create a picture of yourself. Using the social determinants of health, identify our experiences with one example in each category.
3. What is one intervention that could have impacted your health in a positive way?
4. What is one intervention that could have impacted your health in a negative way?
5. When you think about the social determinants of health, what areas do you think might put you at risk of a substance use disorder? Why?

After participating in this activity, you may have a deeper understanding of yourself. More exploration of the social determinants of health can help you gain a deeper understanding of substance use When people study substance use and the people who live with a substance use disorder, the social determinants of health can be used to look broadly at the many factors and systems that intersect in a person's life. To understand and develop empathy for people living with a substance use disorder, we must examine not only the determinants of health, but how the intersection between those determinants of health impact an individual. For example, if a person has multiple social identities (for example a racial/ethnic minority and a woman) and there are structural inequalities linked to these identities (racism, sexism), these intersections may compound the negative impacts on their health [(3)], which may lead to substance use. In other words, there may not be one single factor that relates to a person's substance use or substance use disorder.

The video Intersectionality and health explained may help you understand intersectionality further.

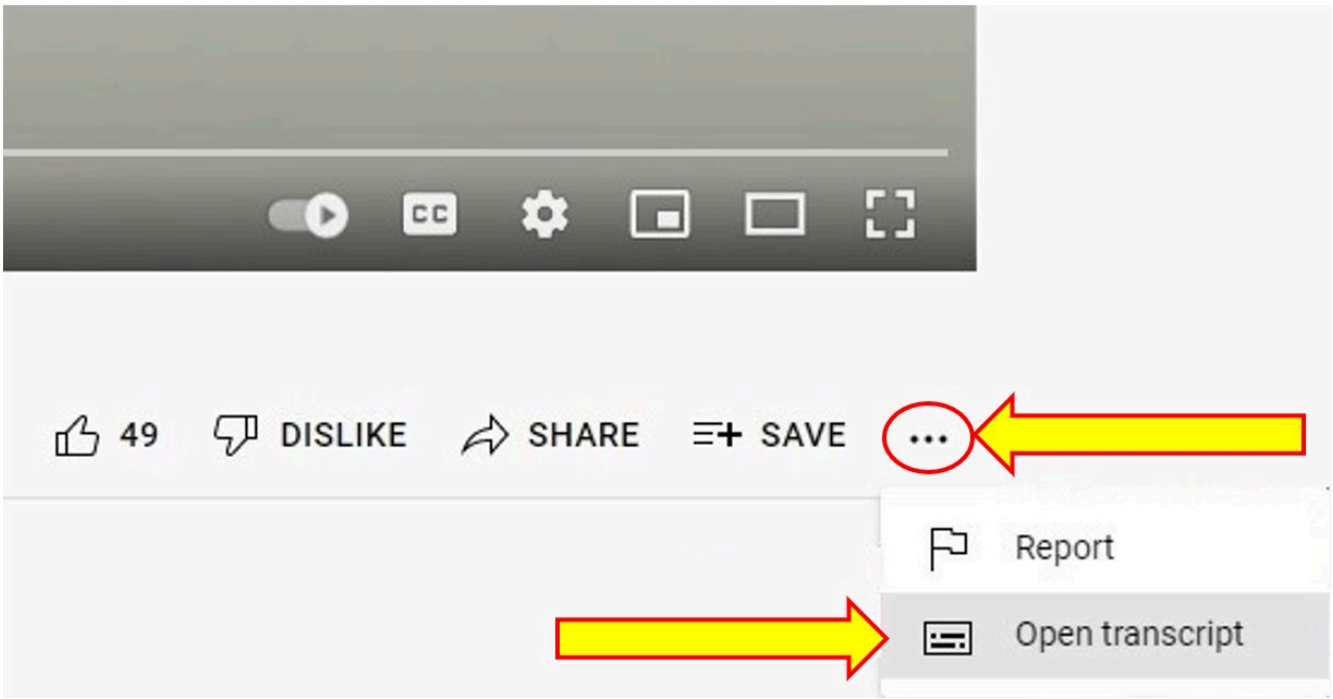
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1159#oembed-1

Intersectionality and Health Explained – Sociological Studies Sheffield (There are many components that intersect and shape our lives) [4]

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



Research suggests we must acknowledge intersectionality, systems, and theories to work effectively in the field of substance use and substance use disorders. As you further your understanding substance use, take time to reflect on each section, participate in the food-for-thought and activity sections, and reflect on your growing understanding.

Food For Thought

- How did you become aware of substance use?
- What do you think the difference is between substance use and substance use disorders?

- Take a moment and reflect honestly on how you feel about substance use and substance use disorders.
- Where do your beliefs about substance use come from? Friends, media, family?

Now that we have established the complexity of substance use, the next section will examine the language we use and the role it plays in the lives of people with substance use disorders, their family, friends, and health care workers.

Figure 2.1.1 – Photo by Larm Rmah on Unsplash

For More Information

- Indigenous Children and Youth
- Roots of Resilience: Overcoming Inequities in Aboriginal Communities
- Health Inequalities and Social Determinants affect Aboriginal Peoples' Health
- Social determinants and inequities in health for Black Canadians: A Snapshot
- Health Inequalities Data Tool
- Understanding the report on Key Health Inequalities in Canada
- How to integrate intersectionality theory in quantitative health equity analysis? A rapid review and checklist of promising practices
- What Are The Social Determinants of Trauma?

Attibution

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2.2 CHANGING THE LANGUAGE OF "ADDICTION"

Addiction as a diagnosable and treatable illness is recent, though the phenomenon of people misusing substances is not. For example, in the first four iterations of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) used in psychiatry, addiction as a disorder was not included; neither for substances nor behaviour. The DSM is "the standard classification of mental disorders used for clinical, research, policy, and reimbursement purposes in the United States and elsewhere" [(1)] and is a text you will use in your program and in your work. As our understanding of substance use and behaviour has changed, our ability to diagnose and support has also changed; the most recent version, DSM-V, now includes substance-related and addictive disorders. There are some behavioural disorders like gambling which continue to use the term addiction. By changing the language, perhaps we can reduce the stigmatization of the term.

What is stigma? You may have heard the term stigma to describe poverty, disability, mental illness, and culture. Stigmas are negative attitudes or beliefs about a topic [(2)], and are prevalent in the field of substance use; some even suggest stigma is an underlying factor in substance use and behaviours as Matthews et. al. (2017) suggest, "stigma figures in the social construction of addiction" [(3)]. If we can address the stigma of the language, we may begin to tackle the stigma of substance use disorders; "stigma not only impedes access to treatment and care delivery, but it also contributes to the disorder on the individual level" [(4).] If we change the language of addiction, will it reduce stigma and improve health outcomes for people living with addiction? Only time will tell, though "both scientists and mental health advocates have long suggested that an increase in the lay public's understanding of stigma...may reduce discrimination and prejudice" [(5)]. Substance use is highly stigmatized.

The next step in our learning journey, as we develop greater understanding of substance use and stigma, is to examine the language we use. For many people, substance use disorders are seen simply as "*addiction*". Take a moment and reflect on the word addiction.

Food For Thought

- When you think of the word addiction, what do you think of?

- When you reflect on the word addict, what springs to mind?

Let us start with this short primer called Illuminate [6]:

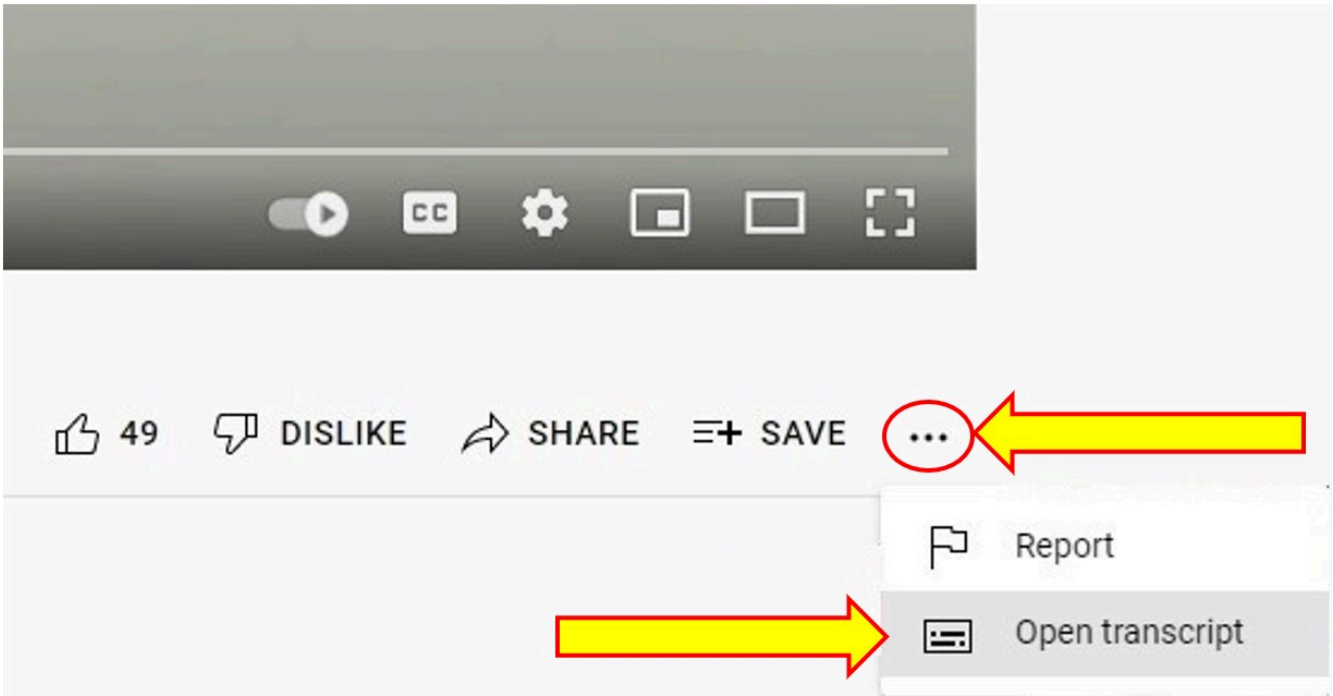
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1161#oembed-3

Illuminate – CCSA/CCDUS – Elaine Hyshka, PHD, Assistant Professor at the School of Public Health, University of Alberta, and Barry Andres, Executive Director of Addiction and Mental Health, Alberta Health Services, discuss the importance of humanizing addictions treatment and recovery.

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



What is your responsibility as a Social Worker for helping to reduce the stigma of substance use disorders (SUD)? Reflect on the video, it is focusing on taking substance use out of the shadows. One way we can do this is to explore the word addiction itself, to understand its meaning and it's history. The term has evolved and only came to use in the 17th century relating to substance use, with the medical conception of addiction beginning around the 19th century [(7)]. The word addiction has it roots in Latin and was used in the Early Roman Republic as "being bound to" [(8)]. In the case of the Roman Republic, it was bound to a creditor, to someone you owed something. In today's world should we view a substance use disorder as still being bound to? Does this impact our ability to support individuals with substance use disorders? If we examine the concept of having no will when it comes to substance use, this may contribute to the stigma associated with substance use disorders.

Food For Thought

- Think for a moment about the idea of "being bound to"; what does this make you think of?
- Can you relate this concept of bondage to substances or behaviours?
- What is the "power" of addiction?
- How do you think this concept contributes to stigma?

- Do you think changing the language will reduce stigma? Why or why not?

For many, addiction suggests an inability to manage consumption of *licit* and *illicit* substances or an inability to manage an activity like gambling. For others, the word addiction relates to an activity they love to do; addiction has been used to describe activities people are passionate about. This confusion between the terms adds to the stigma; the "contemporary usage of addiction is contradictory and confusing; the term is highly stigmatizing but popularly used to describe almost any strong desire, passion or pursuit" [(9)]. Let us think for a moment how you use the word *addiction*? Is this a word you have used before? Has it related to substance use? Perhaps you have used this word to describe your relationship with a particular snack food, "I am addicted to chocolate," or maybe a technology "I am addicted to this new app."

Figure 2.2.1 – Photo by Pranjall Kumar on Unsplash

Figure 2.2.2 – Rasheed Kemy on Unsplash

Addiction, consequently, is a term we not only use to describe substance use disorders, but we use it to describe our relationship with the world around us and we use it interchangeably in both positive and negative ways. If you look up addiction on the internet, you will find the term addiction being used by companies marketing products, celebrity blogs, individual podcasts, and more. The *stigma* of the word addiction, however, seems to relate only to substances and behaviours that society deems inappropriate, dangerous, or unhealthy. Addiction as a term and a concept is so polarizing that in fact "there was an attempt to avoid it entirely by writing it out of the diagnostic manuals and substituting other terms like abuse and dependence" [(10)]. Addiction as a concept relating to substances has been difficult to define and is slowly being replaced by phrases such as substance use, misuse, or substance use disorder. Even the term substance abuse has been highlighted as a negative term due to the negative connotation associated with punishment [(11)]. Addiction, therefore, as a concept relating to substances and activities is often associated with negative behaviours. This association has led to the stigmatization of the term addiction.

For more Information – on use of Stigmatizing Words

- CCSA – STIGMATIZING WORDS

Stigma impacts the way we treat people, it impacts the way people who use substances see themselves and access support. Please watch the following video Stop Stigma [12] by people with substance use disorders who talk about how stigma has impacted their lives.

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Stop Stigma. Save Lives Project: Experiences of stigma. Northern Health BC. (looking at the many levels of stigma towards those who use substances such as: discrimination, health, etc)

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
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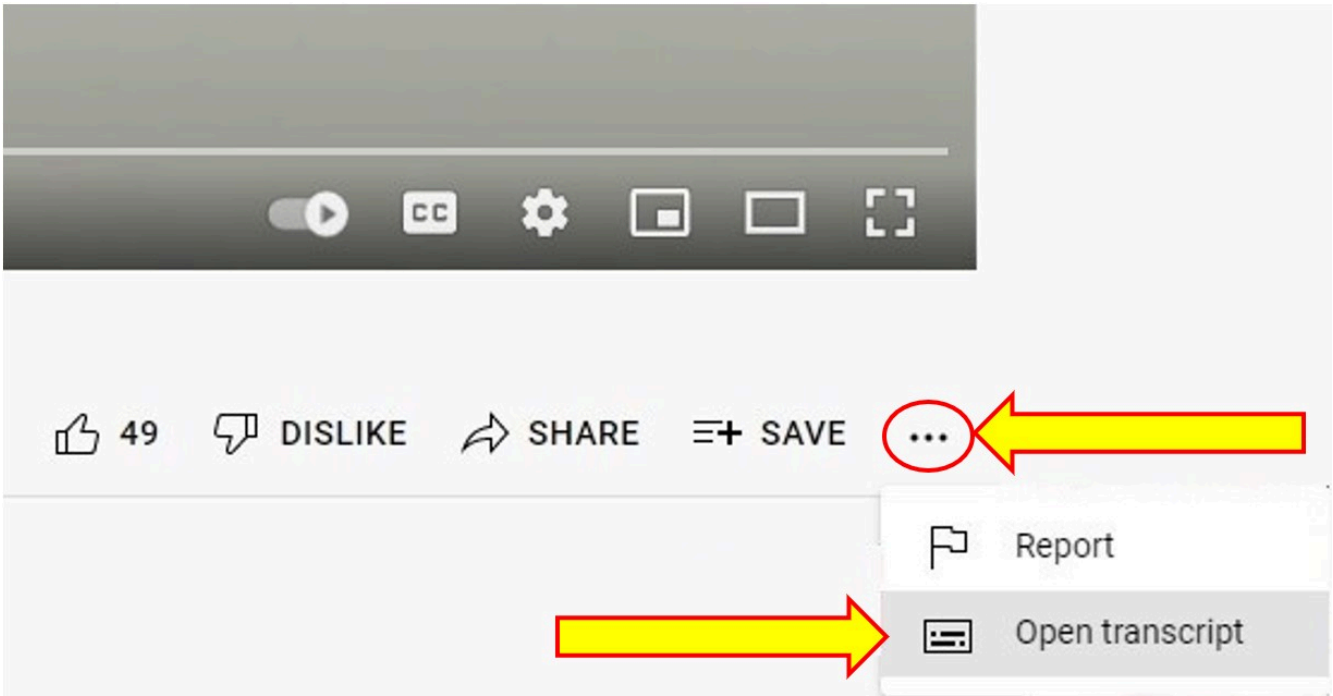

How do we reduce the stigma associated with the words we use when it comes to substance use disorders?

Food For Thought

- Why do you think the word addiction still has stigma?
- Do you prefer substance use disorder rather than addiction? Is there another term you think is less stigmatizing?
- Can you think of a different term than process addiction to address an addiction to food, shopping, sex, gambling, or technology?
- What are terms you can use to describe your love for something that do not include addiction?

As noted above, stigma impacts individuals who use substances. According to Volkow, "people with addiction continue to be blamed for their disease" [13]. This stigma can prevent individuals from accessing support due to self-stigmatization (lack of self-worth, low self-esteem) as well as previous poor experiences with healthcare or other services. As Social workers, we can seek to stop stigma by helping individuals, family, friends, and communities use language that reduces stigma.

Let's listen to Dr. Kenneth Tupper discuss ways we can address stigma and discrimination in substance use disorders in the video Stigma and Discrimination in the Language of Addiction [14].

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1161#oembed-2

Dr. Kenneth Tupper, Director, Implementation and Partnerships, British Columbia Centre for Substance Use, discusses the stigmatizing terminology of addiction. CCSA / CCDUS

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
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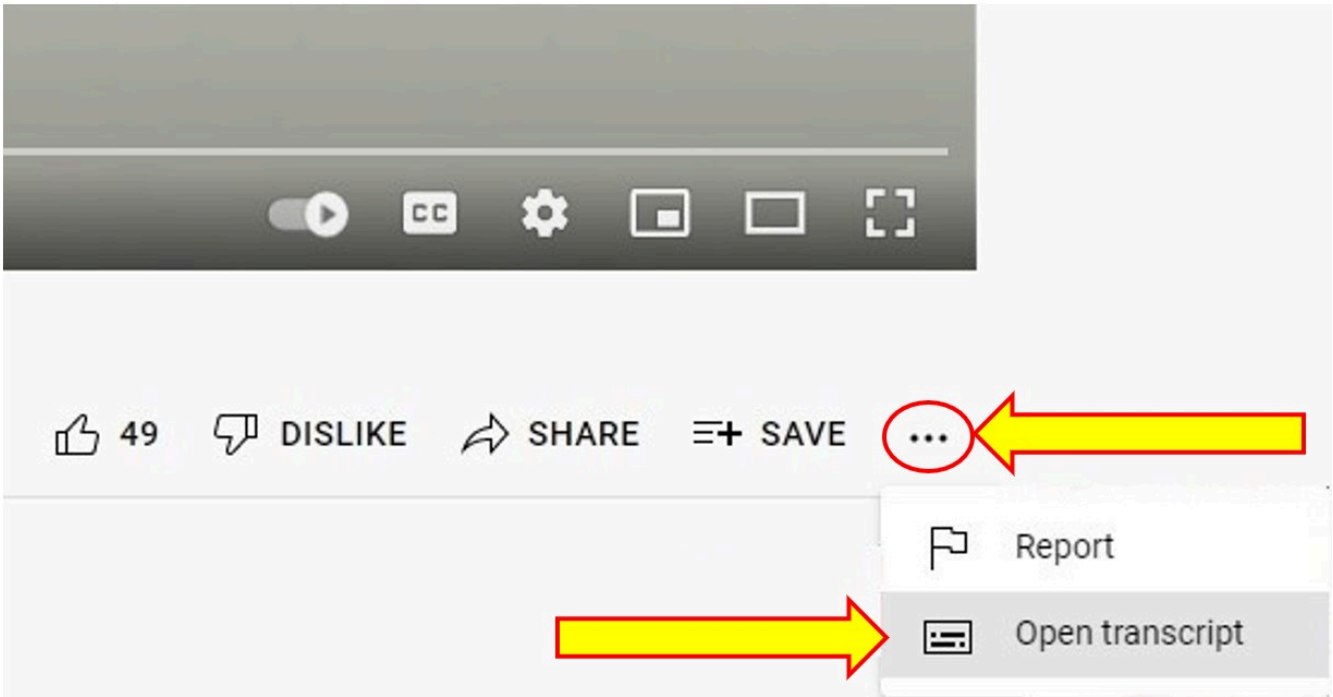

Some researchers have suggested we can reduce stigma of many illnesses, including substance use disorders, by using person-first language. For example, rather than saying an "addicted person," or an "addict," we say "a person with a substance use disorder." Person-first language has also been championed by people living

with mental illnesses and other disabilities. This puts a person before a diagnosis, making the person the focus, rather than the illness. When reflecting on the social determinants of health and intersectionality we are looking beyond one factor to the whole individual and multiple connections between these factors, their life, and their experiences. When we choose person first language, we choose to see **all** the parts of the individual. Rather than focusing on the substance use, we see a whole person and work with the unique aspects that make a person who they are. This allows both a Social Service worker and the agency supporting the individual to provide a more comprehensive service.

Activities

1. Write down all the words you have heard or used to describe substance use. Place them on a continuum of positive to negative.
2. What do you notice?
3. How do you think these words impact individuals living with a substance use disorder?
4. How do you think the language you use might impact your professional relationship with clients as a Social worker?
5. What is one way you might challenge your beliefs about substance use disorders?

We are all affected by addiction whether directly or indirectly, and to improve health outcomes of all Canadians the stigma associated with both the term and the activity must be addressed. Greater understanding of the terms we use interchangeably for "addiction," unpacking the stigma associated with the term, and choosing language that highlights the individual rather than the behaviour, we can change how we see and work with people living with a substance use disorder. This can lead to a change in how others view and treat people with substance use disorders in Canada.

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2.3 CULTURAL COMPETENCE

Figure 1.3.1 – Word Art by Denise Halsey – Hello

Creating cultural competence is essential on college campuses, in our communities, and in the workplace. Cultural competence, as defined by the Intercultural Development Inventory, is the capability to shift cultural perspective and adapt—or bridge—behaviour to commonality and difference.

The **IDI**[(1)] is an assessment-driven approach to developing individual intercultural competence and to build cultural competence through adaptation of behaviour to cultural differences and commonalities.

What defines cultural competence, according to college students' diverse perspectives ranges from a monocultural to intercultural perspective: Denial, Polarization, Minimization, Acceptance, and Adaptation. The monocultural mindset uses cultural differences and commonalities based on an individual's own cultural perspectives and values and often uses stereotypes as a way to identify cultural differences. The intercultural mindset is more able to make sense of commonalities and differences of culture based on their own cultural practices and values and those of the other's culture. They are more likely to use cultural generalizations that recognize cultural differences and support more complex perceptions and experiences based on difference and commonality.

Cultural Competence will always be a work in progress. There are so many differences in the communities that we will work with. It is important to be aware of people as individuals as well as their culture and

populations. One size does not fit all so it is important to understand that we will serve communities that have different culture backgrounds that may dictate who can do the interview (i.e. Orthodox Jewish Woman would have a female intake worker), as well as those with disabilities, language barriers, or seniors to give a few examples. This being the case there are times when a neighbour or friend can accompany them to assist with the situation.

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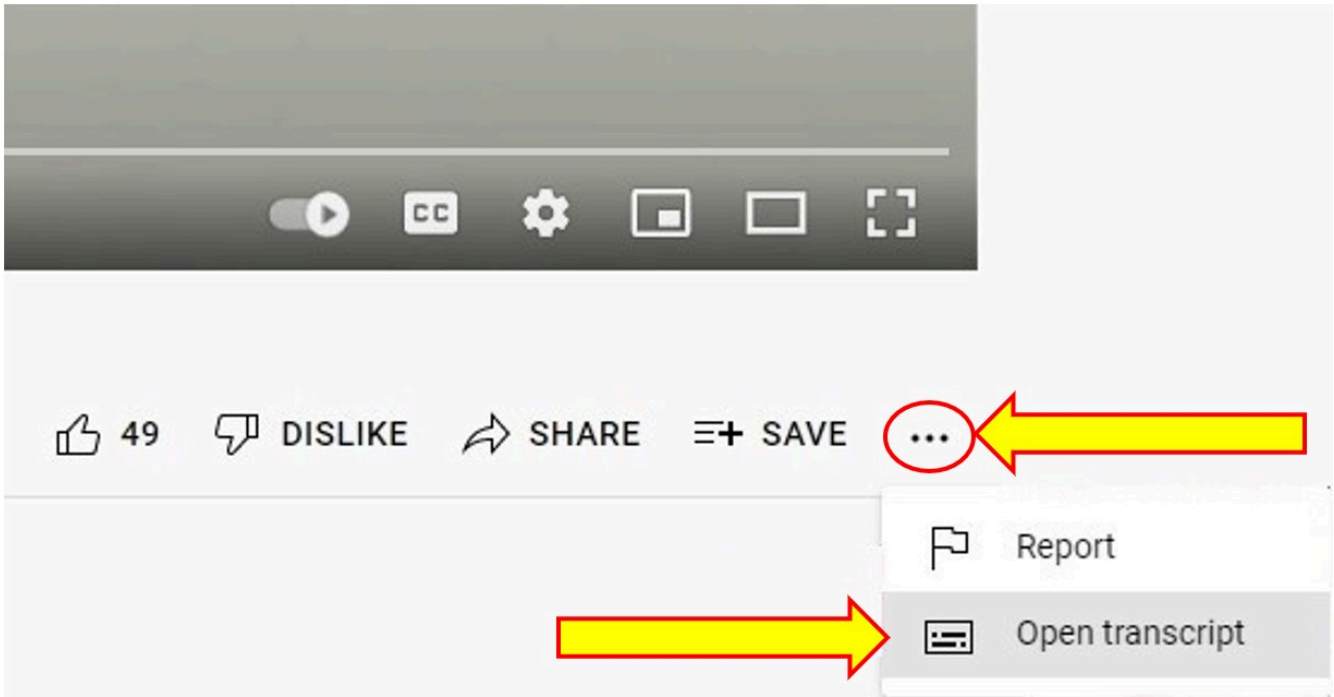
Video 1: What is Cultural Competence. by Arkansas Open Educational Resources (OER). University students talk about what cultural competence is and what cultural competence means to them personally. Project: Creating Cultural Competence by Jacquelyn Wiersma-Mosley and Margaret Miller Butcher.

Transcript



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Video 2: Cultural Competence in Denial and Polarization.by Arkansas Open Educational Resources (OER). University students discuss what their experiences have been with either themselves or with others who have mindsets in Denial and Polarization.

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Video 3: Cultural Competence in MInimilization. by Arkansas Open Educational Resources (OER). University students discuss what their experiences have been with either themselves or with others who have mindsets in Minimization.

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Video 4: Cultural Competence in Acceptance and adaptation. by Arkansas Open Educational Resources (OER). University students discuss what their experiences have been with either themselves or with others who have mindsets in.

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Video 5: Becoming Cultural Competence. by Arkansas Open Educational Resources (OER). University students discuss what their experiences have been with either themselves or with others who have mindsets in.

Attribution:

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2.4 RACE, STIGMA AND SUBSTANCE USE

Figure 2.4.1 – Reducing Stigma Wordart by Denise Halsey

According to Statistics Canada , [1] approximately 23% of Canadians identify as a "minority." This includes People of Color, Indigenous people (Aboriginal, Metis, Innu, Innuit), and immigrants from countries all over the world. If you remember in section 1.1, we discussed race/racism as one of the social determinants of health. When a person experiences racism, research shows that racist incidents are similar to traumatic experiences; and there are both physical and mental health ramifications[2]. People of Color have experienced racism for centuries. The impacts of slavery, which existed in Canada[3], and colonization of People of Color has been and is both overt, subtle, and systemic [4]. Indigenous people have also been impacted by racism and stigma through colonization. This racism extends through the language we use when it comes to substance use.In this section, we explore how language contributes to racism, which in turn can lead to substance use.

We will explore how language contributes to racism, which in turn can lead to substance use. We will explore how stigma subsequently plays a large role in creating barriers for treatment and support of substance use disorders.

Let us watch this video to explore how the language of substance use has impacted Indigenous communities [5].

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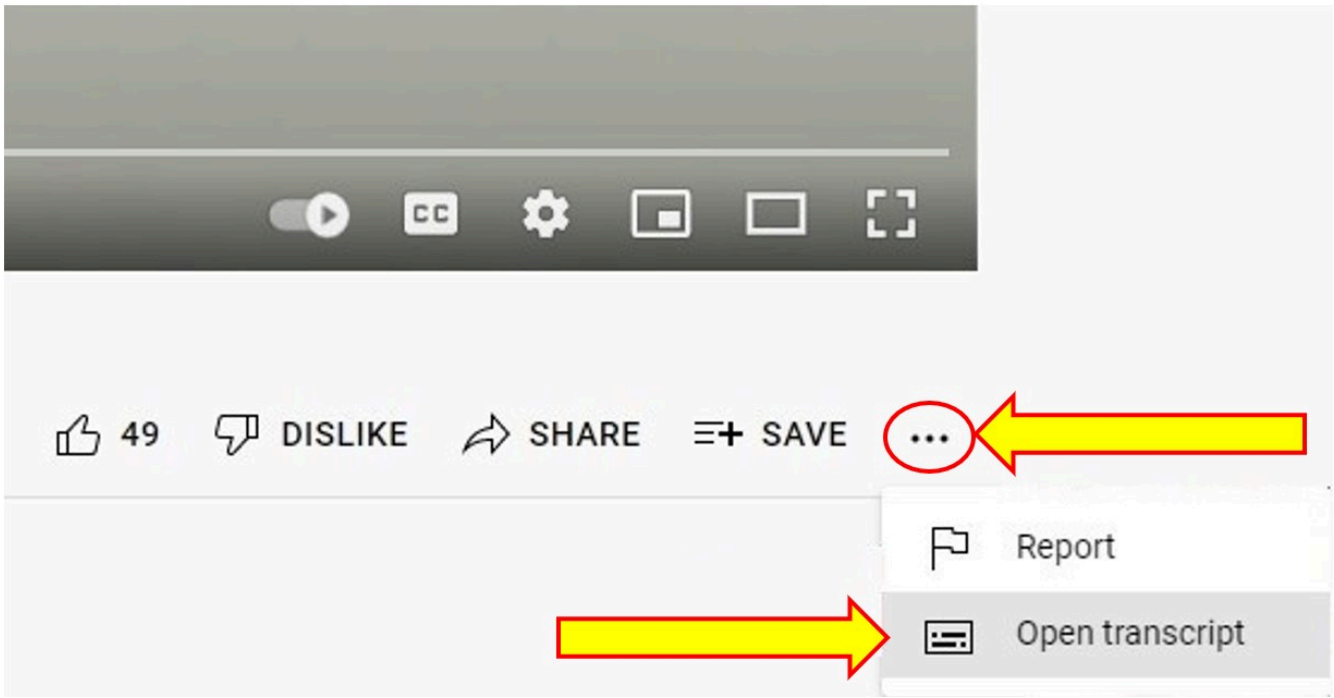
Decolonizing Substance Use & Addiction / Len Pierre / TEDxSFU (looking at Substance Use & Addiction through an Indigenous lens, Len Pierre is Coast Salish from Katzie First Nation who is an Educator)

Transcript



Food For Thought

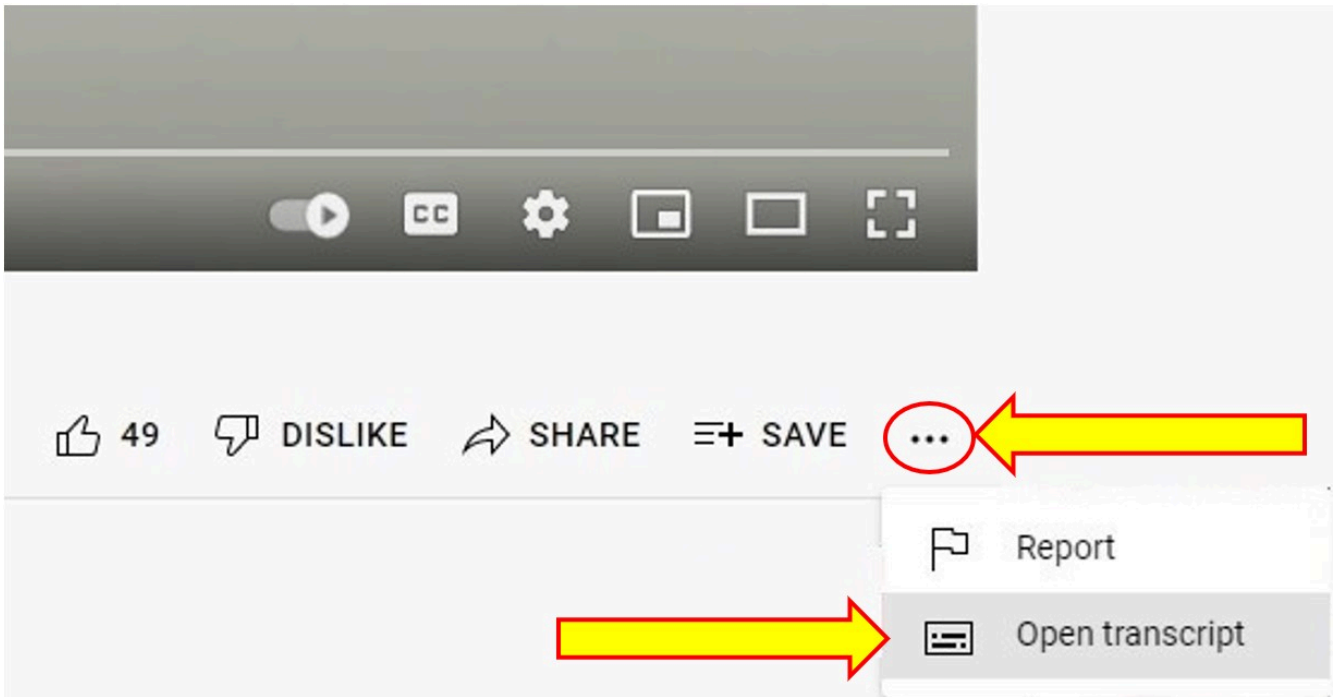
- Where does language come from?
- Reflect on specific language/terms you use.
- Are there terms you would change? Why?
- How do you think you can decolonize language?

Numerous studies have documented relationships between self-reports of discriminatory experiences and reports of distress, which can lead to substance use [(6)]. While further research must be done to determine the causal relationship, the relationship exists. This means that if a person experiences racism they may use substances as a form of coping. Rather than using substances to cope, we can help promote healthier choices through access to healthcare that addresses the social determinants of health, including racism.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1204#oembed-2

One example of an agency ensuring the intersectionality of health is addressed is the North End Community Health Centre in Halifax, NS[7].

Transcript



One step we can take as Social workers is to actively talk about racism and how it exists in our lives. Addressing the language we use is an important part of addressing racism, reducing stigma, and supporting the health of minorities in Canada. For example, the intersectionality of black people's lives in Canada includes "age, gender, sexual orientation, ability, religion, immigration status, country of origin, socioeconomic status, and racialized identity" [8]. For Indigenous Canadians intersectionality also exists between colonialism, residential schools, and trauma. "While the experiences of First Nations, Métis and Inuit in Canada are unique, they have all endured and pushed back against hundreds of years of colonization, persecution and on-going structural violence that was intended to push them to the margins of society" [9].

The knowledge of these overlapping factors and identities are critical when providing service as this can reduce barriers and stigma. Service provision can be more comprehensive, for example, and programming must be culturally and trauma sensitive when working with people who have a racialized identity. Due to

their identity, we can assume that they have experienced racism. Racism can lead to further stigma, which in turn creates barriers to treatment and support. This racism has led to *perceptions* of substance use among Indigenous communities.

Food For Thought

- Reflect on racism and stigma in healthcare
- What are three ways racism and stigma are creating a barrier for service in this article?
- What do you think you need to be aware of when providing services?

When you read stories or reflect on these situations like this and others, it may cause you to feel emotional. This emotional reaction may result in feeling uncomfortable or unsafe. It is important to understand where these feelings begin. As you explore your thoughts, feelings, and emotions, this is an opportunity to also explore your understanding of racism in Canada. This could lead to further education about slavery in Canada, or of residential schools. Perhaps you may wish to learn more about traditional or cultural ways of knowing; exploring the concept of two-eyed seeing, developed by Elder Marshall, Mi'kmaq Indigenous Leader from the Eskasoni First Nation who suggests making change as "one conversation at a time" (personal communication, February 9, 2021). You may reflect on your identity and begin to examine privilege, "an invisible package of unearned assets" [(10)].

READING:

Check out Peggy McIntosh's White Privilege Checklist.

As Social workers, it is your responsibility to understand systemic issues that create barriers to service so you may work with empathy, compassion, and knowledge. This will contribute to reducing racism and stigma.

Promoting the importance of traditional knowledge and traditional treatment is another step in the reduction of stigma. It is through the resilience of Indigenous communities that "Indigenous peoples, languages, cultures, and traditions have not only survived, but they have also been revived, reclaimed, and

revitalized" [11]. Watch the video below and reflect on the importance of Indigenous culture, practices, and treatment in healthcare.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1204#oembed-3

Royal College of Physicians and Surgeons of Canada. *Bridging the gap between traditional and western medicine: The remarkable work of Dr. Karen Hill.* Dr. Karen Hill is the inaugural recipient of the Royal College's Dr. Thomas Dignan Indigenous Health Award, which celebrates Canadian doctors who epitomize a zeal and devotion to Indigenous rights and the dogged pursuit of justice for Canada's Indigenous people.

Transcript

We know "substance use disorders are one of the most stigmatized mental health issues".[12] From the language we use, to the communities we engage with, we must be aware how language plays a role in racism and stigma for people who use substances and have substance use disorders. While we must be prepared to have difficult conversations and be prepared to talk about intersectionality, race, racism, and stigma in our work, it will require further training; seek out training that can support your understanding of language, racism, and stigma.We know "substance use disorders are one of the most stigmatized mental health issues" [13]. From the language we use, to the communities we engage with, we must be aware how language plays a role in racism and stigma for people who use substances and have substance use disorders. While we must be prepared to have difficult conversations and be prepared to talk about intersectionality, race, racism, and stigma in our work, it will require further training; seek out training that can support your understanding of language, racism, and stigma.

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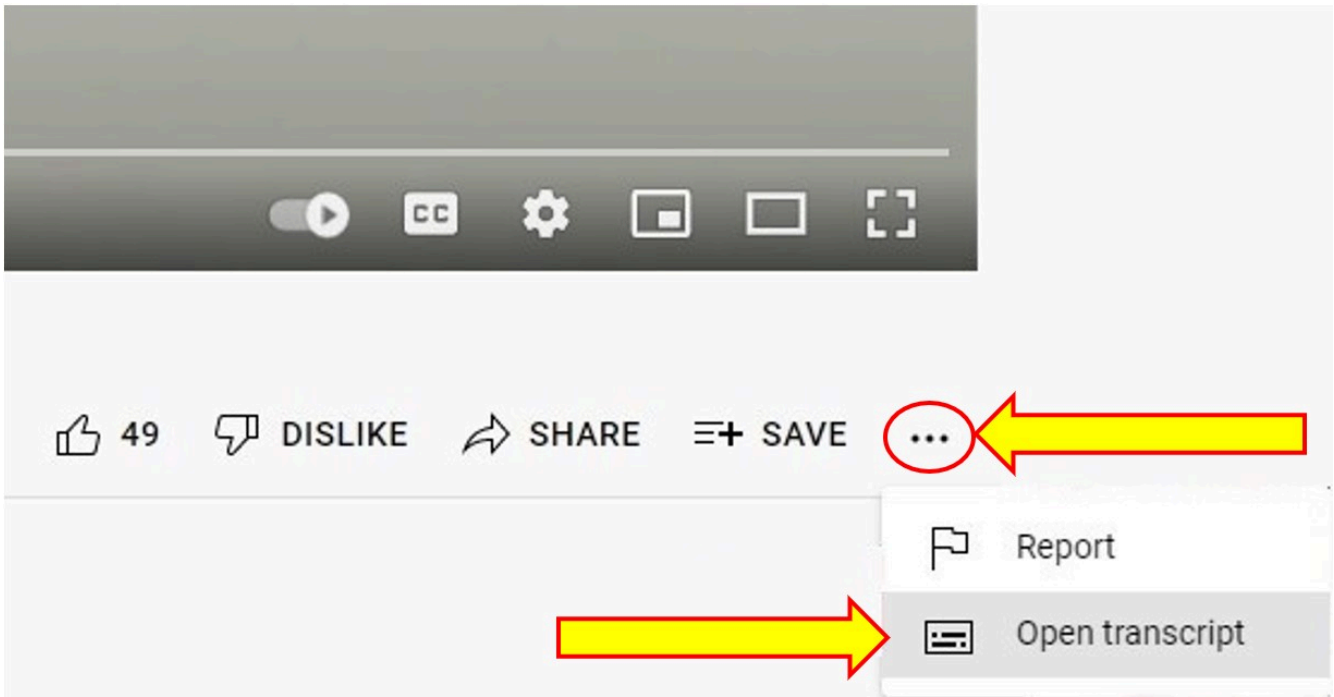
One example of an agency ensuring the intersectionality of health is addressed is the North End Community Health Centre (NECHC) in Halifax, NS [7].

Transcript



One step we can take as Social workers is to actively talk about racism and how it exists in our lives. Addressing the language we use is an important part of addressing racism, reducing stigma, and supporting the health of minorities in Canada. For example, the intersectionality of black people's lives in Canada includes "age, gender, sexual orientation, ability, religion, immigration status, country of origin, socioeconomic status, and racialized identity" [(8)]. For Indigenous Canadians intersectionality also exists between colonialism, residential schools, and trauma. "While the experiences of First Nations, Métis and Inuit in Canada are unique, they have all endured and pushed back against hundreds of years of colonization, persecution and on-going structural violence that was intended to push them to the margins of society" [(9)].

The knowledge of these overlapping factors and identities are critical when providing service as this can reduce barriers and stigma. Service provision can be more comprehensive, for example, and programming must be culturally and trauma sensitive when working with people who have a racialized identity. Due to their identity, we can assume that they have experienced racism. Racism can lead to further stigma, which in turn creates barriers to treatment and support. This racism has led to *perceptions* of substance use among Indigenous communities.

The following is an example of how racism and stigma have impacted Mi'kmaq people in Nova Scotia when it comes to accessing health care.

Stigma, systemic racism preventing people from seeking health care in Cape Breton by Ardelle Reynolds, October 7, 2021 in the online edition of *The Chronicle Herald.*

Food For Thought

- Reflect on racism and stigma in healthcare
- What are three ways racism and stigma are creating a barrier for service in this article?
- What do you think you need to be aware of when providing services?

When you read stories like this and others, it may cause you to feel emotional. This emotional reaction may result in feeling uncomfortable or unsafe. It is important to understand where these feelings begin. As you explore your thoughts, feelings, and emotions, this is an opportunity to also explore your understanding of racism in Canada. This could lead to further education about slavery in Canada, or of residential schools. Perhaps you may wish to learn more about traditional or cultural ways of knowing; exploring the concept of two-eyed seeing, developed by Elder Marshall, Mi'kmaq Indigenous Leader from the Eskasoni First Nation who suggests making change as "one conversation at a time" (personal communication, February 9, 2021). You may reflect on your identity and begin to examine privilege, "an invisible package of unearned assets" [(10).]

READING. Peggy McIntosh's White Privilege Checklist.

As Social workers, it is your responsibility to understand systemic issues that create barriers to service so you may work with empathy, compassion, and knowledge. This will contribute to reducing racism and stigma.

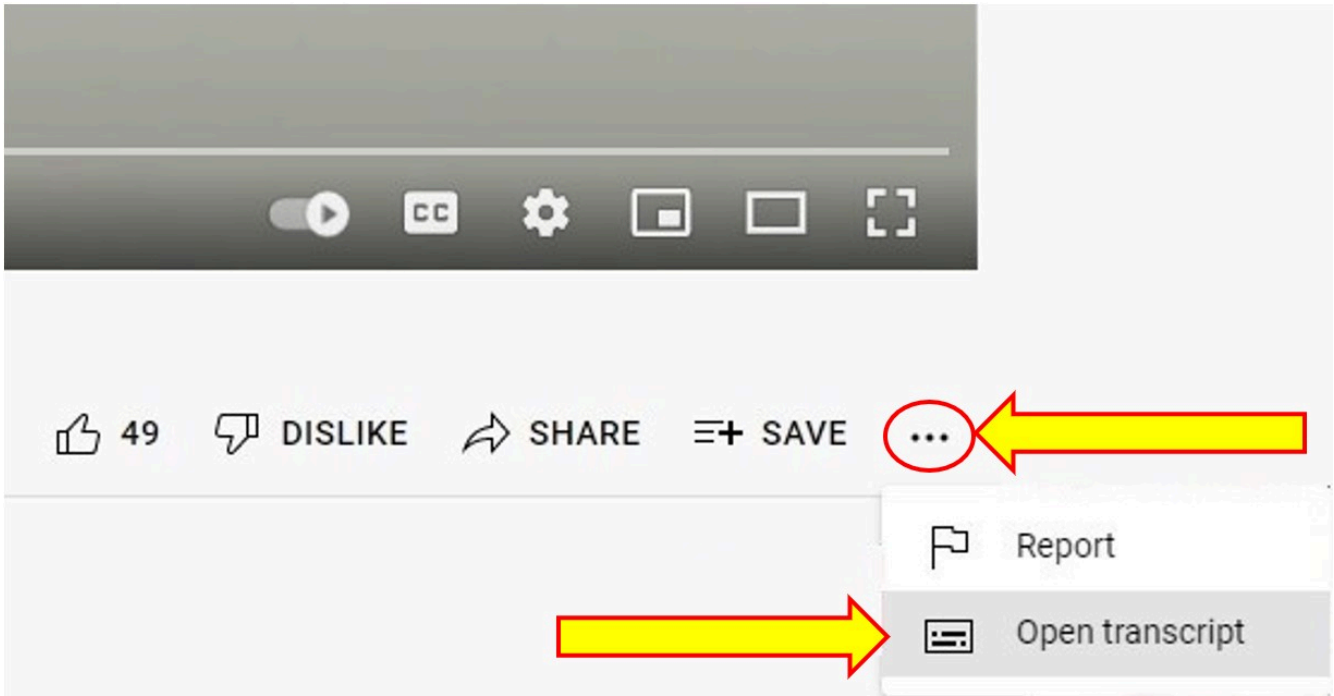
Promoting the importance of traditional knowledge and traditional treatment is another step in the reduction of stigma. It is through the resilience of Indigenous communities that "Indigenous peoples, languages, cultures, and traditions have not only survived, but they have also been revived, reclaimed, and revitalized" (11)

Watch the video (12) below and reflect on the importance of Indigenous culture, practices, and treatment in healthcare. Royal College of Physicians and Surgeons of Canada. (2015, March 25)

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1204#oembed-4

Bridging the gap between traditional and western medicine: The remarkable work of Dr. Karen Hill is the inaugural recipient of the Royal College's Dr. Thomas Dignan Indigenous Health Award, which celebrates Canadian doctors who epitomize a zeal and devotion to Indigenous rights and the dogged pursuit of justice for Canada's Indigenous people.

Transcript



We know "substance use disorders are one of the most stigmatized mental health issues" [13]. From the language we use, to the communities we engage with, we must be aware how language plays a role in racism and stigma for people who use substances and have substance use disorders. While we must be prepared to have difficult conversations and be prepared to talk about intersectionality, race, racism, and stigma in our work, it will require further training; seek out training that can support your understanding of language, racism, and stigma.

LICENSE

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2.5 GENDER, STIGMA AND SUBSTANCE USE

> When I first started in the divorce, um, when we first separated, I was straight. I was tryin' to do right. I had the kids in church. And it got so hard, and somebody was always goin' "well if you did this if you did that," and I started feelin' beneath. Uh, when I had the car wreck, I knew one way I could support my kids—I started sellin' drugs. [1]

Figure 2.5.1 – Photo by No Revisions on Unsplash

Gender, as we discussed is one of the social determinants of health. Have you thought about how gender plays a role in substance use disorders? Researchers suggest there are "environmental, sociocultural and

developmental influences" [2] when it comes to sex, gender and substance use. This means how a person is born regarding their biological sex (male or female), as well as how they identify (gender), plays a role in their substance use and in their development of substance use disorders.

Please watch the following video [3] to explore sex, gender and substance use.

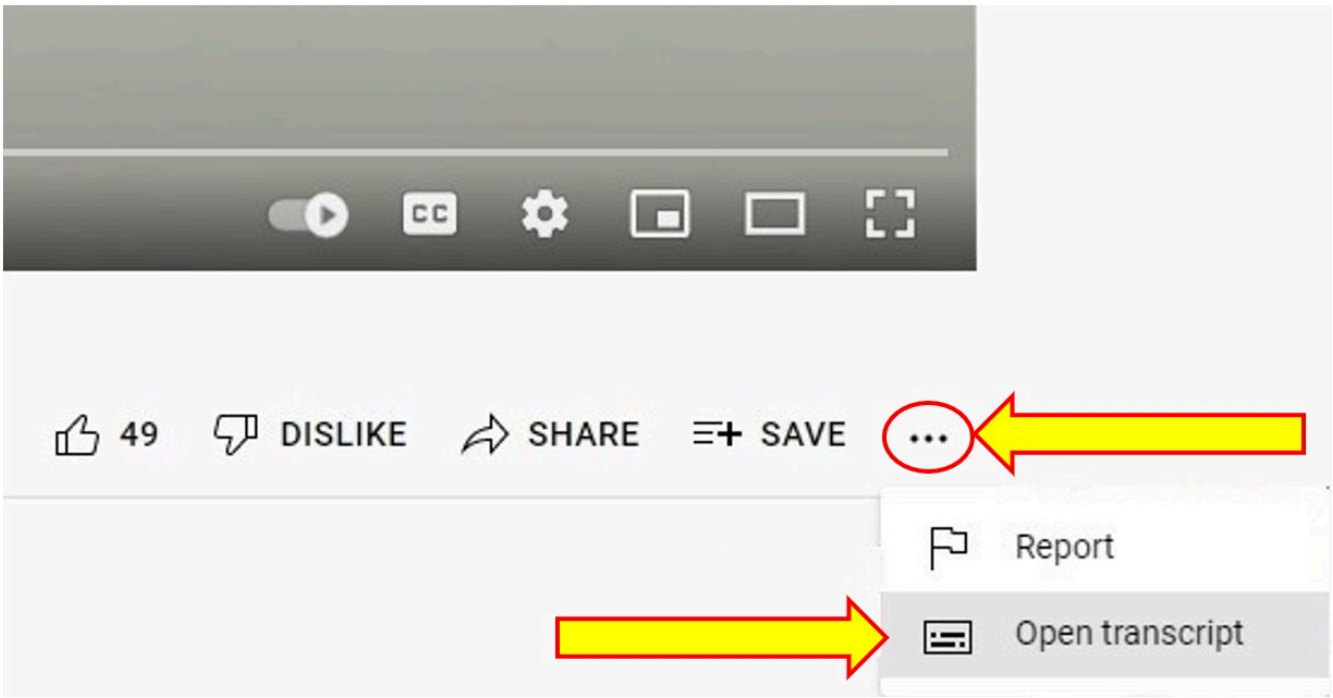
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1208#oembed-1

Sex, Gender and Addiction (National Institute on Drug Abuse) – Dr. Sinha is a Professor of Neurobiology and Child Study in the Department of Psychiatry at Yale University. Its important to understand the effects of stress on emotions, mood, and behaviours, this includes the differences between sex and gender; how stress affects men and women differently, and how various drugs can affect the sexes.

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



Race and gender, as intersections of identity, also play a role in substance use and the development of a substance use disorder. Research suggests substance use disorders do differ by both biological sex and by gender [4]. Subsequently, there has been an increase in woman-focused research, as the majority of current treatment supports and services are still misinformed by research with a "male-as-norm" bias. [5]

Review the Table on Sex Differences in Substance Use. This is important to be aware of, as we are exploring the social determinants of health and beginning to tackle racism, sexism, and the stigma associated with substance use.

Food For Thought

- Why do you think we should be aware of sex and gender when discussing substance use?
- What do you think are some issues specific to sex and gender for those who use substances?

Figure 2.5.2 – Photo by Sharon McCutcheon on Unsplash

Women as a gendered group face greater stigmatization than men for using drugs since they go against the character traits of perceived female identity. The stigma of drug use is also greater for mothers since they are expected to be the caregivers, raise children, and be more family oriented than fathers. [6]

What this suggests is society that societal expectations of women result in moral judgments and women are judged for using substances. As Social workers, it is important to be aware of these stigmas and judgments. When we think about women who use substances and those who have a substance use disorder, we must examine our assumptions. We reflect so we can provide non-judgmental services and ensure the research we are using addresses "unexamined assumptions about how women "should" behave" and how these "have influenced research agendas" [7]. These assumptions consequently impact availability of evidence-based services and programs for treatment and prevention. How can we We also must be aware that in general, "women report more problems related to health and mental health, as well as more past trauma and abuse (physical and sexual), and experience more sexual problems. Women are more likely to begin using drugs after a specific traumatic event, and to suffer from post-traumatic stress disorder".[8] How can we ensure that a program for women who live with a substance use disorder is the best it can be?

Several years ago, the United Nations developed a list of the issues that are specific to women who have substance use disorders. Of note is the association between substance use disorders and all forms of interpersonal violence (physical, sexual, and emotional) in women's lives [9]. To engage with people who identify as women, Social Service workers must be aware of the following issues:

- Shame and stigma
- Physical and sexual abuse
- Relationship issues
- Fear of losing children
- Fear of losing a partner
- Needing a partner's permission to obtain treatment

These issues are not solely issues for a Canadian audience, they are worldwide. Based on these issues, the United Nations developed a list of concerns practitioners should address when supporting women with substance use disorders. These include:

- Lack of sex and gender-specific services for women
- Not understanding women's issues
- Long waiting lists
- Lack of childcare services
- Lack of financial resources
- Lack of clean/sober housing

- Poorly coordinated services [10]

Activities

1. Review the UN lists above.
2. Brainstorm any missing concerns you think would be important to include.
3. Imagine you are providing a program for women with substance use disorders. What would you need to do to ensure your program meets UNODC recommendations?

To support women's health, Social workers must also address the stigma of women using substances. Rather than provide supportive and well-rounded ("wrap-around") services, some services may come from a place of moral judgment, which puts women who use substances in a greater position for marginalization and reduced health outcomes. "Women living with a history of substance use and addiction encounter many barriers when trying to access forums that are directly related to their life issues" [11]. Women have reported "feeling unsupported and judged" [12] which negatively impacts their mental health and may prevent them from further accessing health care. Being aware of the societal issues related to women and substance use is one area Social workers can make a real difference, through providing not only a judgment-free service, but a service that provides supportive services based on the UNODC recommendations. Gender based services that also support a *harm reduction* approach and address women's needs are an important part of a social service workers toolbox.

Activities

1. Research harm reduction.
2. Why is harm reduction important in providing services to women?

Harm reduction is simply that, reducing the harms that are associated with substance use (see Chapter 9). Harm reduction in women's programming should be comprehensive, addressing the issues identified above.

For example, when working with women who are pregnant and using substances, some people may want to judge. Please watch the following clip and then answer the questions in the activity below.

WATCH

Reflections on Practice: Pregnant Users NFB Video – Nettie Wild – 2007 | 1 min NFB Video: Bevel Up-Becky and Liz

Street nurse Caroline Brunt reflects on the challenges she faces when working with pregnant women who use drugs, and the importance of not judging the mother.

Activities

1. Brainstorm a list of society's attitudes towards pregnant women using substances.
2. How do you think moms who use substances might be judged by a healthcare provider?
3. How do you think moms who use substances might be judged by a workplace or by community services?
4. What risks can this lead to?
5. How can you support a mom who is using substances or has a substance use disorder?

Women are becoming increasingly at risk for substance use disorders; for example, the Canadian Centre on Substance Abuse has suggested women's use of alcohol has been on the rise since 2004 [(13)]. In 2020, "30.5% of women of reproductive age reported consuming alcohol weekly in the past year and 18.3% reported engaging in heavy alcohol consumption" [(14)].

Food for Thought

- Why do you think women are increasing their substance use?
- Why do we need to know about women's drinking habits?
- Why do you think women are increasingly at risk of substance use disorders?

There are many issues to be aware of when it comes to gender and substance use. Whether providing support for women who have a substance use disorder or treatment for women's substance use disorders, Social Service workers must acknowledge the realities of women's lives, the stigma they face: "women with histories of addiction and incarceration face stigma regarding their roles in society, particularly with regard to their roles as mothers and women" [15] and the high prevalence of violence and other types of abuse [16]. Services must be comprehensive, from prevention through to treatment and recovery for women and girls, and should be based on a holistic and woman-centered approach that acknowledges their psychosocial needs [17].

Attribution:

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2.6 THE LANGUAGE OF COMPASSION

Figure 2.6.1 – Photo by Rémi Walle on Unsplash

The social determinants of health related to substance use are a complicated topic, and so is providing effective support. Mental Health and Addiction Workers must be aware of these factors and "must be carefully chosen because of the sensitivity of the subject, and the associated pain and trauma experienced by the participants" [(1)]. When we work with people who have substance use disorders we may feel tempted to "fix" the person. Our role as a Social workers is not to diagnose or treat but to provide support and appropriate referrals. One way to provide support is to use compassion.

Food For Thought

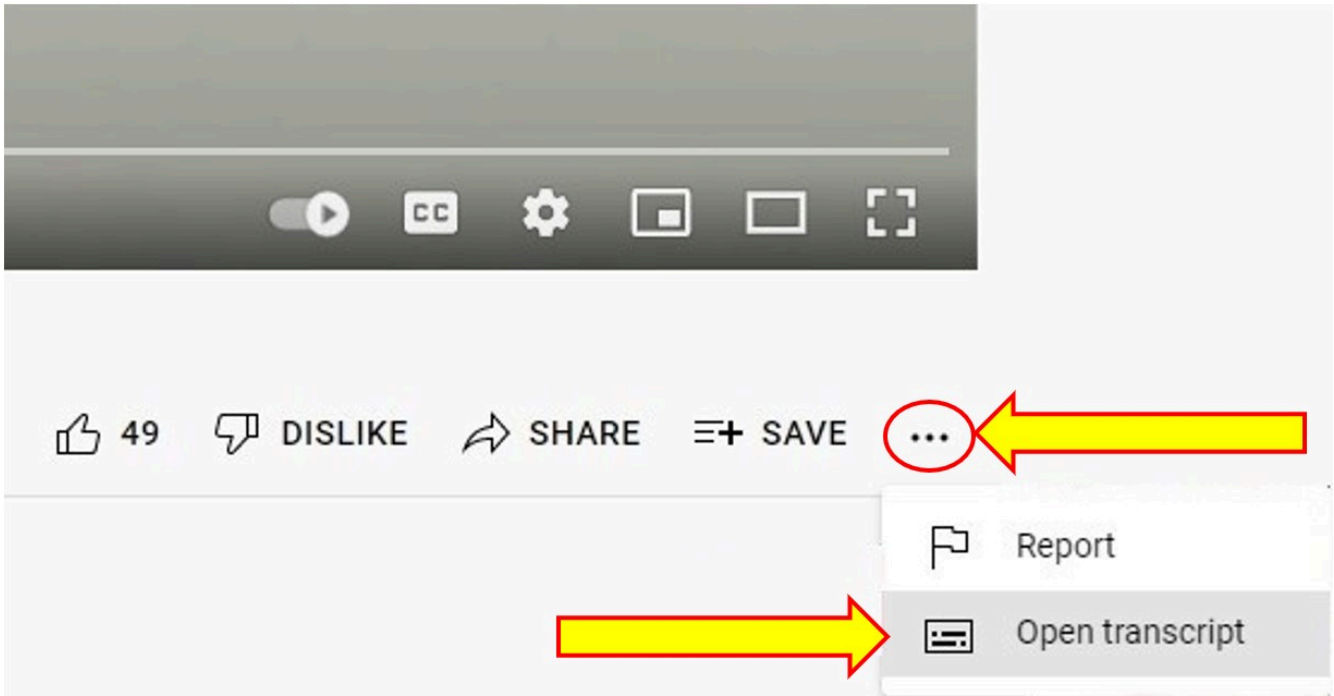
- What do you think compassion is?
- Why do you think compassion is important when discussing substance use?
- Why do you think compassion is important when working with clients?
- How can you demonstrate compassion?

To further understand being compassionate in your practice, please review this short video on how to be compassionate and supportive when working with people who use substances [(2)].

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1212#oembed-1

My Journey with Compassion – CCSA/CCUDS. Stigma is a major barrier to the well-being and recovery of people with lived and living experience of substance use disorders. This animated video about two friends, Alex and Sam, explores the devastating impact of substance use stigma and how to challenge it in our communities.

Transcript



Being compassionate is important, it is also important to understand our boundaries. Investing much time supporting an individual can be taxing and can result in compassion fatigue. "Compassion fatigue is a recent concept that refers to the emotional and physical exhaustion that affects helping professionals and caregivers over time".[1] *Ensuring self care, including compassion for oneself, is one way to improve success in this field. At the end of each chapter there is a section called self-care. Each self-care section provides resources and activities that can improve mental health.*

Food For Thought

- What are two ways you can prevent compassion fatigue?
- What do you want to know more about?

Attribution

1. (3)

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2.7 PROCESS ADDICTION

Learning Objectives

By the end of this chapter you should be able to:

1. Discuss the various types of process or behavioural addictions
2. Identify process or behavioural addictions and the impact on individuals and communities

Photo by freestocks on Unsplash

Photo by Gabin Vallet on Unsplash

WHAT DO YOU LIKE TO DO?

What makes you feel happy, satisfied, pleased?

- shopping for a new pair of sneakers of clothes
- exercising at the gym
- eating food
- Playing a new game
- walking
- working

Photo by JESHOOTS.COM on Unsplash

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Photo by Alex Kotliarskyi on Unsplash

If any of these apply to you, awesome, you are a human being with likes and dislikes! As humans we participate in any number of activities and behaviours depending on a multitude of factors including our exposure to activities, our upbringing, our socio-economic status and more. Have you ever thought about what you do when you are feeling stressed? Do these same activities apply, or do you do something else completely? If

you are like some, you may ignore what is going on around you, including the problem you are dealing with (sometime called turtling).

What happens when a behaviour that we find rewarding becomes an issue or a problem? One of the questions we should ask is who decides a behaviour is an issue: an individual, a community, or a society? This will help us unpack whether a behaviour is concerning, and the ways we might address it.

Created by Denise Halsey

Process addictions are behavioural issues that involve compulsive engagement in an activity, despite potentially negative consequences. These include: Gambling, shopping, internet or online gaming, exercise,

work, food or anger. We are going to explore what process addictions are and how it can impact the body, health, families, society and an individual.

- **Gambling addiction** – An uncontrollable urge to gamble, even when faced with financial, professional, or interpersonal losses associated with it.
- **Shopping addiction** – Also known as compulsive buying disorder or oniomania, this refers to the uncontrollable impulse to buy items, even if they are not needed or cannot be afforded.
- **Internet or online gaming addiction** – Uncontrolled use of online applications and video games, often resulting in a preoccupation with digital activities that interfere with other areas of life.
- **Exercise addiction** – An obsession over physical activity that can lead to overtraining, serious injury, or health issues.
- **Work addiction** – An excessive compulsion to work, often at the detriment of personal relationships and other aspects of life.
- **Food addiction** – Compulsive eating behaviour that may involve binging, purging, or using food as a form of emotional comfort.

Food for Thought

What are your favourite activities?

- Are your activities hobbies? Part of your job?
- How much time do you spend doing them?
- Is there a cost associated? How much have you spent on this activity?
- Is this an activity you do to make yourself happy when you are feeling sad/stressed/angry/upset?
- Do you do different activities when you are feeling unhappy feelings?
- Do you lose track of time?

As noted above, most people have activities they enjoy doing, and activities that help them cope with life's daily stressors as well as more significant stresses or even traumatic experiences. Coping skills are important, and as social workers, having a set of effective coping skills for managing stress is important. You can help your clients discover coping skills that are healthy.

Activities

1. Brainstorm possible coping strategies for life stress.
2. Brainstorm possible coping strategies for work stress.
3. Compare and contrast. Are there differences? Why do you think so?

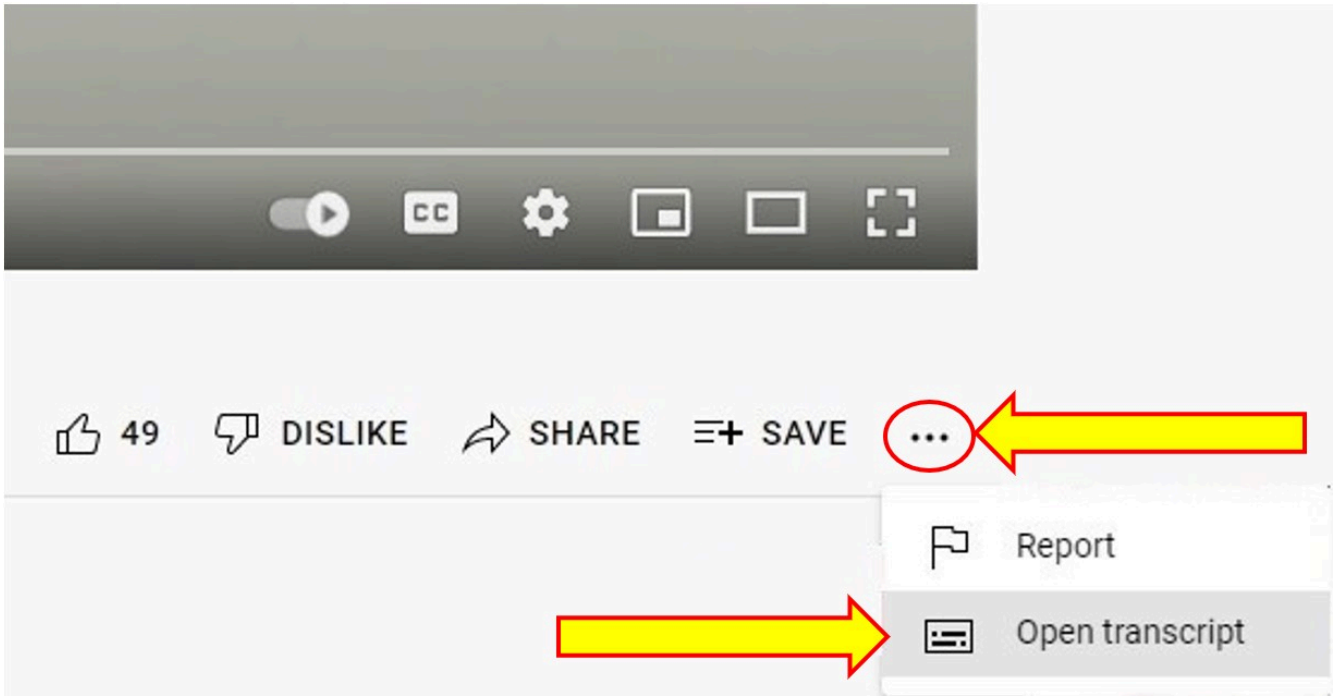
The term 'addiction' and more recently substance use disorder describes a person's use of substances and incorporates several features, such as repetitive engagement in behaviours that are rewarding, loss of control, persistent use despite negative consequences, and physical dependence, evidenced by withdrawal.[1] If this is the criteria for a substance use disorder, is it possible for a behaviour to fall in this category. When does an activity become an addiction or disorder?

Please watch the video[2] below to further your understanding of the concept of process addiction.

https://youtube.com/watch?v=oZjZcSOGj6o%3Ffeature%3Doembed%26rel%3D0

What is a Process Addiction? by Sunrise Residential Treatment Center. Addiction come in many forms. In this video Brad Simpson, Clinical Director at Sunrise Residential Treatment Center, talks about process or behavioural addictions.

Transcript



According to the American Psychiatric Association, a behaviour can be a disorder: "behavioural addictions result in a failure to resist an impulse, drive, or temptation to perform an act that is harmful to the person or to others".[3] This would suggest many activities and Grant et al.,[4]suggest that "behavioural addictions include pathological gambling, kleptomania, pyromania, compulsive buying, compulsive sexual behaviour, Internet addiction, and binge eating disorder"[5][1]; however according to the DSM-V, only one behaviour is currently considered a disorder: gambling.

Food For Thought

- Why do you think gambling is the only activity that is considered a disorder?
- Who makes the decisions on what is considered a disorder or addiction?
- Is a compulsion an addiction? Why or why not?
- Are there other activities that you think should be included? Why?

1.

The research is emerging on process addiction as well as treatment types for behaviours; however, various activities including eating, shopping, sexual behaviours, internet use, and others are not considered a disorder or addiction. Why? At this time there does not seem to be a consensus among researchers on process/behavioural addiction related to the DSM-V. For this text, we will examine gambling in section 5.2, as identified/quantified in the DSM -5 as a disorder. "Of existing disorders, only gambling had enough in common with substance use disorders to justify its inclusion".[6] We will also examine other disorders as suggested by Grant et al.[7]It is possible for other behaviours including compulsive shopping, internet use/gaming, and sexual behaviour to be considered a disorder though they are not a part of the DSM-V. The World Health Organization would suggest other behaviours be considered as they have "held annual meetings since 2014 to discuss pressing needs, research agendas and policy initiatives related to Internet use, with gaming disorder being proposed as a formal diagnosis".[8]How are process addiction and substance use disorders similar? It has been suggested "that some conditions, such as gambling disorder, compulsive stealing, compulsive buying, and compulsive sexual behaviour, and problem internet use, have phenomenological and neurobiological parallels with substance use disorders".[9]For clients who have compulsive sexual behaviours and those who have substance use disorders, brain activity is mirrored in the areas of the ventral striatum, dorsal anterior cingulate and amygdala[10].As Social workers, continuing your own evidence-based research will be helpful when working with individuals who are engaging in process addiction. This may help you help them identify and reduce the harms associated with any of these behaviours and promote healthier choices.

Gambling

Have you ever participated in a game of chance? Think back to your childhood, did you ever go to a carnival and pay to win a prize? Did you pay for the lucky dip in the fishpond? What about using the term "I bet you"...have you ever said these words? Did you really place a bet or wager or was that a figure of speech?

Rubber ducks in a kiddy pool. Credit: Rubber Ducky Carnival Game by Linnaea Mallette CC0 Public Domain.

This section of our text is going to explore problem gambling and games of chance as part of the diagnosable illness in the DSM-V.

ACTIVITIES

1. Define game of chance and gambling in your own words.
2. Where would you go to participate in this activity (list as many ways possible).

Gambling is the one process addiction to make it to the DSM-V. What is gambling? Gambling is placing a bet (monetary, time, services or other) with the possibility of a desired result (monetary, services, time or other).[(11)] According to Kingston, Frontenac, Lennox, and Addington Public Health[(12)2], 76% to 79% of adult Canadians participate in some form of gambling in a year. What does this suggest? It is important to consider we cannot look at gambling in binary terms, just as we cannot examine substance use in this way. Let us start with challenging negative feeling about gambling: what if gambling is connected to a good cause?

ACTIVITIES

1. Is gambling positive or negative, or either, or neither, or something else entirely?
2. Research local hospital organizations, non-profit organizations, community groups and other groups in your community.
3. Have they ever used gambling as a way of fundraising? How?
4. What was the result?
5. Have you participated in one of these events?
6. What was the result?

Based on your research, you may have found many organizations use games of chance to support their

2.

fundraising budget, for example,Princess Margaret Cottage Lottery, Sick Kids Hospital Lottery or QE 11 Home Lottery. What does this suggest about how Canadians feel about gambling?

Food For Thought

- When does gambling become harmful?
- What are the ways in which gambling can impact an individual? A family? A community?

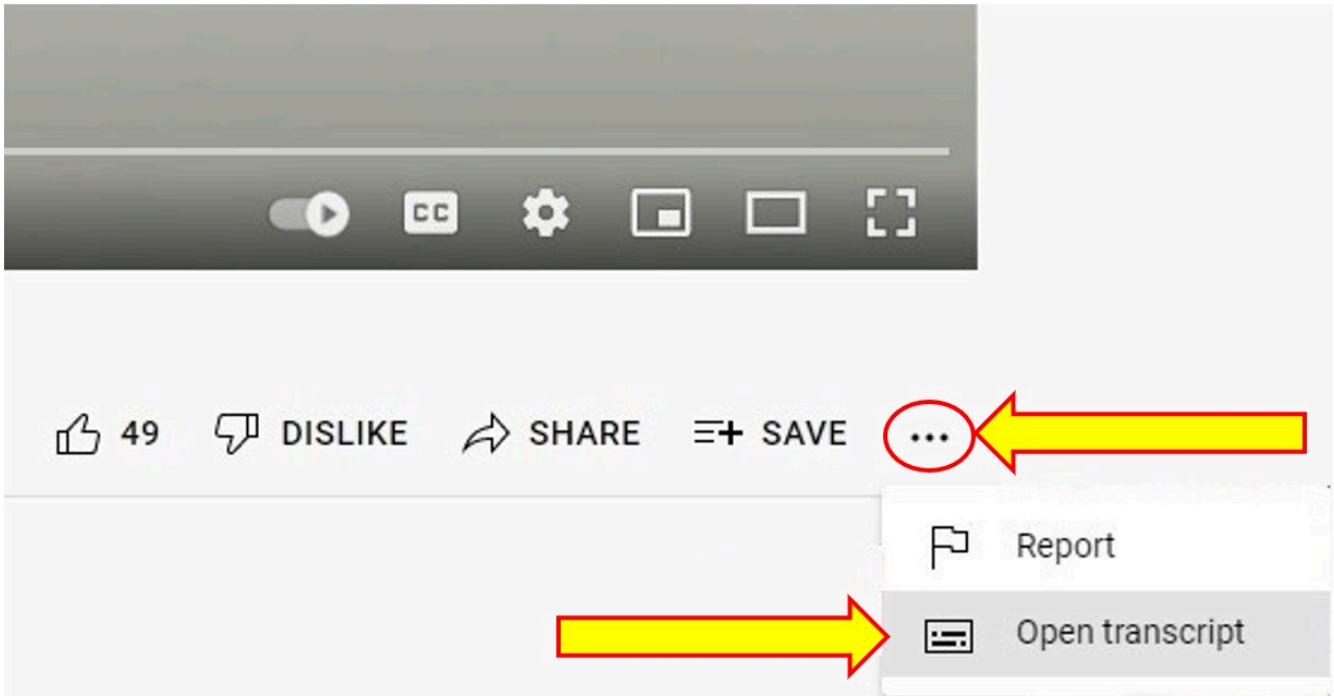
Let us look at the ways gambling is problematic for some people.[3]

https://youtube.com/watch?v=m3aDOTSqh94%3Fstart%3D1%26feature%3Doembed

Gambling on Addiction: How Governments Rely on Problem Gamblers. by The Fifth Estate. When it comes to gambling, Canadians have plenty of skin in the game. Last year, we spent about $13 billion on legal, government-run gambling. That's more than we spend on movies, hockey tickets, and Tim Horton's — combined. Everybody knows that provincial governments in Canada love those gambling revenues, but the dirty little secret is just how much government casinos rely on problem gamblers to fill government coffers. Experts say that as much as 50% of that gambling revenue comes from problem gamblers. So who here is the real addict? Are provincial governments in Canada actually preying on gamblers? Despite promoting responsible gambling, a new investigation by The Fifth Estate reveals how government programs are failing to keep addicts out of their casinos, while reaping a windfall from those who make it in.

Transcript

3. (13)



In this example, gambling had a significant impact on Joe, not just financially but mentally.

ACTIVITIES

1. After watching the Fifth Estate, take a moment and think about Joe. What kind of life did Joe have? What impact has gambling had on Joe's life?
2. What is "the machine zone" with Electronic Gaming Machines (EGM's)?
3. What does winning do to your brain?
4. How are EGMs designed?
5. Do you believe banned gambling is a form of treatment? Why?/Why not?
6. Are there responsible gambling programs?
7. What is the responsibility of the government for supporting people with a gambling addiction?
8. What is the responsibility of casinos for supporting people with a gambling addiction?

According to Grant and Chamberlain,[14] many people with gambling disorder report an urge or craving state

prior to gambling, as do individuals with substance addictions; gambling often decreases anxiety and results in a positive mood state or "high," like substance intoxication; and emotional dysregulation often contributes to gambling cravings just as with alcohol or drug cravings. (15)

This indicates there are similarities between gambling and substance use. When we examine risk factors, identified by Allami et al.,[4] they include access to gambling opportunities, speed of reinforcement, socio-demographic, and psycho-social factors.

Who is most vulnerable for developing a gambling disorder in Canada?

- Women (female identifying) over 50
- young men (male identifying)
- young women (female identifying)
- Women (female identifying) over 50

Answer is young men (male identifying)

Did you know young men (male identifying) are those who are the most vulnerable for developing a gambling disorder?(17) Studies also suggest individuals living with mental health disorders are at a higher risk for developing a gambling disorder, in comparison to those with substance use disorders, though approximately 50% of participants with gambling disorder report substance abuse, and up to 63% of individuals seeking treatment for gambling disorder screen positive for lifetime substance use disorder.(18) Substance use and gambling together (for example, drinking and playing an EGM) are factors that an individual can control. (19) This is important to remember when developing harm reduction and health promotion programs and interventions for groups with gambling disorders.

4. (16)

ACTIVITIES

1. What are other risk factors for a gambling disorder?
2. What are the factors that individuals can control when it comes to gambling? What are the factors that cannot be controlled?
3. Review five sources of gambling advertisements. Who do you think they target?
4. Design a prevention activity that targets young male identifying individuals and communities. What factors do you need to include?
5. Develop a responsible gambling promotional material. What do you need to include?

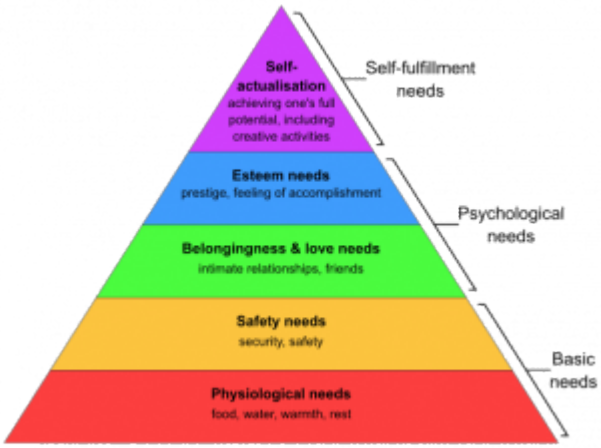
WHAT IS PROBLEM GAMBLING?

When you have difficulty putting limits on time or money spent betting on activities or events based largely on chance[20] you may have a gambling disorder. When working with individuals with mental health issues, Social Service workers must be aware of the risk factors and provide a holistic model of care. Knowing that gambling is one factor in a client's life will be helpful as you work with them (remember intersectionality). This means working with the client and understanding their determinants of health. You must also help your client determine whether they are ready to address their gambling problem. If a client is interested in working with you to improve their gambling fortunately there are treatment options in Canada.

Regardless of your personal feelings about gambling, just as you would work with an individual with a substance use disorder in a nonjudgmental and caring way, you will work with individuals with problem gambling with the same kindness and respect. Knowing that gambling is a disorder with treatment options will improve your practice and improve the care your clients receive.

COMPULSIVE EATING, SEXUAL BEHAVIOURS, & INTERNET USE

The definition of "behavioural addictions has been recently expanded by health researchers in Canada, in CAMH, to encompass any behaviour characterized by (i) a feeling of tension or arousal before the action, (ii) gratification and/or relief at the time of executing the act, (iii) an inability to resist an urge or drive even against great obstacles or dangers, and (iv) the absence of consideration for the negative consequences that may affect family, friends, or work,[21] though this is not yet reflected in the DSM-V. While it is important to note that only gambling has made it to the DSM-V, behavioural addictions is a field in which there are many studies currently taking place. As we do not look at any of the disorders in this text in a binary (as neither black or white, positive nor negative), we must use an open approach to exploring the behaviours listed below. For this work there is a short list of behaviours that have been associated with addictions.



Maslow's Hierarchy of Needs, Simplified. Credit: Androidmarsexpress CC BY-SA 4.0. Long Description.

COMPULSIVE EATING

Food is a basic physiological need and we need food to survive. Based on Maslow's hierarchy of needs below, there are many other needs from physiological to safety all the way to self-actualization. What role does food play in your life? Have you ever participated in a gathering with friends of family with food? Food has an important place in ceremony in Canada, from holiday celebrations to graduations to religious ceremonies and everywhere in between. Knowing the role that food has, as a basic need, and the way we use food, it is not surprising that our relationship with food is complicated. When does food become a problem? Have you ever used food to cope with a loss, stress, a difficult time? Some individuals use food as a coping mechanism, like the way an individual would use a substance. While the biological reaction a body has is different to food than to a substance, it has

Photo by Henley Design Studio on Unsplash

increasingly been suggested that some eating habits, such as the uncontrolled intake of high-calorie food rich in sugar and fat can be referred to as "food addiction" (Sauvaget et al., 2015).

ACTIVITIES

1. Identify risk factors associated with "food addiction"
2. Identify harms associated with "food addiction"
3. Identify programs that support individuals with food related addictions in your community.
4. Research an intervention that targets a specific demographic for "food addiction."
5. Share your top 3 learnings.

COMPULSIVE SEXUAL BEHAVIOURS (CSB)

What is Compulsive Sexual Behaviour (CSB)? CSB is "characterized by recurrent and intense normophiliac or paraphilic sexually arousing fantasies, sexual urges, and behaviours that cause clinically significant distress in social, occupational, or other important areas of functioning".[5] The behaviours can include "Masturbation; Pornography; Sexual Behavior with Consenting Adults; Cybersex; Telephone Sex; Strip Clubs; or other" (p. 254). Like other disorders, CSB has compulsions, which manifest in sexual behaviour; "the sexual activity while initially resisted, are enacted to reduce anxiety and are often followed by feelings of distress" (p. 255). It can affect all genders; however, research currently suggests those who identify as male report CSB more frequently (p. 255). There are similarities between CSB and substance abuse, for example "withdrawal symptoms such as depression, anxiety, rumination, and guilt related to a reduction of sexual activities, as well as difficulties to stop or reduce the frequency of sexual activities" (p. 255). As other researchers in this area have noted, "excessive sex in itself is not necessarily problematic" (Griffiths, 2016, p. 2017); it is when the behaviour becomes problematic for the individual that we can consider CSB as a problem. The research on CSB as an addiction or disorder is not clear, therefore for the purpose of this text, let us examine some of the risks associated with CSB and address harm reduction interventions.

5. (22)

ACTIVITIES

1. What is the age of consent?
2. What are the risks associated with many sexual partners?
3. How can you reduce these risks?
4. How can you ensure appropriate boundaries when working with individuals who live with compulsive sexual behaviours?
5. What community agencies can provide information and support for reducing harms associated with compulsive sexual behaviours?

When it comes to sexual activity and sexual behaviours in Canada, we are bombarded with messages daily. What is normal? What is excessive? What is appropriate, particularly when it comes to sex and gender. We are now in the age of the #MeToo movement, which has been a reckoning of sorts for people with many individuals in positions of power being investigated for sexualized violence.

ACTIVITIES

1. Read the following article: The Facts About the #MeToo Movement and its Impact in Canada – Canadian Women's Foundation
2. What is one thing you learned?

The results of #MeToo are still being felt; this has shone a light on known facts including women being at an increased risk of sexualized violence in Canada[23]. What does this have to do with compulsive sexual behaviour? Sex, gender, and sexuality are inextricably linked.

We do not want to characterize consenting sex and sexual activities as bad or negative and as Social Service workers we must constantly challenge our own beliefs to ensure our clients receive the best care.

COMPULSIVE INTERNET USE (CIU)

Laptop. Credit: Ben Kolde on Unsplash

Do you own a phone? A laptop? A desktop computer? How often do you use this/these devices? What purpose do you use them for? If you use your laptop or phone for gaming, you may be surprised to know that gaming is noted in the DSM-V as a behaviour being suggested as needing further research. If you begin to quantify the time spent in front of a screen, would it surprise you? Compulsive internet use, including gaming, is a hot topic in the world of addiction research and it continues to evolve. As with the behaviours identified above there is no consensus as to whether CIU and, gaming, should be defined as an addiction. Are there risks associated with CIU and gaming? Yes, and the risks include a sense of a loss of control, anxiety, depression, and a loss of social skill sets among others (Vasile et al., 2017). Serious problems associated with CIU among adolescents include "refusal to attend school, cognitive problem, physical or psychological disorders, such as anxiety and depression" (Zhang et al., 2020, para. 1).

Food For Thought

- If you are working with youth, why should you be aware of CIU risk factors?
- What supports do you think would be appropriate to someone experiencing CIU?

According to Kuss and Griffiths[(24)], people who have CIU experience high levels of distress and negative consequences in their academic, professional, and personal lives. This may be what leads them to treatment. Some specialized treatment includes relaxation techniques, cognitive behavioural therapy, and journaling.[6] Whether you believe CIU to be a disorder that should be considered an addiction or not, it is real for many, and our response as Social Service Workers must be appropriate.

Please watch the following video[7] then complete the activities below.

6. (25)
7. (26)

https://youtube.com/watch?v=8rGZpR5T-WU%3Ffeature%3Doembed%26rel%3D0

Internet Addiction: Is it all in your Brain? by Demystifying Medicine McMaster. This video looks at the negative effects of internet addiction and how cognitive behavioural therapy (CBT) is used to treat it. CBT focuses on getting rid of bad habits and replacing them with alternative behaviours that are more healthy. Addiction is a complex problem that affects many people around the world. Addiction isn't limited to substance abuse such as drug and alcohol abuse. It also includes behaviours such as internet addiction. Addiction makes someone unable to stop doing something, even though it causes them mental or physical harm.

ACTIVITIES

1. Based on this video alone do you think CIU should be considered an addiction? Why or why not? Why does it matter?
2. Can you find other videos with evidence to suggest other ways of looking at CIU?
3. Imagine you are voting yes or no on including other behaviours in the DSM-VI. What do you vote for? Why? Provide at least two recent evidence-based research studies to back up your vote

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2.8 KEY TERMS STUDY GUIDE

Figure 2.7.1 Word Art of Hello by Denise Halsey

The material in this chapter are the core of being an effective with key terms around **Language and Substance Abuse**. Once you understand the important knowledge base, skills and guidelines for case management you will have a solid foundation for understanding how to be more effective as a case manager. You may be familiar with these terms, but If you are not familiar with the terms below, I recommend you download this study sheet, add more spaces to write in definitions and relevant information (or make flashcards) as you read the chapter and watch videos.

1. Addiction
2. BIPOC
3. Case manager
4. Compassion

5. Cultural Competence
6. Decolonization
7. Determinants of Health
8. Discrimination
9. DSM
10. Gender
11. Indigenous
12. Intersectionality
13. LGBTQ
14. Pronouns
15. Race
16. Stigma
17. Substance Abuse

ATTRIBUTION: This chapter is not covered by the adaptation statement, it is an original work.

2.9 SELF-CARE

In the past few decades, the concept of mindfulness has been enjoying a boom in popularity with many people endorsing its power to improve health and well-being.

Photo by Chris Thompson on Unsplash

LISTEN

This self care module Brief Meditation: Arriving in Mindful Presence – (5 min) [1] will provide you with a mindfulness activity, facilitated by Tara Brach

To give mindfulness a chance, try practising the brief meditation activity below at least 5 times per week. Note how you are feeling, your location and the time of day you practice.

Attribution:

Reference:

1. Brach, T. (2021). *Brief meditation: Arriving in mindful presence* [Video]. https://www.tarabrach.com/brief-meditation-5-minute/

ADDITIONAL RESOURCES

Videos

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1218#oembed-2

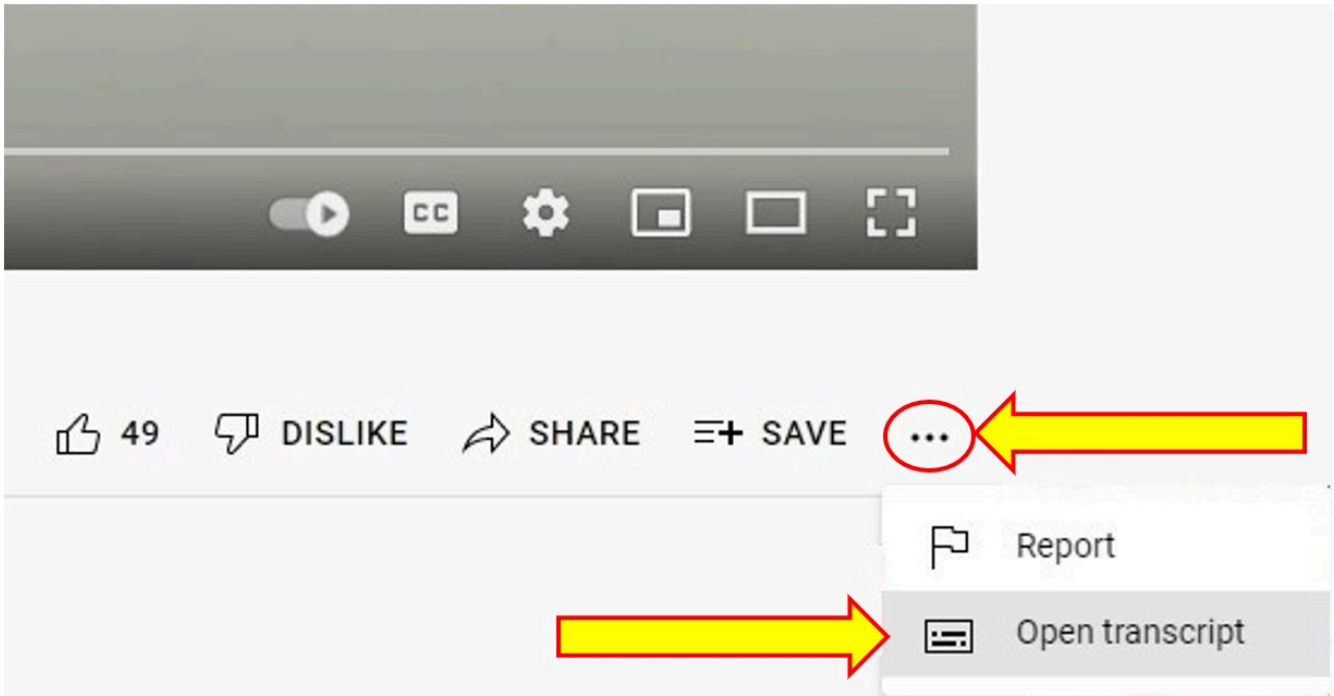
End the Stigma by Healthy Canadians – Stigma is making it harder for people to get help.

End the Stigma – Transcript – Government of Canada

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1218#oembed-3

What is Addiction? [Gabor Mate] – Omega Point. Dr. Gabor Maté talks about the root causes of addiction and how to deal with them. This is taken from the Q&A part of TJ Dawe's show – "Medicine".

Transcript



One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1218#oembed-4

The Best Explanation of Addiction [Gabor Mate]. FightMediocrity

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1218#oembed-5

The urgency of intersectionality | Kimberlé Crenshaw via Ted on YouTube. It's important to look boldly at the reality of race and gender bias — and understand how the two can combine to create even more harm. In this moving talk, she calls on us to bear witness to this reality and speak up for victims of prejudice.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1218#oembed-1

SL Project Final – Nova Scotia Health – Stigma & Discrimination

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1218#oembed-6

Changing the Stigmatizing Language of Addiction to Support Recovery. CCSA / CCDUS Gord Garner, Chelsey June, and Jaaji of Twin Flames chat about using positive language when discussing recovery from addiction.

Additional Resources

- Changing the Language of Addiction (Fact Sheet)
  A 2017 fact sheet created by the Canadian Centre on Substance Use and Addiction.
- Language Matters
  A combating stigma pamphlet created by the Canadian Commission on Mental Health.

- Stigmatizing Language Fact Sheet
  A 2018 fact sheet created by the Canadian Centre on Substance Use and Addiction.
- Systemic Racism in Canada's Healthcare System
  A research paper written by B. Gunn, University of Manitoba.
- Anti-Racism Resources
  Created by the Public Service Alliance of Canada, hosted on the Public Service Alliance of Canada website, Anti-racism Resources page.
- *White Privilege:* Unpacking the invisible knapsack by Peggy McIntosh
  White Privilege: Unpacking the Invisible Knapsack first appeared in Peace and Freedom Magazine, July/August, 1989, pp. 10-12, a publication of the Women's International League for Peace and Freedom, Philadelphia, PA.

Films Related to Cultural Competence

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CHAPTER 3: WHY PEOPLE USE SUBSTANCES

CHAPTER 3 INTRODUCTION

This section of our text will be an exploration of why people use substances. We will look at substance use within cultures, within age groups and the motivating factors behind substance use. We will begin to explore why people to continue to use substances and how substance use can develop into a substance use disorder.

What is substance use? Substance use is the use of a psychoactive substance (substances that impact the brain) by an individual, community, culture, or society. Why do we use substances? We use substances for many reasons. Psychoactive substances have been a part of human history for thousands of years, "as a species, humans have a fascination with any psychoactive agent that alters our basic perception of our environment" [(1)].

Historically, psychoactive substances have been used in religious ceremonies, for medicinal purposes, or by the general population in a socially approved way (drinking coffee) [(2)]. According to Csiernik (2015) [(3)], archaeological evidence dating back to 10,000+ years shows evidence of the use of psychoactive substances used for both cultural purposes and recreational purposed. Betel seeds have been found in archeological sites on the continent of Asia [(4)] and alcohol was used in ancient Egypt and Rome [(5)]. Wine was introduced to European countries through the Roman expansion. "During the expansion of the Roman Empire, rural areas of west central Europe became Romanized. As a part of this process, indigenous inhabitants adopted some customs from urban Roman culture, including wine drinking with meals" [(6)]. Tobacco was first introduced to Europeans shortly after Columbus' landfall in the Americas in 1492 [(7)] and other substances we will explore also have rich histories with many uses and traditions. As noted, there are several reasons from historical, cultural, and medicinal as to why people use substances.

Activities

1. Reflect on the positive and negative. Who decides what is positive and negative?
2. What is "normal use"?

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LEARNING OBJECTIVES

Learning Objectives

By the end of this chapter you should be able to:

1. Define substance use
2. Define substance use disorder
3. Discuss aspects of substance use
4. Discuss aspects of substance use disorders
5. Explore the role of substance use as culture/tradition
6. Describe the continuum associated with substance use
7. Define physical and psychological dependency

ATTRIBUTION: This chapter is not covered by the adaptation statement, it is an original work.

3.1 WHY DO PEOPLE USE SUBSTANCES

> "I grew up around a family of smokers who gave cigarette smoking a classy edge. I would always be mimicking the adults by pretending to smoke. This is the introduction to me normalizing cigarettes and participating in the social norms of tobacco use" [1].

There are many reasons why people use psychoactive substances, from medicinal to religion to enjoyment. You may be wondering why; however, some people can use substances and have healthy relationships with substances yet do not develop a disorder while others do [2].

Watch the following video of Tyler Sullivan-King [3] who shares their story of using substances and developing a substance use disorder.

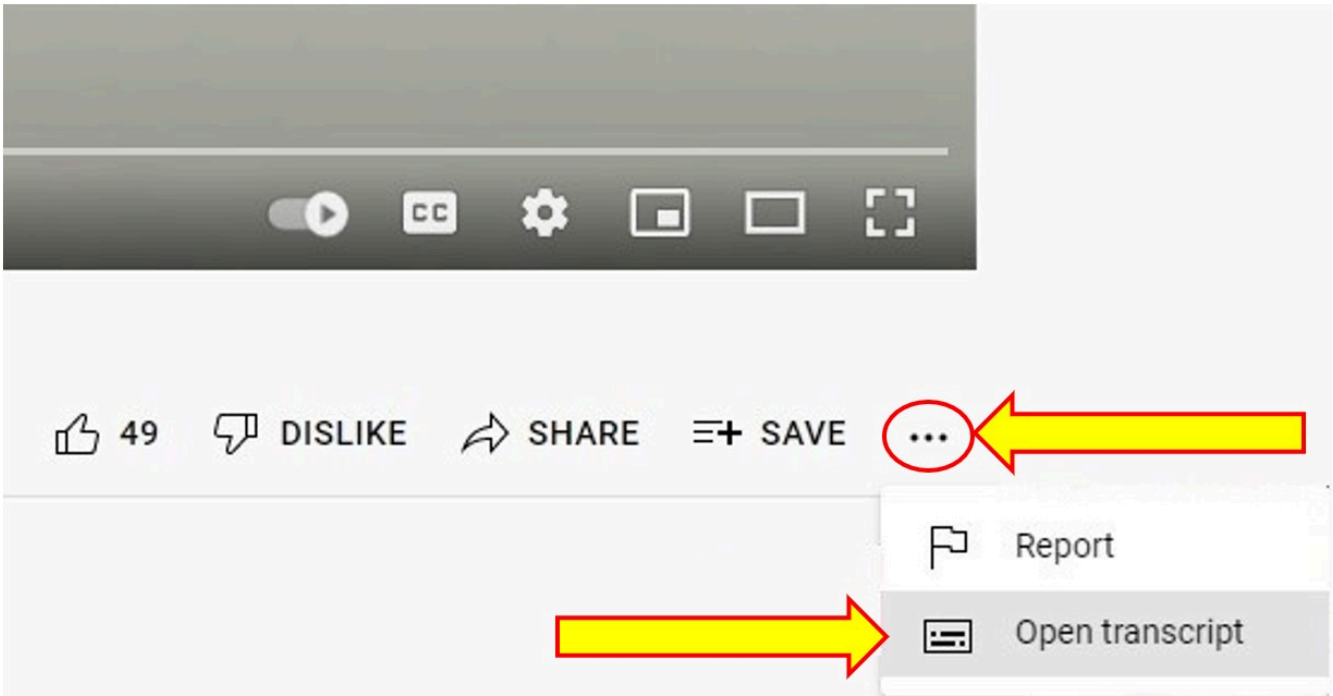
> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1228#oembed-1*

Watch the following video of Tyler Sullivan-King who shares their story of using substances and developing a substance use disorder. City of Hamilton. The "See the Person" video series aims to raise awareness about the negative impact stigma has on people who use substances, their loved ones, and our community. We all have a role to play in stopping stigma. Learn what actions you can take to stop stigma and help build a healthier, more caring Hamilton.

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



Tyler's prescription for an opiate from an injury was a powerful experience with a powerful substance. Tyler also mentioned their environment as "not ideal". This combination of factors developed into a substance use disorder.

What is a substance use disorder (SUD)? A substance use disorder according to the American Psychiatric Association [(4)] is a "pattern of symptoms resulting from the use of a substance that you continue to take, despite experiencing problems as a result" [(5)]. As with other diseases and disorders, the likelihood of developing a substance use disorder differs from person to person, and no single factor determines whether a person will develop a substance use disorder [(6)]. In general, the more *risk factors* a person has, the greater the chance that taking substances may lead to substance use and a SUD. "Risk factors are those that make drug use *more* likely" [(7)]. *Protective factors,* on the other hand, "are those associated with reduced potential for drug use" [(8)].

Key Risk and Protective Factors for Drug Use [(9)]

Catagories/ Domains	Risk Factors	Protective Factors
Community	• Community disorganization • Laws and norms favourable to drug use • Perceived availability of drugs	• Community cohesion • Community norms not supportive of drug use
School	• Academic failure • Little commitment to school	• Participation in school activities • School bonding
Family	• Parental attitudes favourable to drug use • Poor family management • Family history of antisocial behaviour	• Family sanctions against use • Positive parent relationships
Peer/Individual	• Early initiation of antisocial behaviour • Attitudes favourable to drug use • Peer drug use	• Positive peer relationships • Network of non-drug using peers

According to this research, "for individuals who begin using illicit substances at an early age, several risk factors may increase the likelihood of continued and problematic use in later ages" [10].

Please watch this video from the Canadian Centre on Substance Use and Addiction

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1228#oembed-2

This video from the Canadian Centre on Substance Use and Addiction [11] CCSA / CCDUS explores the power of protective factors in lifetime wellness. 7-1 Community Connections Supporting Lifetime Wellbeing.

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
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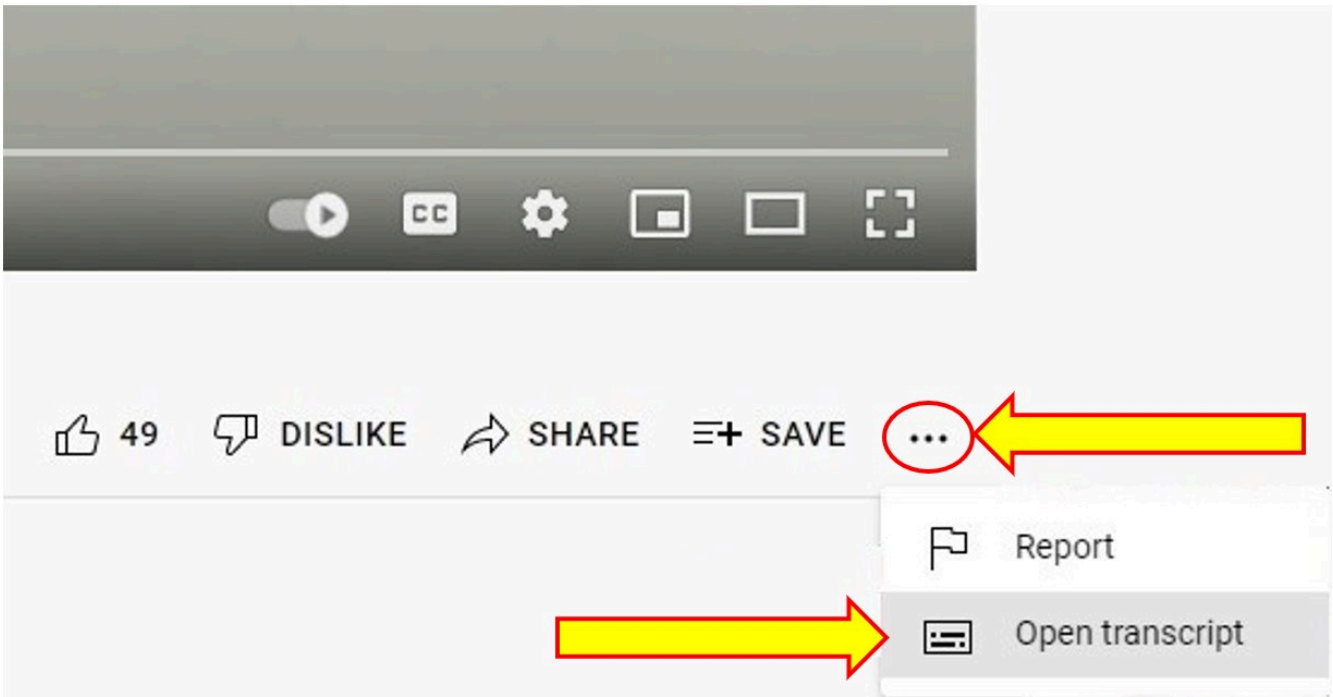

Activities

1. Review the risk and protective factors.
2. Reflect on the social determinants of health. How many of these risks or protective factors can you identify relate to the social determinants of health?
3. Reflect on Tyler: can you identify any risk factors that may have impacted his development of a substance use disorder?
4. Why do you think those with all the risk factors may not develop a substance use disorder?
5. On the other hand, why might someone who has all the protective factors develop a substance use disorder?

In Canada, there is a social acceptance within many cultures around the use of substances, including weddings, graduations, funerals, celebrations.

Activities

1. Reflect on the social acceptance of substances. Name the activities that accept substances.
2. Reflect on how companies promote the use of alcohol through the media.
3. What is the narrative you have heard about using alcohol throughout the lifespan?
4. What does this suggest about substance use and gender?
5. Substance abuse and dependency is stigmatized, yet alcohol use is often culturally accepted. Why is that?

There are many reasons why societies, cultures and people use substances. As Social workers you may have the opportunity to explore an individual's journey, using your individual helping skills. You may have the opportunity to engage with a community, focusing on a specific group of people. For example, you may be working with a school, developing a survey on substance use among the youth. What types of interventions might you explore based on what you know about why people use substances? Be prepared, as you have learned, to explore every story, from a lens of "nothing about us, without us". The individual and the community must be the leader in their stories.

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This is in the book Exploring Substance Use In Canada ...

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3.2 WHY DO PEOPLE CONTINUE TO USE SUBSTANCES

Why do people *continue* to use substances, as part of a substance use disorder? You may think of substance use as a habit, as something that gets reinforced through daily repetitions and habits.

Food For Thought

- Reflect on a "normal day". What do you do from the moment you wake until the moment you go to sleep? Are any of these activities' habits?
- Identify the habits you have?
- Do you think these are healthy or unhealthy habits? Why do you believe this to be so?
- How does this habit make you feel? Why?
- Have you ever tried to change a habit? Were you successful? How?
- Reflect on a negative habit you currently have. Where does this habit come from? What does this habit solve for you? Have you ever thought about changing it? What would it take to change it?

A substance use disorder is an *unhealthy* habit and every time a person uses a substance (repetition) it causes a reaction in both the body (physical) and the mind (psychological). The substance use is pleasurable, and the repetition can work like an enforcer, drilling those habits deeper and deeper. In time, through the repetition of use and the reinforcement of the habit, this can make the substance use a very difficult habit to break. The habit may become both physical and psychological.

Activities

1. Brainstorm all the ways you think a person can become physically dependent on a drug and review with your class.
2. Brainstorm all the ways you think a person can become psychologically dependent on a drug and review with your class.
3. Compare and contrast your ideas from your brainstorm.

What is physical dependence?

What is physical dependence? Physical dependence is "a physiological state of cellular adaptation occurring when the body becomes so accustomed to a drug that it can only function normally when the drug is present" [(1)]. This means without the substance in the body, the body simply does not function "normally". When someone experiences these symptoms, it is called withdrawal. This can include shaking or trembling, nausea, cramping, muscle spasms and more. People who have a substance use disorder may experience withdrawal, "the development of physical disturbances or physical illness when drug use is suddenly discontinued in the opposite direction to the original effects of the drug" [(2)]. This is the body's physical response to the absence of the drug. Withdrawal can range from discomfort to death, depending on the physical dependence (how long a person was using a substance, how often) and the type of substance a person is using. All these factors will impact their withdrawal, for example, withdrawal from opioids is different than withdrawal from alcohol. When working with people in withdrawal, it is important to remember it is painful, for both physical and psychological reasons.

With physical dependence also comes tolerance. Tolerance is the "body's adaption to the presence of the drug requiring increased amounts to produce the same outcome as originally experienced [(3)]. This means that over time it takes more of the substance or drug to produce the same feeling. This has been known as "chasing the dragon".

Activities

1. Brainstorm a comprehensive list of factors that impact tolerance.
2. Why do you believe some people develop a tolerance to substances quicker than others?

Discuss with your classmates.

What is psychological dependence?

What is psychological dependence? Individuals who have a substance use disorder may also develop a psychological dependence. When you reviewed the activity exploring your habits, perhaps you determined a habit you engage in makes you feel happy. A psychological dependence is the "mind need" for a substance, "a drug becomes so important to a person's thoughts or activities that the person believes that he or she cannot manage without the substance" [(4).] There is also the belief that persons with substance use disorders suffer in the extreme with their feelings, either being overwhelmed with painful affects or seeming not to feel their emotions at all. Substances of abuse help such individuals to relieve painful affects or to experience or control emotions when they are absent or confusing. [(5)]

In this case, a person simply wants to numb their emotional pain and knows that by using and continuing to use a substance their pain can be numbed. Psychological dependence is just as intense as physical dependence, if not more so. If you believe you need a particular substance to manage your daily life, the withdrawal from that substance can be difficult.

Activities

1. What have you heard about withdrawal?
2. What types of substances do you think create physical withdrawal?
3. What types of substances create psychological withdrawal?
4. Do you think physical or psychological is more intense? Why?

Both physical and psychological withdrawal may be reasons why a person continues to use substances, and /or experiences a substance use disorder. According to the American Psychiatric Association[(6)], to diagnose a substance use disorder a person must have dependence and have experienced withdrawal. This would include substances like alcohol, heroin, cocaine, and even cannabis, which was a recent addition to the DSM-

V. Withdrawal, both physical and psychological can be quite painful, particularly for people who are using opiates. Let's watch the John Lenec discuss his experiences with opioid use and withdrawal(7).

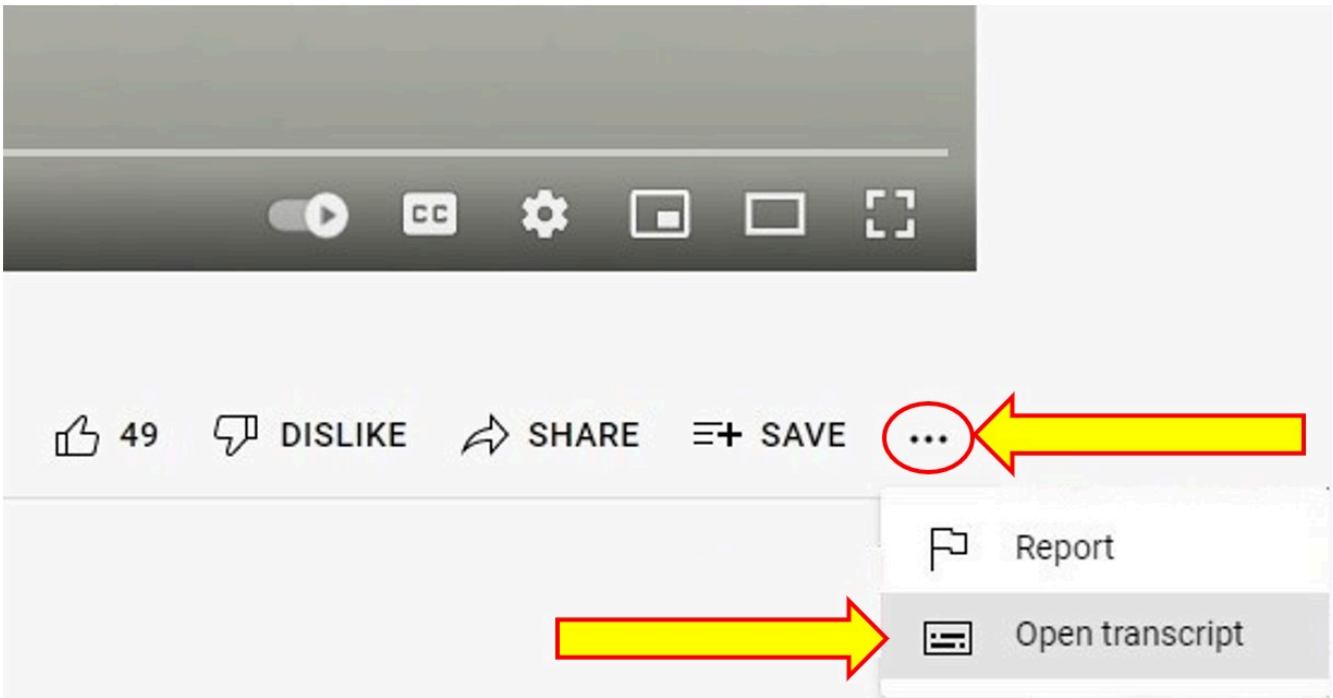
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1232#oembed-1

'You think you're dying': Ex-Heroin user on withdrawal. The Canadian Press. Former heroin user John Lenec became addicted to the opioid during a 35-year struggle with substance abuse. The Vancouver resident describes the mental and physical toll of going through withdrawal from the drug. (Dec. 18, 2016)

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



What did you notice? What were the physical symptoms of withdrawal John discussed? What were the psychological symptoms of withdrawal John mentioned? The symptoms of withdrawal may prevent some people from reducing or stopping their substance use. The table below indicates a number of substances.

Please review the types of dependence for the most commonly used substances. Psychoactive Substances Dependence Chart [8]

Table 3.3.1 Psychoactive Drugs by Class: Stimulants

Stimulants block the re-uptake of dopamine, norepinephrine, and serotonin in the synapses of the CNS. Symptoms: Enhanced mood and increased energy

Drug	Dangers and side effects	Psychological dependence	Physical dependence	Addiction potential
Caffeine	May create dependence	Low	Low	Low
Nicotine	Has major negative health effects if smoked or chewed	High	High	High
Cocaine	Decreased appetite, headache	Low	Low	Moderate
Amphetamines	Possible dependence, accompanied by severe "crash" with depression as drug effects wear off, particularly if smoked or injected	Moderate	Low	Moderate to high

Table 3.3.2 Psychoactive Drugs by Class: Depressants

Depressants change consciousness by increasing the production of the neurotransmitter GABA and decreasing the production of the neurotransmitter acetylcholine, usually at the level of the thalamus and the reticular formation.
Symptoms: Calming effects, sleep, pain relief, slowed heart rate and respiration

Drug	Dangers and side effects	Psychological dependence	Physical dependence	Addiction potential
Alcohol	Impaired judgment, loss of coordination, dizziness, nausea, and eventually a loss of consciousness	Moderate	Moderate	Moderate
Barbiturates and benzodiazepines	Sluggishness, slowed speech, drowsiness, in severe cases, coma or death	Moderate	Moderate	Moderate
Toxic inhalants	Brain damage and death	High	High	High

Table 3.3.3 Psychoactive Drugs by Class: Opioids

The chemical makeup of opioids is similar to the endorphins, the neurotransmitters that serve as the body's "natural pain reducers."
Symptoms: Slowing of many body functions, constipation, respiratory and cardiac depression, and the rapid development of tolerance

Drug	Dangers and side effects	Psychological dependence	Physical dependence	Addiction potential
Opium	Side effects include nausea, vomiting, tolerance, and addiction.	Moderate	Moderate	Moderate
Morphine	Restlessness, irritability, headache and body aches, tremors, nausea, vomiting, and severe abdominal pain	High	Moderate	Moderate
Heroin	All side effects of morphine but about twice as addictive as morphine	High	Moderate	High

Table 3.3.4 Psychoactive Drugs by Class: Hallucinogens

The chemical compositions of the hallucinogens are similar to the neurotransmitters serotonin and epinephrine, and they act primarily by mimicking them. Symptoms: Altered consciousness; hallucinations

Drug	Dangers and side effects	Psychological dependence	Physical dependence	Addiction potential
Marijuana	Mild intoxication; enhanced perception	Low	Low	Low
LSD, mescaline, PCP, and peyote	Hallucinations; enhanced perception	Low	Low	Low

It is important to note cannabis is not indicated above; however, in the DSM-V it is included as a substance with psychological dependence as people can experience withdrawal. Were you surprised by any of the states of dependence on any of the substances? The dependence on a substance is one factor that can keep people in a cycle of use. Uncomfortable withdrawal may make it difficult to go to school, work, or take care of a family. In some cases, it is extreme, as mentioned in the video.

Are you a regular coffee drinker? Have you ever tried to give up coffee? Did you experience any symptoms? Do you smoke tobacco? Have you tried quitting? What was that like? When we think about substance use and withdrawal, we may immediately go to substances we see in the media, like heroin and cocaine. It is important to note, based on the chart above, every substance is different, and psychological and physical dependence will be experienced differently depending on the substance and the person who uses it.

Activities

Based on what you learned about physical and psychological dependence, as well as all the reasons people use substances, brainstorm:

1. Reasons why individuals start using substances
2. Reasons why individuals continue/maintain use
3. Reasons why individuals escalate/increase frequency or amount of substance use
4. Reasons why individuals stop using substances

5. Reasons why individuals start using substances again

All substances have *some* risk, as they impact our body and brain in different ways. Further on we will examine the various substances, their origins and their impact on the body and mind.

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3.3 CONCURRENT DISORDERS

We all have mental health, like we all have physical health. Our mental health is shaped by many factors, including "our social, economic, and physical environments" [(1)]. It can depend on what we are experiencing at any moment, our ability to cope and our ability to be resilient. Reflect on the reasons why people use substances. As we have explored, not all substance use will develop into a substance use disorder. There are many reasons why people use substances, one reason you may not have explored is mental health. Mental health is one of the social determinants of health, and good or poor mental health does play a role in a person's substance use.

There are many individual factors that make people vulnerable or resilient to a substance use disorder [(2)]. When we look at these characteristics, they may include positive self-image, self-control, or social competence as well as chronic illness, poverty, and homelessness [(3)]. You may start to see a connection between mental health and substance use. There is a direct relationship (sometimes called a correlation) between mental health disorders and substance use disorders.

Figure 3.3.1 – Photo by Zachary Kadolph on Unsplash

This is different than someone using a substance because of how they are feeling. Emotions like happiness and sadness may be a reason why someone uses a substance, for example having a drink at a social event. The difference between mental health and a mental health disorder, for example, depression, is that the mental health disorder is a diagnosable illness, like a substance use disorder. Healthcare practitioners use the DSM-V to diagnose mental health disorders, like substance use disorders. Some of the people you will meet will be living with mental health disorders AND substance use disorders; this may be called a concurrent disorder, or a dual diagnosis. People who have a concurrent disorder may experience a "combination of problems, such as: anxiety disorder and an alcohol problem, schizophrenia and cannabis dependence, borderline personality disorder and heroin dependence, and bipolar disorder and problem gambling" [(4)].

Which comes first, mental health or substance use? There are researchers on both sides of this argument. According to the Canadian Mental Health Association, "people who experience problems with alcohol or drug use are more likely to be diagnosed with a mental illness and people who experience a mental illness are more likely than others to also experience a substance use problem" [(5)]. What we do know empirically, which means through research and observation, is mental health disorders and substance use disorders are related, regardless of which came first.

Food For Thought

- Reflect on a mental health disorder and substance use disorder. Why do you think they are related?
- Why do you think people who have mental health disorders use substances?
- What role do you think early diagnosis of a mental health disorder plays in the development of a substance use disorder? Why?

Please watch this video by Royal Talks, which helps explain the concurrent disorders and the importance of support for improved health outcomes.[(6)]

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1238#oembed-1

Connections Between Substance Use & Mental Health and Identifying Ways of Getting Help. Royal Talks (Royal Mental Health Centre) The landscape of substance use in Canada is changing. Societal impacts of the opioid crisis and cannabis legalization are now ever-present discussions in the media and our daily conversations. A significant portion of our population is affected directly or indirectly by substance use and/or mental health difficulties. Presenters: Dr. Isabelle Ares, Ph.D., C.Psych. Psychologist, Substance Use and Concurrent Disorders Program, The Royal Dr. Suzanne Bell, Ph.D., C.Psych. Psychologist, Substance Use and Concurrent Disorders Program, The Royal

Transcript

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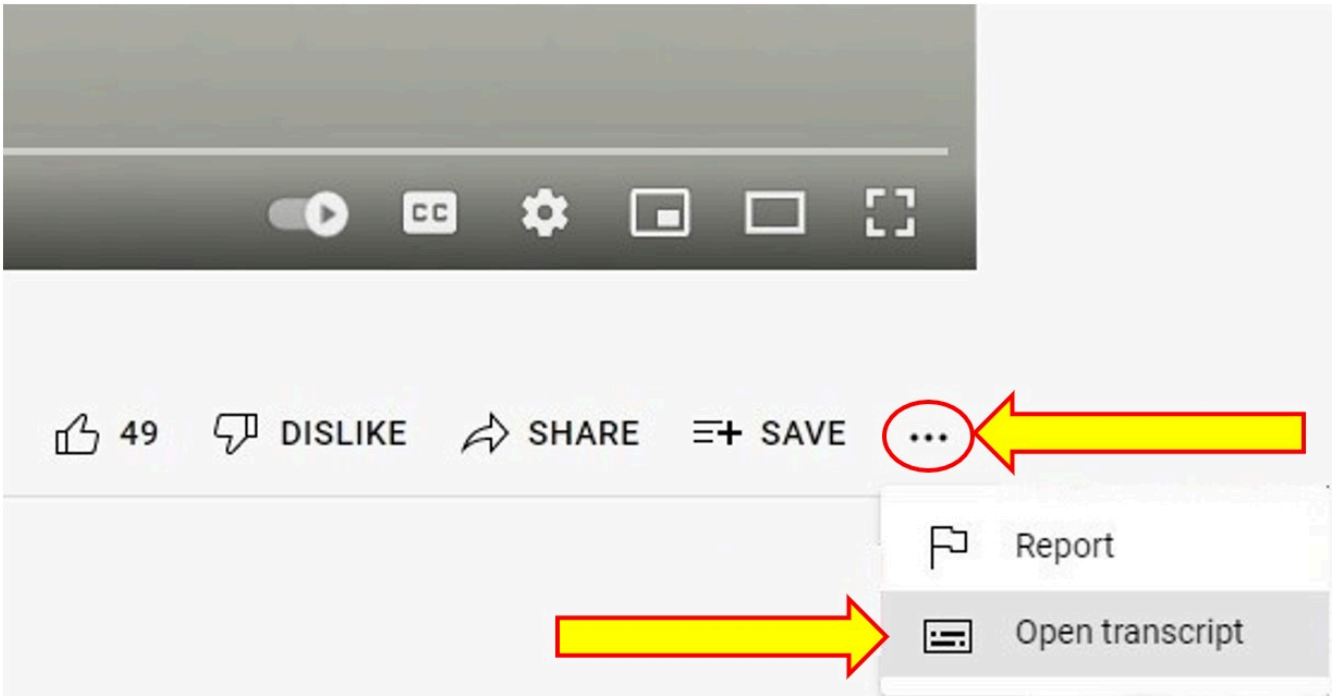

The risks of developing a substance use disorder if you have been diagnosed with a mental health disorder are high. According to the Mental Health Commission of Canada, "people living with mental illness are twice as likely as other Canadians to experience problematic substance use" [(7)]. When we dig further into mental health disorders and look at specific disorders, Buckley et al. [(8)] suggest at least 50% of people who have been diagnosed with schizophrenia have a co-occurring substance use disorder.

Mental illness can impact anyone at any time; however, "70% of mental health problems have their onset during childhood or adolescence" [(9)] making substance use among youth especially problematic. If a young person is using substances to reduce the impacts of a mental health disorder, it is critical the mental health disorder be diagnosed early, so the appropriate treatments can be implemented, and the outcomes can

improve. Early intervention programs that diagnose mental health disorders, along with programs to improve mental health, reduce risks for developing a substance abuse disorder. Promoting mental health, preventing mental health disorders, and preventing substance use are part of Health Canada's focus on helping to "prevent, treat or reduce the harms associated with opioids, stimulants, alcohol, prescription drugs, and other potentially harmful substances" [10].

One way we can support individuals with concurrent disorders is to ensure they have access to appropriate resources, and the resources are working in collaboration.

Food For Thought

- Reflect on collaboration.
- What does collaboration mean to you?
- What is one strategy you could use to ensure collaboration with a community agency or healthcare provider?

As Social Service workers it is important to be aware of any diagnosis your client may have. This will help you direct clients to appropriate services for their health.

Activities

1. Imagine you are working with a client who lives with depression and has an alcohol disorder.
2. Brainstorm a list of resources that would be appropriate to address their concurrent disorder.
3. Why did you choose these resources?
4. What resources could you direct family members to if requested?
5. Why is it important to be aware of family supports?

Chapter Attribution:

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3.4 THE STAGES OF CHANGE

Now that you have a deeper understanding of why people use substances, we can explore the various stages in which they may use substances or choose to change their substance use. In 1984, Prochaska and Diclemente developed a model to explore change among people who smoked tobacco and who wanted to quit [(1)]. They determined change happens in different stages and at each stage has different internal motivators and different tasks. Prochaska and DiClemente's Transtheoretical Model of Change or the Stages of Change is used when working with people who live with a substance use disorder [(2)]. This model can also be used for other health interventions including diabetes management, high blood pressure, and high cholesterol. "Change interventions are especially useful in addressing lifestyle modification for disease prevention, long-term disease management and addictions" [(3)].

People living with a substance use disorder may not be ready to acknowledge their habits, particularly when it comes to their substance use. Understanding where a person may place themselves on this model is helpful for you as a Social Service worker and for them. This will help you and them develop strategies to move through the stages, if reduction in use, change in substance, harm reduction, or recovery is something they would like to achieve. This is important to note, **this is their choice**, not yours and whatever changes they make, if any, are their decision.

How do you use this model? The graphic below indicates the stages of change; note the arrows. There is no beginning or end; this is because people can start making changes at any time. People may also skip through stages. When using this model, it is important to be nonjudgmental and supportive at each stage.

Stages of change model, as in the study of Prochaska and DiClemente. 56

Stages of change model, as in the study of Prochaska and DiClemente. 56

Now that you have viewed the stages of change, let's explore each stage individually.

Pre-contemplation: Remember when you reflected on your habits? Had you thought about what you were doing every day? If not, that's ok! This is the stage that we called pre-contemplation, it is the stage where you are doing what you do, without considering making any changes. You may feel comfortable or confident in the choices you are making. You may also see your choices as helpful. In the context of substance use, we know people use substances for many reasons. Imagine someone who has experienced trauma and is using substances to cope. In pre-contemplation they may see their substance use as the only way to cope, in which case they are not prepared to make a change. They may have also tried changing many times and have simply given up.

Activities

1. How could you determine if a client is in pre-contemplation?
2. What are three questions you could ask a client who you believe is in pre-contemplation?
3. What should you be aware of in this stage?

Contemplation: In this stage, people have *acknowledged* there is a habit or a behaviour that is not a healthy behaviour, but they are not yet prepared to make a change. The thought of making a change may cause a person to begin to feel pain. This could be fear of the loss of the behaviour, it could be fear of withdrawal. At this stage you may see individuals develop barriers to change, for example using terms like "I know, but...". The person may also see the benefits of change but are ambivalent about making that change.

Activities

1. How could you determine if a client is in contemplation?
2. What are three questions you could ask a client who you believe is in contemplation?
3. What should you be aware of in this stage?

Decision (also called **Preparation**): In this stage, the behaviour has been acknowledged and the person has made the decision to make a change. It may be a small change, for example, a reduction in the amount of substance used, or the type, it could be a change in behaviour (safer injection). Whatever the change, it is exciting to get to this stage, as it is a critical stage for a person with a substance use disorder. The person has moved from ambivalence to planning to change. This is also a critical stage for you, the Social Service worker. This is an opportunity to reflect on the behaviour of the individual and develop a set of goals. Starting small is helpful, rather than going "cold turkey". Whatever the goal is, it is the choice of the individual and respecting the goal is paramount to building a relationship. The preparation stage is simply planning, so using a **SMART** goal model may be helpful.

Activities

1. How could you determine if a client is in preparation?
2. What are three questions you could ask a client who you believe is in preparation?
3. What should you be aware of in this stage?

Action: You have helped your client set goals, now they are going to do the work to achieve them. This can be the easy period in some cases, there is excitement and hope. In the first few days of the action phase, people with substance use disorders should receive a lot of encouragement. This may be the first time or the fiftieth time a person has tried to change their behaviour; every time should be praised.

Activities

1. How could you determine if a client is in action?
2. What are three questions you could ask a client who you believe is in action?
3. What should you be aware of in this stage?

Maintenance: This is the make-or-break stage, as the person with the substance use disorder is maintaining their behavioural change, whether a reduction in the amount of substance use, a reduction in risky behaviours, a change in substances or whatever their initial goal was. Continuing to encourage and praise is helpful in this stage. Peer support can be very helpful in the maintenance phase, and programs like AA and NA that use a peer support model that allow for check in's can be helpful for some people. Being able to provide appropriate referrals to other services is helpful in the maintenance phase.

Activities

1. How could you determine if a client is in maintenance?
2. What are three questions you could ask a client who you believe is in maintenance?
3. What should you be aware of in this stage?

Relapse: Relapse is part of substance use disorders, which is why it is part of the model. While we want to help people prevent relapse, depending on their life circumstances, relapse may happen frequently or infrequently. We are there to help individuals understand that relapse is ok, and don't quit quitting! If we discourage an individual, they may give up entirely. The reality is many individuals will go through the stages of change more than once. Just like you, it takes time to make a change. Reflect on your habits and any habits you have tried to change. If you were successful the first time, congratulations! If not, you're human!

WHAT ARE SMART GOALS?[4]

- Statements of the important results you are working to accomplish.
- Designed in a way to foster clear and mutual understanding of what constitutes expected levels of performance and successful professional development.

WHAT IS THE SMART CRITERIA

S	Specific	What will be accomplished? What actions will you take?
M	Measurable	What data will you measure? How much? How well?
A	Achievable	Is the goal doable? Do you have the necessary skills and resources?
R	Relevant	How does the goal align with broader goals? Why is the result important?
T	Time-Bound	What is the time frame for accomplishing the goal?

Activities

1. Think about a goal you would like to achieve.
2. Review the SMART goal model.
3. Brainstorm any missing concerns you think would be important to include.
4. Imagine you are providing a program for women with substance use disorders. What would you need to do to ensure your program meets UNODC recommendations?

For a exploration on how to use the Stages of Change to help people quit smoking, let's watch this video narrated by Dr. Mike Evans.

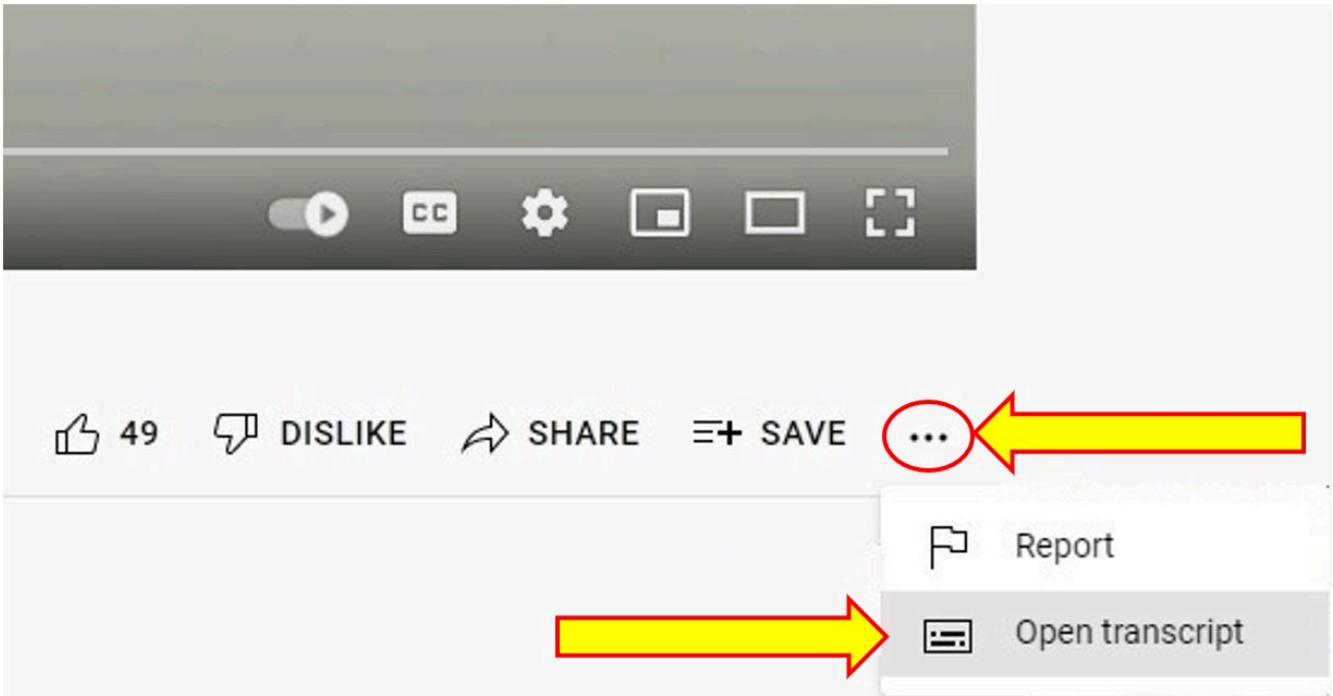
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1242#oembed-1

Quitting Smoking is a Journey – CAMH. Dr. Mike Evans explores what works and what doesn't work when thinking about quitting smoking. Funding provided by Health Canada (http://www.hc-sc.gc.ca) and the Canadian Action Network for the Advancement, Dissemination and Adoption of Practice-informed Tobacco Treatment – Canadaptt (http://www.nicotinedependenceclinic.c…. [5]

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



Now that we understand the reasons why people use substances, we will move forward into understanding substances and their impacts on the brain and body. If you would like more information on why people use substances and substance use disorders, as well as concurrent disorders, check out the additional resources.

Chapter Attribution

IMAGE CREDITS

Diagram of the states of change from: Lunn, S., Restrick, L. & Stern, M. (2017). *Managing respiratory disease: The role of a psychologist within the multidisciplinary team.* Chronic Respiratory Disease, 14, 45-53. doi:10.1177/1479972316688914 https://journals.sagepub.com/doi/10.1177/1479972316688914

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3.5 KEY TERMS STUDY GUIDE

Photo by 愚木混株 cdd20 on Unsplash

The material in this chapter we explored **why people use substances**, cultures and motivation behind substance use. Once you begin to understand the importance behind having this knowledge and how it assists us working in this community. You may be familiar with these terms, but If you are not familiar with the terms below, I recommend you download this study sheet, add more spaces to write in definitions and relevant information (or make flashcards) as you read the chapter and watch videos.

1. action stage
2. community connections

3. concurrent disorders
4. contemplation stage
5. decision (preparation) stage
6. depressants
7. hallucinogens
8. mental health
9. maintenance stage
10. opioids
11. physical dependency
12. precontemplation stage
13. psychoactive Drugs
14. psychological dependency
15. relapse stage (return to old behaviour)
16. risk factors / protective factors
17. role of culture/tradition
18. smart goals
19. social detriments of health
20. stages of change
21. stimulants
22. substance use
23. Substance Use Disorder (SUD)

3.6 SELF-CARE

The self care practice in this module focuses on journaling. Journaling can be a powerful way to capture how you are feeling at a moment in time. It allows you to write your feelings, thoughts and experiences. Once you begin journaling you may decide to review what you have written. This can be helpful for identifying situations that have been difficult and what you did to address them. It can also be helpful for identifying when you are not taking care of yourself, for example, personal hygiene or broken sleep patterns.

Photo by Ashlyn Ciara on Unsplash

Journaling can be free-form, where you write what you like, or you can use journaling prompts.

READ

Please review the Expressive Writing for Resilience: Writing to Heal handout by Duke University [1] to learn more about the power of journaling.

Attribution:

Reference:

1. Jones, J., Chacon, D., Kozhumam, A., Santos, N., Eun, J., Xu, K., Savelyeva, A., Zheng, L., Evans, J., Glass, O., Barfield, R., Bechard, E.M., (2021). *Expressive writing for resilience: Wriitng to heal .Duke University and Bass Connections. https://bassconnections.duke.edu/sites/bassconnections.duke.edu/files/site-images/expressive-writing-resilience-2019.pdf*

ADDITIONAL RESOURCES

Additional Resources

- Testimonials on substance use videos
  Government of Canada website on the Opioid Crisis
- A family guide to concurrent disorders
  A 2007 guide created by the Centre for Addiction and Mental Health with information about how you can support families
- Performance Management Tool for Withdrawal Management (Behavioural Competencies for Canada's Substance Use Workforce)
  A 2021 manual written by the Canadian Centre on Substance Use and Addiction.
- Canadian resources on help for substance use
  Government of Canada resources posted on the Health Canada website pages on Substance Use.

Chapter Attribution

CHAPTER 4: HOW THE BODY WORKS

CHAPTER 4 INTRODUCTION

This chapter draws on concepts from the supplemental reading from Chapter Two of ***Drugs, Behavior, and Modern Society*** textbook (Levinthal, 2014) and several short videos for this unit. The purpose of this chapter is to gain an understanding of how drugs work in the body. For this, we need to take a look at the brain, the nervous system, how drugs enter and exit the body, how drugs are metabolized, and how they affect physical and psychological reactions. You will also explore several websites and watch brief videos to deepen your understanding of these processes.

LEARNING OBJECTIVES

Learning Objectives

By the end of this chapter you should be able to:

1. Identify how drugs enter and exit the body
2. Explain drug interaction and tolerance
3. Distinguish between the sympathetic and parasympathetic nervous system
4. Match neurotransmitters with their primary action
5. Define craving, abuse, psychological and physical dependence
6. Give examples of the placebo effect

4.1 ROUTES OF ADMINISTRATION

Research has shown that the faster a substance reaches the brain, the more likely it is to be misused. Different methods of delivery—smoking, injecting, or snorting—largely influence how quickly a substance reaches the brain. Delivery methods, genetics, and the environment all influence the potential of a Substance to cause addiction.

Delivery methods, genetics, and environment all influence the potential of a substance to develop into a substance use disorder.

Activities / Reflection:

- Create a list of all the different routes of administration that a person can get a substance/ drug into their body?
- What influences the potential impact of the substance in their body?
- Rate your list; which do you think has the biggest impact? What way do you think is fastest or slowest? Why?

Lets watch a video on Methods of Drug Administration.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=47#oembed-1

Methods of Drug Administration. by Professor Dave Explains. When a patient must be administered a drug in a medical setting, how does this occur? Well there are lots of ways. Pills or tablets can be ingested orally. There are topical creams, tubes, injections, and more. How does each one work, and why would one select that method over another? Let's go through a summary of the methods of drug

administration now! (1)

When a person injects a substance into their vein or smokes and inhales into their lungs, they feel the effects of the substance very quickly. Snorting a substance into a nasal cavity or swallowing a substance means it takes longer for the body to absorb and feel the effects; the drugs uptake is slower[2]. People can take a substance in a number of different ways. The route of administration are described in the table below.[3]

Method	Example of Drug	Time Needed for Effect	Advantages of Route	Disadvantages of Route
Oral	Alcohol	30-60 minutes	Convenient	Slow, irregular
Inhalation	Nicotine	8 seconds	Fast	Lung damage
Intravenous Injection	Heroin	15 seconds	Fast	Overdose/ infections
Mucous membrane	Cocaine	1-2 minutes	Convenient	Local tissue damage
Subcutaneous injection	Heroin	5-10 minutes	Safer & easier than IV	Infection
Intramuscular Injection	Morphine	10-15 minutes	Controlled	Painful
Transdermal	Nicotine	15-20 minutes	Convenient	Limited application/ potential misuse

The fastest way to get a substance to the brain is by smoking it. When a substance like tobacco smoke for instance is taken into the lungs, nicotine seeps into lung blood where it can quickly travel to the brain. This fast delivery is one reason smoking cigarettes is can turn into a disorder quickly.

Injecting directly into a blood vessel is the second fastest way to get a substance to the brain, followed by snorting or sniffing it through the nose. A slow mode of delivery is ingestion, such as drinking alcohol. The effects of alcohol take many minutes rather than a few seconds to cause behavioural and biological changes in the brain.

Rapid Delivery Changes Your Brain

People who have a substance use disorder often choose a delivery method that gets them higher quickly. As the SUD progresses, people will often seek out the more immediate and more intense high. But speed doesn't seem to be the only reason that rapid delivery is an important factor. Recent evidence suggests that the mode of delivery can actually influence which part of the brain is most affected by a substance. Rapid delivery, such as smoking, affects brain regions that facilitate substance use disorders.

Slow Delivery: An Addiction Therapy?

Increased knowledge about substance delivery methods is leading to new therapies to support substance use disorders. It turns out that delivering a substance slowly, by ingestion or through the skin, produces a weaker, longer-lasting effect. Nicotine patches are for people who have tobacco use disorder. Slow delivery allows the substance to temporarily stabilize the brain and help reduce withdrawal symptoms over a longer period of time. Research suggests a slower delivery method can reduce the risk of an addiction[4].

Drug Administration[5]

Drug administration is the giving of a drug by one of several means (routes).

Route	Explanation
buccal	held inside the cheek
enteral	delivered directly into the stomach or intestine (with a G-tube or J-tube)
inhalable	breathed in through a tube or mask
infused	injected into a vein with an IV line and slowly dripped in over time
intramuscular	injected into muscle with a syringe
intrathecal	injected into your spine
intravenous	injected into a vein or into an IV line
nasal	given into the nose by spray or pump
ophthalmic	given into the eye by drops, gel, or ointment
oral	swallowed by mouth as a tablet, capsule, lozenge, or liquid
otic	given by drops into the ear
rectal	inserted into the rectum
subcutaneous	injected just under the skin
sublingual	held under the tongue
topical	applied to the skin
transdermal	given through a patch placed on the skin
vaginal	inserted into the vagina

Pharmacokinetics & Pharmacodynamics

Pharmacokinetics is how a body processes a drug whereas **Pharmacodynamics** takes into account the complex interactions **between** the drug, the human body, and then the pathogen that might be causing an infection **in the** patient.

Pharmacokinetics: How Drugs Move through the Body.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=47#oembed-2

Pharmacokinetics: How Drugs Move through the Body. by Professor Dave Explains. We just learned about drug administration, or the ways that drugs can enter the body. What happens next? How do drugs move around the body to get to where they need to go? The study of this is called **pharmacokinetics**. Let's get into the basics of this topic now![6]

Pharmacodynamics: Mechanisms of Drug Action

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=47#oembed-3

Pharmacodynamics: Mechanisms of Drug Action. by Professor Dave Explains. Now that we know how drugs move through the body to reach their target, what happens once they get there? By what mechanisms can drugs interact with target proteins to elicit a particular cellular response, and by extension a physiological effect?[7]

CHAPTER CREDIT

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4.2 UNDERSTANDING PARTS OF THE BRAIN – VIDEOS AND PICTURES

The Human Brain and Nervous System

In this section, you'll review the Nervous System [1] (external site) and the videos embedded below.

Pay attention to:

- The diagram labeling the Neuron
- The diagram labeling the Nervous System
- The parts of the Brain

The Human Brain

This video from the National Institute on Drug Abuse (NIDA/NIH) covers the major structures and functions of the brain.

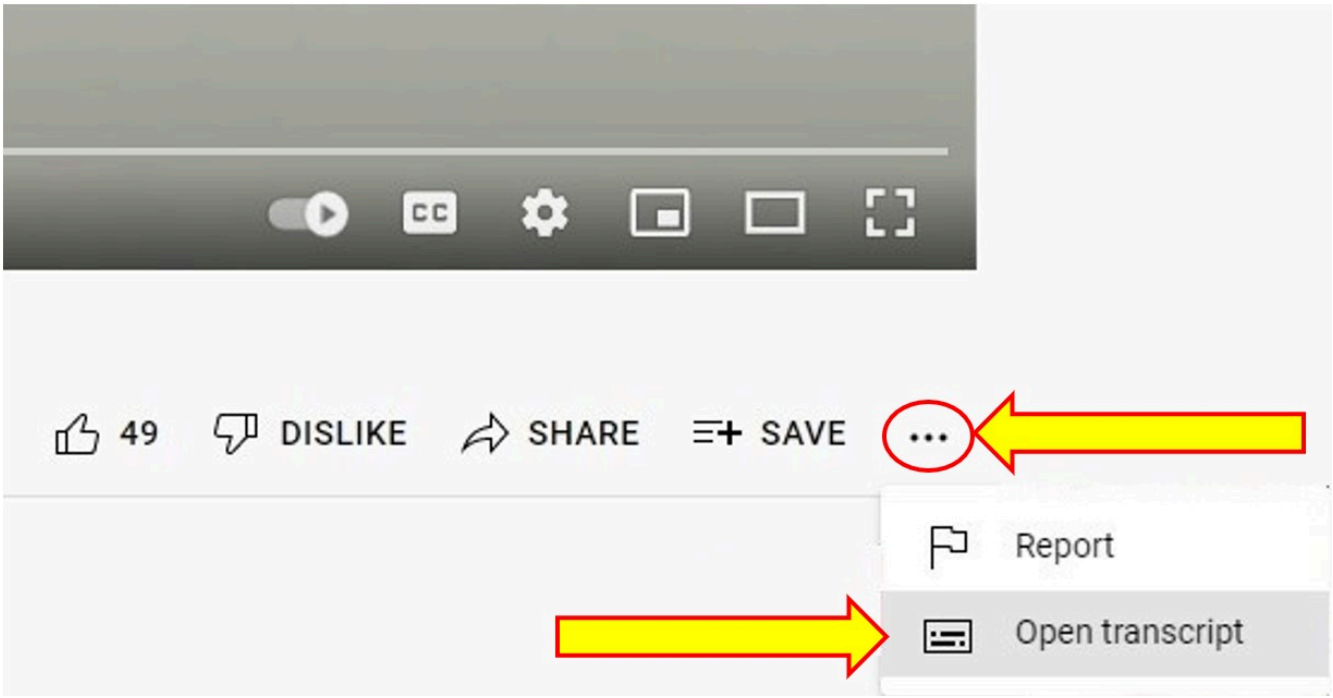
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=49#oembed-2

The Human Brain: Major Structures and Functions. National Institute on Drug Abuse (NIDA/NIH) [2]

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



The Nervous System

The following videos from CTE Skills and CrashCourse provide you with an introduction to the nervous system. In the first video from CTE Skills, please pay particular attention at minute marker 6:40 when it explains the concepts of the parasympathetic nervous system & the sympathetic nervous system.

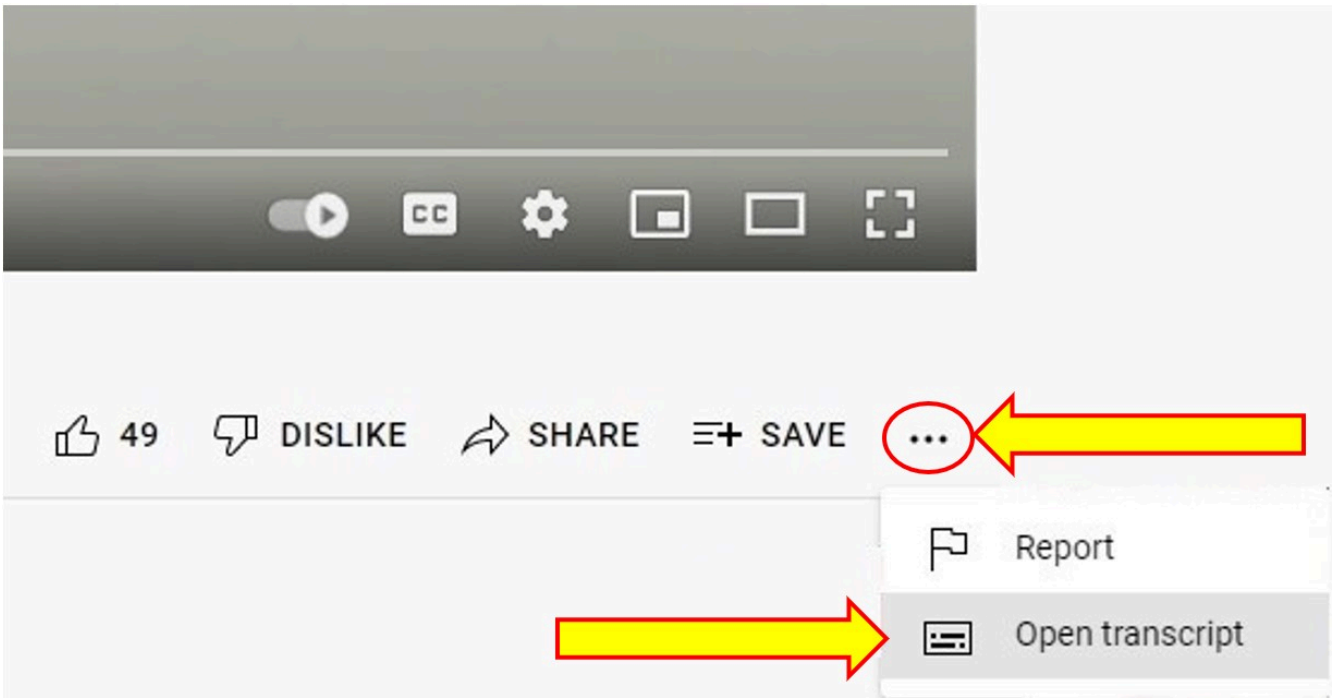
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=49#oembed-3

The Nervous System In 9 Minutes by CTE Skills.com. The basic purpose of the Nervous System is to coordinate all of the activities of the body. It enables the Body to respond and adapt to changes that occur both inside and outside the body. The two major parts to the Nervous System are the Central Nervous System and the Peripheral Nervous System. The Central Nervous System is also divided into two major structures. The Brain and the Spinal Cord [3].

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



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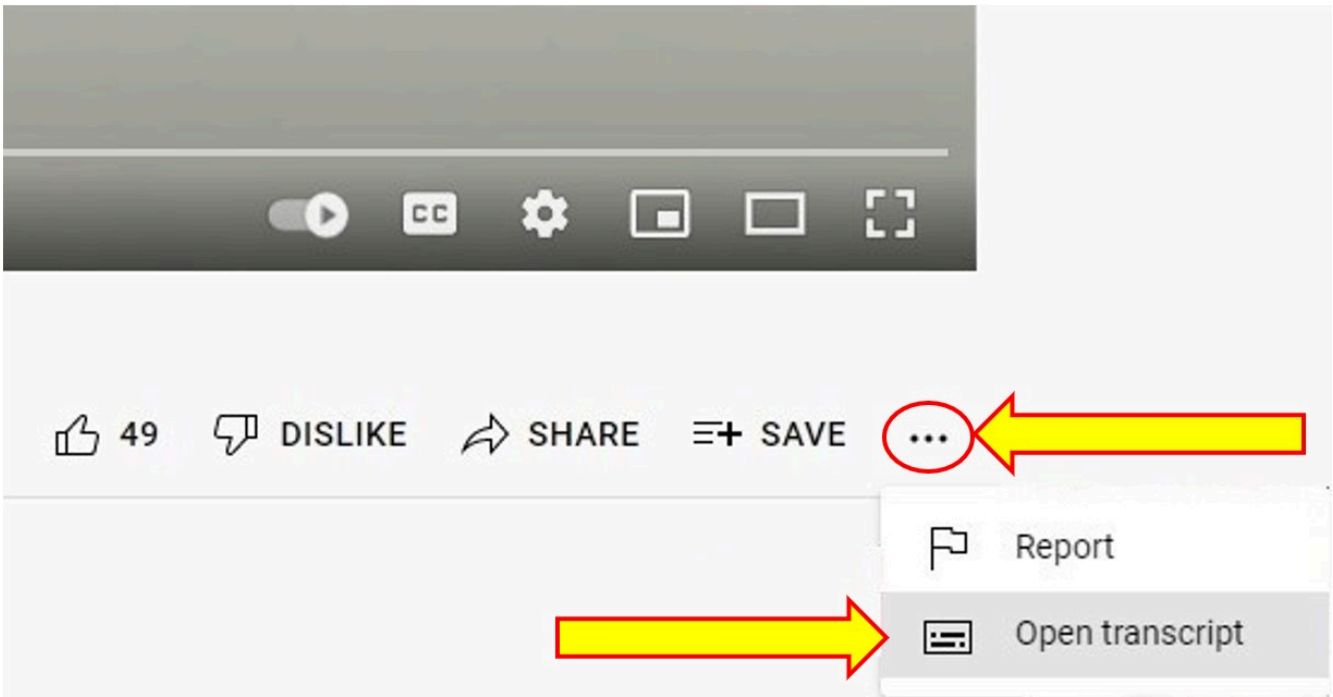
The Nervous System, Part 1: Crash Course Anatomy & Physiology #8. CrashCourse. Today Hank kicks off our look around MISSION CONTROL: the nervous system [4].

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



Chapter Attribution

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4.3 DRUGS AND THE BRAIN

Introducing the Human brain

The human brain is the most complex organ in the body. This three-pound mass of gray and white matter sits at the center of all human activity—you need it to drive a car, to enjoy a meal, to breathe, to create an artistic masterpiece, and to enjoy everyday activities. In brief, the brain regulates your body's basic functions; enables you to interpret and respond to everything you experience; and shapes your thoughts, emotions, and behaviour.

The brain is made up of many parts that all work together as a team. Different parts of the brain are responsible for coordinating and performing specific functions. Drugs can alter important brain areas that are necessary for life-sustaining functions and can drive the compulsive drug abuse that marks addiction. Brain areas affected by drug abuse include:

- **The brain stem**, controls basic functions critical to life, such as heart rate, breathing, and sleeping.
- **The cerebral cortex**, is divided into areas that control specific functions. Different areas process information from our senses, enabling us to see, feel, hear, and taste. The front part of the cortex, the frontal cortex or forebrain, is the thinking center of the brain; it powers our ability to think, plan, solve problems, and make decisions.
- **The limbic system**, contains the brain's reward circuit. It links together a number of brain structures that control and regulate our ability to feel pleasure. Feeling pleasure motivates us to repeat behaviours that are critical to our existence. The limbic system is activated by healthy, life-sustaining activities such as eating and socializing—but it is also activated by drugs of abuse. In addition, the limbic system is responsible for our perception of other emotions, both positive and negative, which explains the mood-altering properties of many drugs.

How do the parts of the brain communicate?

The brain is a communications center consisting of billions of neurons or nerve cells. Networks of neurons pass messages back and forth among different structures within the brain, the spinal cord, and nerves in the rest of the body (the peripheral nervous system). These nerve networks coordinate and regulate everything we feel, think, and do.

- Neuron to Neuron – Each nerve cell in the brain sends and receives messages in the form of electrical

and chemical signals. Once a cell receives and processes a message, it sends it on to other neurons.

- Neurotransmitters—The Brain's Chemical Messengers – The messages are typically carried between neurons by chemicals called neurotransmitters.
- Receptors: The Brain's Chemical Receivers- "The neurotransmitter attaches to a specialized site on the receiving neuron called a receptor. A neurotransmitter and its receptor operate like a "key and lock," an exquisitely specific mechanism that ensures that each receptor will forward the appropriate message only after interacting with the right kind of neurotransmitter.
- Transporters—The Brain's Chemical Recyclers – Located on the neuron that releases the neurotransmitter, transporters recycle these neurotransmitters (that is, bring them back into the neuron that released them), thereby shutting off the signal between neurons.

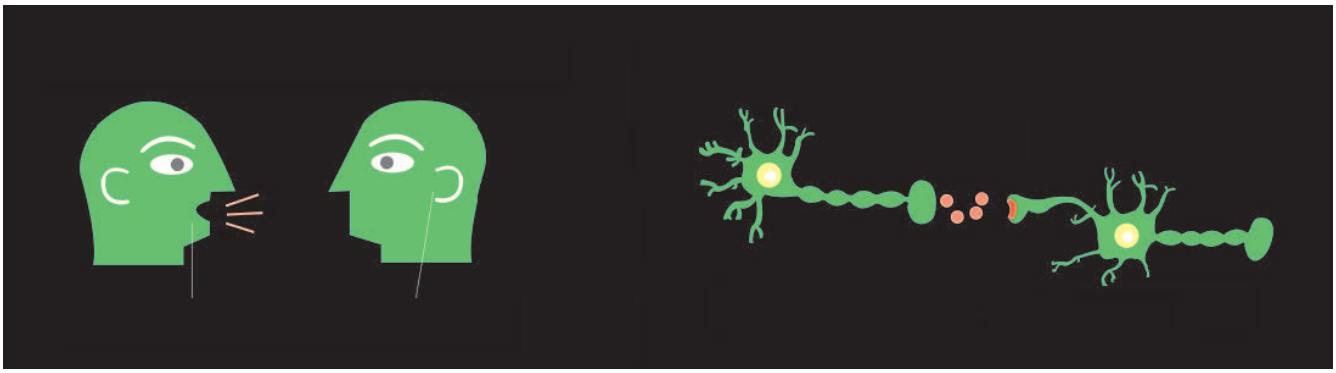


Figure 4.3.1 – To send a message, a brain cell (neuron) releases a chemical (neurotransmitter) into the space (synapse) between it and the next cell. Concept courtesy of Concept courtesy: B.K. Madras. [See Long Description]

Most drugs of abuse target the brain's reward system by flooding it with dopamine.

How do drugs work in the brain?

Drugs are chemicals that affect the brain by tapping into its communication system and interfering with the way neurons normally send, receive, and process information. Some drugs, such as marijuana and heroin, can activate neurons because their chemical structure mimics that of a natural neurotransmitter. This similarity in structure "fools" receptors and allows the drugs to attach onto and activate the neurons. Although these drugs mimic the brain's own chemicals, they don't activate neurons in the same way as a natural neurotransmitter, and they lead to abnormal messages being transmitted through the network. Other drugs, such as amphetamine or cocaine, can cause the neurons to release abnormally large amounts of natural neurotransmitters or prevent the normal recycling of these brain chemicals. This disruption produces a greatly amplified message, ultimately disrupting communication channels.

How do drugs work in the brain to produce pleasure?

Most drugs of abuse directly or indirectly target the brain's reward system by flooding the circuit with dopamine. Dopamine is a neurotransmitter present in regions of the brain that regulate movement, emotion, motivation, and feelings of pleasure. When activated at normal levels, this system rewards our natural behaviours. Overstimulating the system with drugs, however, produces euphoric effects, which strongly reinforce the behaviour of drug use—teaching the user to repeat it.

How does stimulation of the brain's pleasure circuit teach us to keep taking drugs?

Our brains are wired to ensure that we will repeat life-sustaining activities by associating those activities with pleasure or reward. Whenever this reward circuit is activated, the brain notes that something important is happening that needs to be remembered and teaches us to do it again and again without thinking about it. Because drugs of abuse stimulate the same circuit, we learn to abuse drugs in the same way.

Why are drugs more addictive than natural rewards?

When some drugs of abuse are taken, they can release 2 to 10 times the amount of dopamine that natural rewards such as eating and sex do.15 In some cases, this occurs almost immediately (as when drugs are smoked or injected), and the effects can last much longer than those produced by natural rewards. The resulting effects on the brain's pleasure circuit dwarf those produced by naturally rewarding behaviours. 16,17 The effect of such a powerful reward strongly motivates people to take drugs again and again. This is why scientists sometimes say that drug abuse is something we learn to do very, very well.

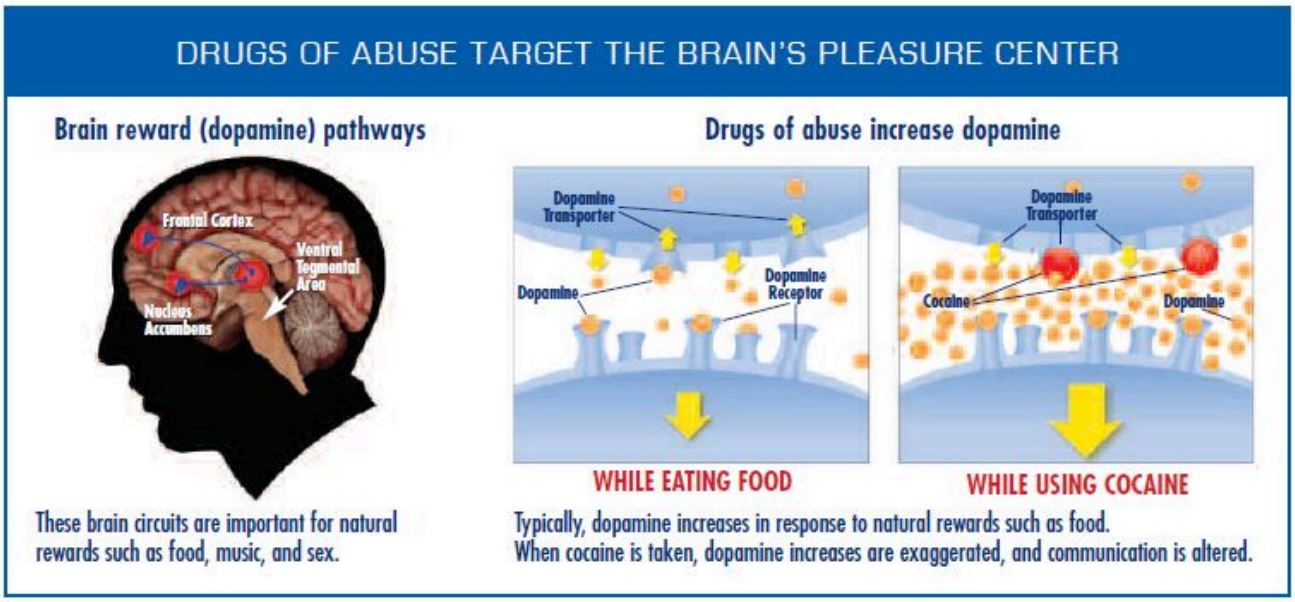


Figure 4.3.2 – Figure depicting the brain reward dopamine pathways and a side-by-side comparison of the amount of dopamine produced by eating versus cocaine use.

Long-term drug abuse impairs brain functioning.

What happens to your brain if you keep taking drugs?

For the brain, the difference between normal rewards and drug rewards can be described as the difference between someone whispering into your ear and someone shouting into a microphone. Just as we turn down the volume on a radio that is too loud, the brain adjusts to the overwhelming surges in dopamine (and other neurotransmitters) by producing less dopamine or by reducing the number of receptors that can receive signals. As a result, dopamine's impact on the reward circuit of the brain of someone who abuses drugs can become abnormally low, and that person's ability to experience any pleasure is reduced.

This is why a person who abuses drugs eventually feels flat, lifeless, depressed, and is unable to enjoy things that were previously pleasurable. Now, the person needs to keep taking drugs again and again just to try and bring his or her dopamine function back up to normal—which only makes the problem worse, like a vicious cycle. Also, the person will often need to take larger amounts of the drug to produce the familiar dopamine high—an effect known as tolerance.

How does long-term drug taking affect brain circuits?

We know that the same sort of mechanisms involved in the development of tolerance can eventually lead to profound changes in neurons and brain circuits, with the potential to severely compromise the long-term

health of the brain. For example, glutamate is another neurotransmitter that influences the reward circuit and the ability to learn. When the optimal concentration of glutamate is altered by drug abuse, the brain attempts to compensate for this change, which can cause impairment in cognitive function. Similarly, long-term drug abuse can trigger adaptations inhabit or non-conscious memory systems. Conditioning is one example of this type of learning, in which cues in a person's daily routine or environment become associated with the drug experience and can trigger uncontrollable cravings whenever the person is exposed to these cues, even if the drug itself is not available. This learned "reflex" is extremely durable and can affect a person who once used drugs even after many years of abstinence.

What other brain changes occur with drug abuse?

Chronic exposure to drugs of abuse disrupts the way critical brain structures interact to control and inhibit behaviours related to drug use. Just as continued abuse may lead to tolerance or the need for higher drug dosages to produce an effect, it may also lead to addiction, which can drive a user to seek out and take drugs compulsively. Drug addiction erodes a person's self-control and ability to make sound decisions while producing intense impulses to take drugs.

Long Descriptions

Figure 4.3.1 – To send a message, a brain cell (neuron) releases a chemical (neurotransmitter) into the space (synapse) between it and the next cell. Concept courtesy of: B.K. Madras. The neurotransmitter crosses the synapse and attaches to proteins (receptors) on the receiving brain cell. This causes changes in the receiving cell—the message Transmitter Receptor Neurotransmitter Receptor is delivered.

References

Figure 4.3.1 – Madras, B. K. (2014). *Neurotransmitters* [Photo]. NIH: National Institute on Drug Abuse. https://www.drugabuse.gov/sites/default/files/soa_2014.pdf. **These are public domain images**

Figure 4.3.2 – (2014). *Neurotransmitters* [Photo]. NIH: National Institute on Drug Abuse.

https://www.drugabuse.gov/sites/default/files/soa_2014.pdf. **These are public domain images**

4.4 THE NEURON IS THE BUILDING BLOCK OF THE NERVOUS SYSTEM

Learning Objectives

1. Describe the structure and functions of the neuron.
2. Draw a diagram of the pathways of communication within and between neurons.
3. List three of the major neurotransmitters and describe their functions.

The nervous system is composed of more than 100 billion cells known as *neurons*. A **neuron** is *a cell in the nervous system whose function it is to receive and transmit information*. As you can see in Figure 4.4.1, "**Components of the Neuron**," neurons are made up of three major parts: a cell body, or **soma**, which *contains the nucleus of the cell and keeps the cell alive*; a branching treelike fibre known as the **dendrite**, which *collects information from other cells and sends the information to the soma*; and a long, segmented fibre known as the **axon**, which *transmits information away from the cell body toward other neurons or to the muscles and glands*. Figure 4.4.2 "**The Nervous System**" shows a photograph of neurons taken using confocal microscopy.

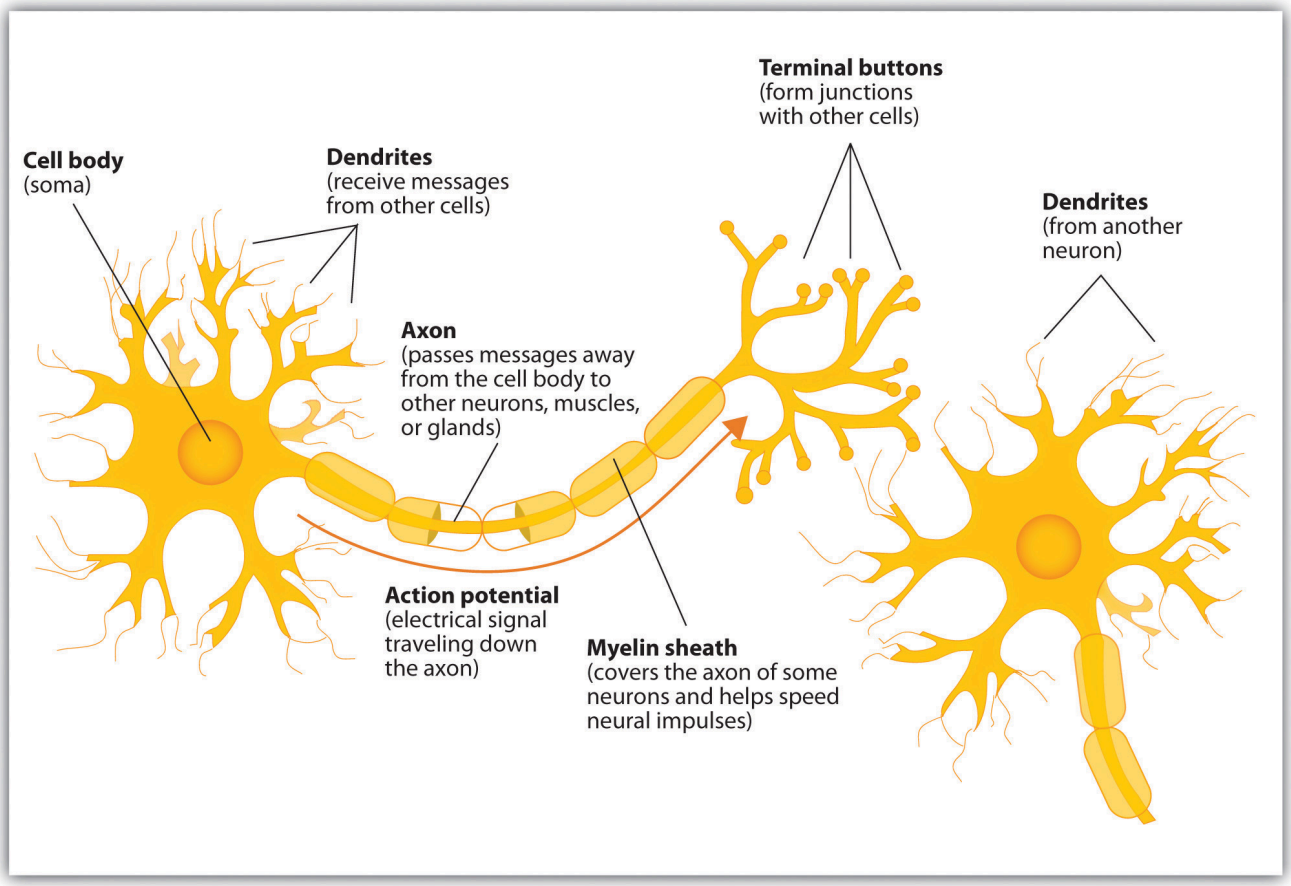


Figure 4.4.1 Components of the Neuron.

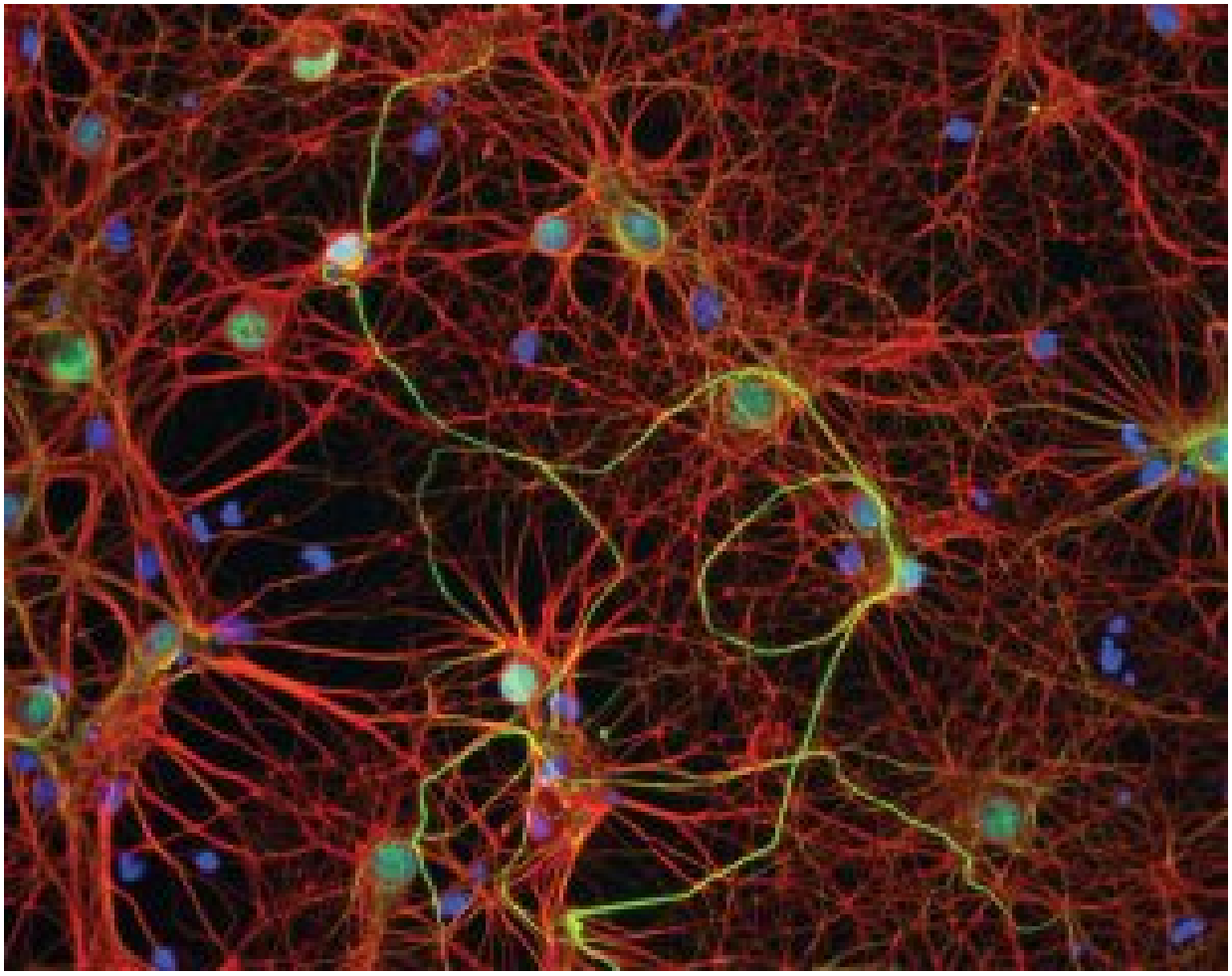


Figure 4.4.2 Photograph of neurons taken using confocal microscopy. [See Long Description]

Some neurons have hundreds or even thousands of dendrites, and these dendrites may themselves be branched to allow the cell to receive information from thousands of other cells. The axons are also specialized, and some, such as those that send messages from the spinal cord to the muscles in the hands or feet, may be very long — even up to several feet in length. To improve the speed of their communication, and to keep their electrical charges from shorting out with other neurons, axons are often surrounded by a *myelin sheath*. The **myelin sheath** is *a layer of fatty tissue surrounding the axon of a neuron that both acts as an insulator and allows faster transmission of the electrical signal*. Axons branch out toward their ends, and at the tip of each branch is a *terminal button*.

Neurons Communicate Using Electricity and Chemicals

The nervous system operates using an *electrochemical* process. An electrical charge moves through the neuron itself, and chemicals are used to transmit information between neurons. Within the neuron, when a signal is received by the dendrites, it is transmitted to the soma in the form of an electrical signal, and, if the signal is

strong enough, it may then be passed on to the axon and then to the terminal buttons. If the signal reaches the terminal buttons, they are signalled to emit chemicals known as *neurotransmitters*, which communicate with other neurons across the spaces between the cells, known as *synapses*.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1000#oembed-1

Neuron Impulse by gregl1219. This is a model of a neuron firing an impulse. It shows how the electrochemical process sends signals through the neuron. There are no words in this video.

As you can see in Figure 4.4.3, "**The Myelin Sheath and the Nodes of Ranvier**," the axon is segmented by a series of *breaks between the sausage-like segments of the myelin sheath*. Each of these gaps is a **node of Ranvier**.[1] The electrical charge moves down the axon from segment to segment, in a set of small jumps, moving from node to node. When the action potential occurs in the first segment of the axon, it quickly creates a similar change in the next segment, which then stimulates the next segment, and so forth as the positive electrical impulse continues all the way down to the end of the axon. As each new segment becomes positive, the membrane in the prior segment closes up again, and the segment returns to its negative resting potential. In this way the action potential is transmitted along the axon, toward the terminal buttons. The entire response along the length of the axon is very fast — it can happen up to 1,000 times each second.

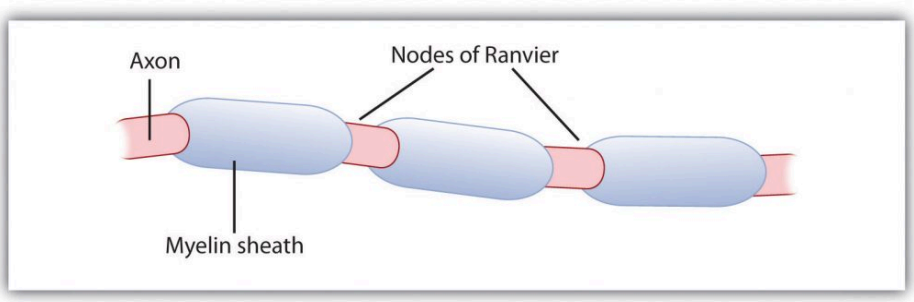


Figure 4.4.3 The Myelin Sheath and the Nodes of Ranvier. [See Long Description]

1. [2]
2. [1]

An important aspect of the action potential is that it operates in an *all or nothing* manner. What this means is that the neuron either fires completely, such that the action potential moves all the way down the axon, or it does not fire at all. Thus neurons can provide more energy to the neurons down the line by firing faster but not by firing more strongly. Furthermore, the neuron is prevented from repeated firing by the presence of a **refractory period** — *a brief time after the firing of the axon in which the axon cannot fire again because the neuron has not yet returned to its resting potential.*

Neurotransmitters: The Body's Chemical Messengers

Not only do the neural signals travel via electrical charges *within* the neuron, but they also travel via chemical transmission *between* the neurons. Neurons are separated by junction areas known as **synapses**,[3] *areas where the terminal buttons at the end of the axon of one neuron nearly, but don't quite, touch the dendrites of another*. The synapses provide a remarkable function because they allow each axon to communicate with many dendrites in neighbouring cells. Because a neuron may have synaptic connections with thousands of other neurons, the communication links among the neurons in the nervous system allow for a highly sophisticated communication system.

When the electrical impulse from the action potential reaches the end of the axon, it signals the terminal buttons to release *neurotransmitters* into the synapse. A **neurotransmitter** is *a chemical that relays signals across the synapses between neurons*. Neurotransmitters travel across the synaptic space between the terminal button of one neuron and the dendrites of other neurons, where they bind to the dendrites in the neighbouring neurons. Furthermore, different terminal buttons release different neurotransmitters, and different dendrites are particularly sensitive to different neurotransmitters. The dendrites will admit the neurotransmitters only if they are in the right shape to fit in the receptor sites on the receiving neuron. For this reason, the receptor sites and neurotransmitters are often compared to a lock and key (Figure 4.4.4, "**The Synapse**").

3. [4]

4. [2]

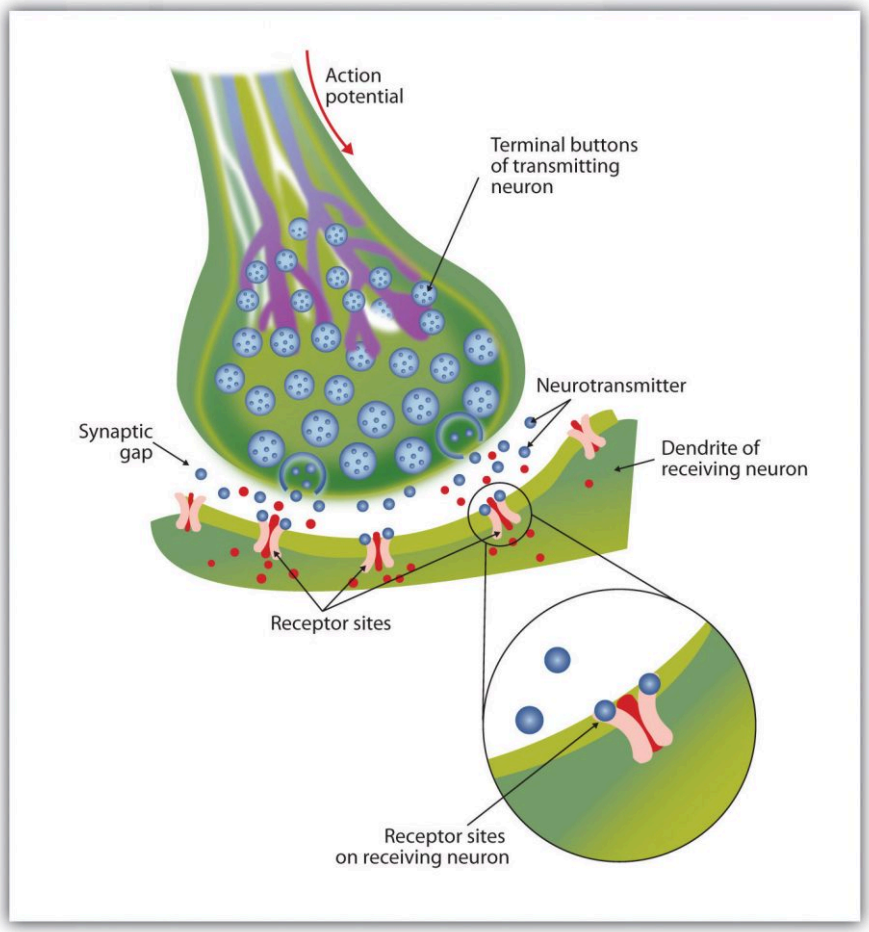


Figure 4.4.4 The Synapse. [See Long Description]

When neurotransmitters are accepted by the receptors on the receiving neurons, their effect may be either **excitatory** (i.e., *they make the cell more likely to fire*) or **inhibitory** (i.e., *they make the cell less likely to fire)*. Furthermore, if the receiving neuron is able to accept more than one neurotransmitter, it will be influenced by the excitatory and inhibitory processes of each. If the excitatory effects of the neurotransmitters are greater than the inhibitory influences of the neurotransmitters, the neuron moves closer to its firing threshold; if it reaches the threshold, the action potential and the process of transferring information through the neuron begins.

Neurotransmitters that are not accepted by the receptor sites must be removed from the synapse in order for the next potential stimulation of the neuron to happen. This process occurs in part through the breaking down of the neurotransmitters by enzymes, and in part through **re-uptake**, *a process in which neurotransmitters that are in the synapse are reabsorbed into the transmitting terminal buttons, ready to again be released after the neuron fires*.

More than 100 chemical substances produced in the body have been identified as neurotransmitters, and these substances have a wide and profound effect on emotion, cognition, and behaviour. Neurotransmitters

regulate our appetite, our memory, our emotions, as well as our muscle action and movement. And as you can see in Table 4.4, "**The Major Neurotransmitters and Their Functions**," some neurotransmitters are also associated with psychological and physical diseases.

Drugs that we might ingest — either for medical reasons or recreationally — can act like neurotransmitters to influence our thoughts, feelings, and behaviour. An **agonist** is *a drug that has chemical properties similar to a particular neurotransmitter and thus mimics the effects of the neurotransmitter*. When an agonist is ingested, it binds to the receptor sites in the dendrites to excite the neuron, acting as if more of the neurotransmitter had been present. As an example, cocaine is an agonist for the neurotransmitter dopamine. Because dopamine produces feelings of pleasure when it is released by neurons, cocaine creates similar feelings when it is ingested. An antagonist is *a drug that reduces or stops the normal effects of a neurotransmitter*. When an **antagonist** is ingested, it binds to the receptor sites in the dendrite, thereby blocking the neurotransmitter. As an example, the poison curare is an antagonist for the neurotransmitter acetylcholine. When the poison enters the brain, it binds to the dendrites, stops communication among the neurons, and usually causes death. Still, other drugs work by blocking the re=uptake of the neurotransmitter itself — when re-uptake is reduced by the drug, more neurotransmitter remains in the synapse, increasing its action.

Table 4.4.1 The Major Neurotransmitters and Their Functions

The Major Neurotransmitters and Their Function

Neurotransmitter	Description and function	Notes
Acetylcholine (ACh)	A common neurotransmitter used in the spinal cord and motor neurons to stimulate muscle contractions. It's also used in the brain to regulate memory, sleeping, and dreaming.	Alzheimer's disease is associated with an undersupply of acetylcholine. Nicotine is an agonist that acts like acetylcholine.
Dopamine	Involved in movement, motivation, and emotion, Dopamine produces feelings of pleasure when released by the brain's reward system, and it's also involved in learning.	Schizophrenia is linked to increases in dopamine, whereas Parkinson's disease is linked to reductions in dopamine (and dopamine agonists may be used to treat it).
Endorphins	Released in response to behaviours such as vigorous exercise, orgasm, and eating spicy foods.	Endorphins are natural pain relievers. They are related to the compounds found in drugs such as opium, morphine, and heroin. The release of endorphins creates the runner's high that is experienced after intense physical exertion.
GABA (gamma-aminobutyric acid)	The major inhibitory neurotransmitter in the brain.	A lack of GABA can lead to involuntary motor actions, including tremors and seizures. Alcohol stimulates the release of GABA, which inhibits the nervous system and makes us feel drunk. Low levels of GABA can produce anxiety, and GABA agonists (tranquilizers) are used to reduce anxiety.
Glutamate	The most common neurotransmitter, it's released in more than 90% of the brain's synapses. Glutamate is found in the food additive MSG (monosodium glutamate).	Excess glutamate can cause overstimulation, migraines, and seizures.
Serotonin	Involved in many functions, including mood, appetite, sleep, and aggression.	Low levels of serotonin are associated with depression, and some drugs designed to treat depression (known as selective serotonin re-uptake inhibitors, or SSRIs) serve to prevent their re-uptake.

Key Takeaways

- The central nervous system (CNS) is the collection of neurons that make up the brain and the

spinal cord.

- The peripheral nervous system (PNS) is the collection of neurons that link the CNS to our skin, muscles, and glands.
- Neurons are specialized cells, found in the nervous system, which transmit information. Neurons contain a dendrite, a soma, and an axon.
- Some axons are covered with a fatty substance known as the myelin sheath, which surrounds the axon, acting as an insulator and allowing faster transmission of the electrical signal.
- The dendrite is a treelike extension that receives information from other neurons and transmits electrical stimulation to the soma.
- The axon is an elongated fibre that transfers information from the soma to the terminal buttons.
- Neurotransmitters relay information chemically from the terminal buttons and across the synapses to the receiving dendrites using a lock and key type of system.
- The many different neurotransmitters work together to influence cognition, memory, and behaviour.
- Agonists are drugs that mimic the actions of neurotransmitters, whereas antagonists are drugs that block the actions of neurotransmitters.

Long Descriptions

Figure 4.4.2 – The nervous system, including the brain, is made up of billions of interlinked neurons. This vast interconnected web is responsible for all human thinking, feeling, and behaviour.

Figure 4.4.3 – The myelin sheath wraps around the axon but also leaves small gaps called the nodes of Ranvier. The action potential jumps from node to node as it travels down the axon.

Figure 4.4.4 – When the nerve impulse reaches the terminal button, it triggers the release of neurotransmitters into the synapse. The neurotransmitters fit into receptors on the receiving dendrites in the manner of a lock and key.

References

Figure 4.4.1, 4.4.2, 4.4.3 & 4.44 – Components of the Neuron. The Neuron Is the Building Block of the Nervous System. Stangor, C., & Walinga, J. (2018). *Introduction to Psychology: 1st Canadian Edition*. B.C. Open Textbook Project. https://opentextbc.ca/introductiontopsychology/chapter/5-1-the-neuron-is-the-building-block-of-the-nervous-system/

gregl1219. (2009, January 30). The Electrochemical Action of the Neuron [Video]. Youtube. https://www.youtube.com/watch?v=TKG0MtH5crc.

4.5 IMPACTS OF DRUGS ON NEUROTRANSMISSION

Figure 4.5.1 – Photo by Hal Gatewood on Unsplash

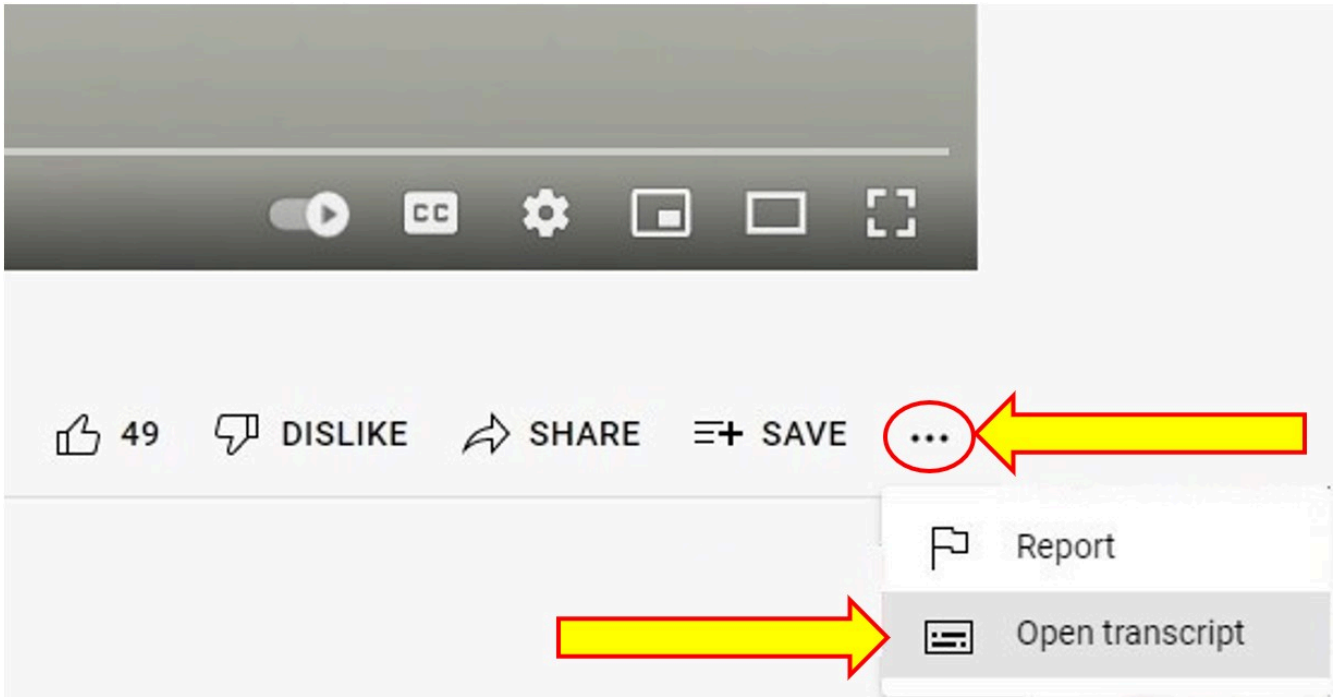
The Influence of Drugs on Neurotransmitters is important to know. Different drugs impact neurotransmitters differently.

Lets Watch this video on: The Influence of Drugs on Neurotransmitters – AP Psychology

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=56#oembed-1

The Influence of Drugs on Neurotransmitters – AP Psychology. by Khan Academy. Lin Lectures.[1]

Transcript



Some neurotransmitters are:

- dopamine
- serotonin –
- norepinephrine
- endogenous opioids (endorphin and enkephalin)
- acetylcholine
- endogenous cannabinoids (anandamide)
- glutamate
- gamma-aminobutyric acid (GABA)

For More Information:

- Addiction and the brain: the role of neurotransmitters in the cause and treatment of drug dependence – CMAJ (Canadian Medical Association Journal)[2]
- How Drugs affect Neurotransmitters – McGill University [3]
- 2 minutes neuroscience on Synaptic Transmission (discuss synaptic transmission. I describe the synapse, synaptic cleft, release of neurotransmitter and its interaction with receptors, and the ways neurotransmitter is cleared from the synaptic cleft)[4]

ATTRIBUTION:

This chapter is not covered by the adaptation statement, it is an original work.

Reference

1. Lin Lectures. (2016, June 30). *The Influence of Drugs on Neurotransmitters – AP Psychology* [Video]. YouTube. https://www.youtube.com/watch?v=mVJjWYXS4JM
2. Tomkins, D. M. (2001, March 20). *Addiction and the brain: the role of neurotransmitters in the cause and treatment of drug dependence*. CMAJ. https://www.cmaj.ca/content/164/6/817
3. *THE BRAIN FROM TOP TO BOTTOM*. (n.d.). https://thebrain.mcgill.ca/flash/i/i_03/i_03_m/i_03_m_par/i_03_m_par_heroine.html
4. Neuroscientifically Challenged. (2014, July 22). *2-Minute Neuroscience: Synaptic Transmission* [Video]. YouTube. https://www.youtube.com/watch?v=WhowH0kb7n0

4.6 MOOD DISORDERS

Module Overview

Figure 4.6.1 – Photo by Stormkeeper on Unsplash

We will discuss matters related to mood disorders including their clinical presentation, epidemiology, comorbidity, etiology, and treatment options. Our discussion will introduce Major Depressive Disorder, Persistent Depressive Disorder (formerly Dysthymia), Bipolar I disorder, Bipolar II disorder, and Cyclothymic

disorder. We will also cover major depressive, manic, and hypomanic episodes. We will cover Bipolar and REeated Disorders and Depressive Disorders from the DSM 5-TR.

Learning Objectives

- Describe how depressive disorders present.
- Describe how bipolar disorders present.
- Describe the epidemiology of mood disorders.
- Describe comorbidity in relation to mood disorders.
- Describe the etiology of mood disorders.
- Describe treatment options for mood disorders.

CLINICAL PRESENTATION – DEPRESSIVE DISORDERS

Figure 4.6.2 – Photo by Anh Nguyen on Unsplash

Depressive Disorders Learning Objectives

- Distinguish the two distinct groups of mood disorders.
- Identify and describe the two types of depressive disorders.
- Classify symptoms of depression.
- Describe premenstrual dysphoric disorder

Within mood disorders are two distinct groups—individuals with depressive disorders and individuals with bipolar disorders. **The key difference between the two mood disorder groups is episodes of mania/hypomania.** More specifically, in bipolar I disorder, the individual experiences a manic episode that "may have been preceded by and may be followed by hypomanic or major depressive episodes" [(1)] whereas for bipolar II disorder, the individual has experienced in the past or is currently experiencing a hypomanic episode and has experienced in the past or is currently experiencing a major depressive episode. In contrast, individuals presenting with a depressive disorder have never experienced a manic or hypomanic episode.

Types of Depressive Disorders

The two most common types of depressive disorders are major depressive disorder (MDD) and persistent depressive disorder (PDD). **Persistent depressive disorder**, which in the DSM-5 now includes the diagnostic categories of dysthymia and chronic major depression, is a continuous and chronic form of depression. While the symptoms of PDD are very similar to MDD, they are usually less acute, as symptoms tend to ebb and flow over a long period (i.e., more than two years). **Major depressive disorder**, on the other hand, has discrete episodes lasting at least two weeks in which there are substantial changes in affect, cognition, and neurovegetative functions [(2)].

It should be noted that after a careful review of the literature, **premenstrual dysphoric disorder**, was moved from "Criteria Sets and Axes Provided for Future Study" in the DSM-IV to Section II of DSM-5 as the disorder was confirmed as a "specific and treatment-responsive form of depressive disorder that begins sometime following ovulation and remits within a few days of menses and has a marked impact on functioning" [(2)].

The DSM-5 also added a new diagnosis, ***disruptive mood dysregulation disorder*** (DMDD), for children up to 12 years of age, to deal with the potential for overdiagnosis and treatment of bipolar disorder in children, both in the United States and internationally. Children with DMDD present with persistent irritability and frequent episodes of extreme behavioral dyscontrol and so develop unipolar, not bipolar, depressive disorders or anxiety disorders as they move into adolescence and adulthood.

For a discussion of DMDD, please visit our sister book, Behavioral Disorders of Childhood:

https://opentext.wsu.edu/behavioral-disorders-childhood/ [3]

Symptoms Associated with Depressive Disorders

When making a diagnosis of depression, there are a wide range of symptoms that may be present. These symptoms can generally be grouped into four categories: mood, behavioural, cognitive, and physical symptoms.

Mood

While clinical depression can vary in its presentation among individuals, most, if not all individuals with depression will report significant mood disturbances such as a depressed mood for most of the day and/or feelings of *anhedonia*, which is the loss of interest in previously interesting activities.

Behavioural

Behavioural issues such as decreased physical activity and reduced productivity—both at home and work—are often observed in individuals with depression. This is typically where a disruption in daily functioning occurs as individuals with depressive disorders are unable to maintain their social interactions and employment responsibilities.

Cognitive

It should not come as a surprise that there is a serious disruption in cognitions as individuals with depressive

disorders typically hold a negative view of themselves and the world around them. They are quick to blame themselves when things go wrong, and rarely take credit when they experience positive achievements. Individuals with depressive disorders often feel worthless, which creates a negative feedback loop by reinforcing their overall depressed mood. They also report difficulty concentrating on tasks, as they are easily distracted from outside stimuli. This assertion is supported by research that has found individuals with depression perform worse than those without depression on tasks of memory, attention, and reasoning [(4)]. Finally, thoughts of suicide and self-harm do occasionally occur in those with depressive disorders; this will be discussed in the epidemiology section in more detail.

Physical

Changes in sleep patterns are common in those experiencing depression with reports of both hypersomnia and insomnia. **Hypersomnia**, or excessive sleeping, often impacts an individual's daily functioning as they spend the majority of their time sleeping as opposed to participating in daily activities (i.e., meeting up with friends, getting to work on time). Reports of **insomnia** are also frequent and can occur at various points throughout the night including difficulty falling asleep, staying asleep, or waking too early with the inability to fall back asleep before having to wake for the day. Although it is unclear whether symptoms of fatigue or loss of energy are related to insomnia issues, the fact that those experiencing hypersomnia also report symptoms of fatigue suggests that these symptoms are a component of the disorder rather than a secondary symptom of sleep disturbance.

Additional physical symptoms, such as a change in weight or eating behaviours, are also observed. Some individuals who are experiencing depression report a lack of appetite, often forcing themselves to eat something during the day. On the contrary, others overeat, often seeking "comfort foods," such as those high in carbohydrates. Due to these changes in eating behaviours, there may be associated changes in weight.

Finally, psychomotor agitation or retardation, which is the purposeless or slowed physical movement of the body (i.e., pacing around a room, tapping toes, restlessness, etc.) is also reported in individuals with depressive disorders.

Diagnostic Criteria and Features for Depressive Disorder

Major depressive disorder (MDD). According to the DSM-5-TR (APA, 2022), to meet the criteria for a diagnosis of major depressive disorder, an individual must experience at least *five* symptoms across the four categories discussed above, and at least one of the symptoms is either 1) a depressed mood most of the day, almost every day, or 2) loss of interest or pleasure in all, or most, activities, most of the day, almost every day. These symptoms must be present for *at least two weeks* and cause clinically significant distress or impairment in important areas of functioning such as social and occupational. The DSM-5 cautions that responses to a

significant loss (such as the death of a loved one, financial ruin, and discovery of a serious medical illness or disability), can lead to many of the symptoms described above (i.e., intense sadness, rumination about the loss, insomnia, etc.) but this may be the normal response to such a loss. Though the individual's response resembles a major depressive episode, clinical judgment should be utilized in making any diagnosis and be based on the clinician's understanding of the individual's personal history and cultural norms related to how members should express distress in the context of loss.

Persistent depressive disorder (PDD). For a diagnosis of persistent depressive disorder, an individual must experience a depressed mood for most of the day, for more days than not, for *at least two years* (APA, 2022). This feeling of a depressed mood is also accompanied by *two* or more additional symptoms, to include changes in appetite, insomnia or hypersomnia, low energy or fatigue, low self-esteem, feelings of hopelessness, and poor concentration or difficulty with decision making. The symptoms taken together cause clinically significant distress or impairment in important areas of functioning such as social and occupational and these impacts can be as great as or greater than MDD. The individual may experience a temporary relief of symptoms; however, the individual will not be without symptoms for more than two months during this two-year period.

Making Sense of the Disorders

In relation to depressive disorders, note the following:

- Diagnosis MDD ..... if symptoms have been experienced for at least two weeks and can be regarded as severe
- Diagnosis PDD ... if the symptoms have been experienced for at least two years and are not severe

Premenstrual dysphoric disorder. In terms of premenstrual dysphoric disorder, the DSM-5-TR states in the majority of menstrual cycles, at least *five* symptoms must be present in the final week before the onset of menses, being improving with a few days after menses begins, and disappear or become negligible in the week postmenses. Individuals diagnosed with premenstrual dysphoric disorder must have one or more of the following: increased mood swings, irritability or anger, depressed mood, or anxiety/tension. Additionally, they must have one or more of the following to reach a total of five symptoms: anhedonia, difficulty concentrating, lethargy, changes in appetite, hypersomnia or insomnia, feelings of being overwhelmed or out of control, and/or experience breast tenderness or swelling. The symptoms lead to issues at work or school (i.e., decreased productivity and efficiency), within relationships (i.e., discord in the intimate partner relationship or with children, friends, or other family members), and with usual social activities (i.e., avoidance of the activities).

Key Takeaways

You should have learned the following in this section:

- Mood disorder fall into one of two groups – depressive or bipolar disorders – with the key distinction between the two being episodes of mania/hypomania.
- Symptoms of depression fall into one of four categories – mood, behavioural, cognitive, and physical.
- Persistent Depressive Disorder shares symptoms with Major Depressive Disorder though they are usually not as severe and ebb and flow over a period of at least two years.
- Premenstrual dysphoric disorder presents as mood lability, irritability, dysphoria, and anxiety symptoms occurring often during the premenstrual phase of the cycle and remit around the beginning of menses or shortly thereafter.

Review Questions

1. What are the different categories of mood disorder symptoms? Identify the symptoms within each category.
2. What are the key differences in a major depression and a persistent depressive disorder diagnosis?
3. What is premenstrual dysphoric disorder?

CLINICAL PRESENTATION – BIPOLAR AND RELATED DISORDERS

Figure 4.6.3 – Photo by micheile dot com on Unsplash

Bipolar Disorders Learning Objectives

- Distinguish the forms bipolar disorder takes.
- Contrast a manic episode with a hypomanic episode
- Define cyclothymic disorder.

Distinguishing Bipolar I and II Disorders

According to the DSM-5 (APA, 2022), there are two types of Bipolar Disorder- Bipolar I and Bipolar II. A diagnosis of Bipolar I Disorder is made when there is at least one **manic episode**. This manic episode can be

preceded by or followed by a hypomanic or major depressive episode, however, diagnostic criteria for a manic episode are the *only* criteria that need to be met for a Bipolar I diagnosis. A diagnosis of Bipolar II Disorder is made when there is a current or history of a **hypomanic episode** *and* a current or past major depressive episode. In simpler words, if an individual has ever experienced a manic episode, they qualify for a Bipolar I diagnosis; however, if the criteria have only been met for a hypomanic episode, the individual qualifies for a Bipolar II diagnosis.

Making Sense of the Disorders

In relation to bipoloar I and II disorders, note the following:

- Diagnosis bipolar I disorder .... if an individual has ever experienced a **manic** episode
- Diagnosis bipolar II disorder ... if the criteria has only been met for a **hypomanic** episode

Manic Episode

Manic episode. The key feature of a **manic episode** is a specific period in which an individual reports abnormal, persistent, or expansive irritable mood for nearly all day, every day, for *at least one week* (APA, 2022). Additionally, the individual will display increased activity or energy during this same time. With regards to mood, an individual in a manic episode will appear excessively happy, often engaging haphazardly in sexual or interpersonal interactions. They also display rapid shifts in mood, also known as **mood lability**, ranging from happy, neutral, to irritable. At least three of the symptoms described below (four if the mood is only irritable) must be present and represent a noticeable change in the individual's typical behaviour.

Inflated self-esteem or grandiosity (Criterion B1) is present during a manic episode. Occasionally these inflated self-esteem levels can appear delusional. For example, individuals may believe they are friends with a celebrity, do not need to abide by laws, or even perceive themselves as God. They also engage in multiple overlapping new projects (Criteria B6 and 7), often initiated with no prior knowledge about the topic, and engaged in at unusual hours of the day.

Despite the increased activity level, individuals experiencing a manic episode also require a decreased need for sleep (Criterion B2), sleeping as little as a few hours a night yet still feeling rested. Reduced need for sleep may also be a precursor to a manic episode, suggesting that a manic episode is to begin imminently. It is not uncommon for those experiencing a manic episode to be more talkative than usual. It can be difficult to follow their conversation due to the quick pace of their talking, as well as tangential storytelling. Additionally, they can be difficult to interrupt in conversation, often disregarding the reciprocal nature of communication

(Criterion B3). If the individual is more irritable than expansive, speech can become hostile and they engage in tirades, particularly if they are interrupted or not allowed to engage in an activity they are seeking out (APA, 2022).

Based on their speech pattern, it should not be a surprise that racing thoughts and flights of ideas (Criterion B4) also present during manic episodes. Because of these rapid thoughts, speech may become disorganized or incoherent. Finally, individuals experiencing a manic episode are distractable (Criterion B5).

Hypomanic Episode

Hypomanic episode. As mentioned above, for a bipolar II diagnosis, an individual must report symptoms consistent with a major depressive episode *and* at least one hypomanic episode. An individual with bipolar II disorder must not have a history of a manic episode—if there is a history of mania, the diagnosis will be diagnosed with bipolar I. A **hypomanic episode** is like a manic episode in that the individual will experience abnormally and persistently elevated, expansive, or irritable mood and energy levels, however, the behaviours are not as extreme as in mania. Additionally, behaviours consistent with a hypomanic episode must be present for at least four days, compared to the one week in a manic episode.

Making Sense of the Disorders

Take note of the following in relation to manic and hypomanic episodes:

- A manic episode is severe enough to cause impairments in social or occupational functioning and can lead to hospitalization to prevent harm to self or others.
- A hypomanic episode is NOT severe enough to cause such impairments or hospitalization.

Cyclothymic Disorder

Notably, there is a subclass of individuals who experience numerous periods with hypomanic symptoms that do not meet the criteria for a hypomanic episode and *mild* depressive symptoms (i.e., do not fully meet criteria for a major depressive episode). These individuals are diagnosed with **cyclothymic disorder** (APA, 2022). Presentation of these symptoms occur for two or more years and are typically interrupted by periods of normal mood not lasting more than two months at a time. The symptoms cause clinically significant distress or impairment in important areas of functioning, such as social and occupational. While only a small percentage of the population develops cyclothymic disorder, it can eventually progress into bipolar I or bipolar II disorder.

Key Takeaways

You should have learned the following in this section:

- An individual is diagnosed with bipolar I disorder if they have ever experienced a manic episode and are diagnosed with bipolar II disorder if the criteria has only been met for a hypomanic episode.
- A manic episode is characterized by a specific period in which an individual reports abnormal, persistent, or expansive irritable mood for nearly all day, every day, for at least one week.
- A hypomanic episode is characterized by abnormally and persistently elevated, expansive, or irritable mood and energy levels, though not as extreme as in mania, and must be present for at least four days. It is also not severe enough to cause impairments or hospitalization.
- Cyclothymic disorder includes periods of hypomanic and mild depressive symptoms without meeting the criteria for a depressive episode which lasts two or more years and is interrupted by periods of normal moods.

Review Questions

1. What is the difference between bipolar I and II disorder?
2. What are the key diagnostic differences between a hypomanic and manic episode?
3. What is cyclothymic disorder?

EPIDEMIOLOGY

Epidemiology Learning Objectives

- Describe the epidemiology of depressive disorders.
- Describe the epidemiology of bipolar disorders.
- Describe the epidemiology of suicidality.

Depressive Disorders

Figure 4.6.4 – Photo by Fernando @cferdophotography on Unsplash

According to the DSM-5-TR (APA, 2022), the 12-month prevalence rate for major depressive disorder is approximately 7% within the United States. Recall that DSM-5 persistent depressive disorder is a blend of DSM-IV dysthymic disorder and chronic major depressive disorder. The prevalence rate for DSM-IV dysthymic disorder is much lower than MDD, with a 0.5% rate among adults in the United States, while DSM-IV chronic major depressive disorder is 1.5%.

As well, individuals in the 18- to 29- year-old age bracket report the highest rates of MDD than any other age

group. Women experience about twofold higher rates than men of MDD, especially between menarche and menopause (APA, 2022). The estimated lifetime prevalence for major depressive disorder in women is 21.3% compared to 12.7% in men [(5)]. Regrading DSM-IV dysthymic disorder and chronic major depressive disorder, the prevalence among women is 1.5 and 2 times greater than the prevalence for men for each of these diagnoses, respectively (APA, 2022).

Bipolar Disorders

The 12-month prevalence of bipolar I disorder in the United States is 1.5% and did not differ statistically between men and women. In contrast, bipolar II disorder has a prevalence rate of 0.8% in the United States and 0.3% internationally (APA, 2022), and some clinical samples suggest it is more common in women, with approximately 80-90% of individuals with rapid-cycling episodes being women [(6)]. Childbirth may be a specific trigger for a hypomanic episode, occurring in 10-20% of women in nonclinical settings and most often in the early postpartum period.

Suicidality

Individuals with a depressive disorder have a 17-fold increased risk for suicide over the age- and sex-adjusted general population rate. Features associated with an increased risk for death by suicide include anhedonia, living alone, being single, disconnecting socially, having access to a firearm, early life adversity, sleep disturbance, feelings of hopelessness, and problems with decision making. Women attempt suicide at a higher rate though men are more likely to complete suicide. Finally, the premenstrual phase is considered a risk period for suicide by some (APA, 2022).

In terms of bipolar disorders, the lifetime risk of suicide is estimated to be 20- to 30- fold greater than in the general population and 5-6% of individuals with bipolar disorder die by suicide. Like depressive disorders, women attempt suicide at a higher rate though lethal suicide is more common in men with bipolar disorder. About 1/3 of individuals with bipolar II disorder report a lifetime history of suicide attempt, which is similar in bipolar I disorder, though lethality of attempts is higher in individuals with bipolar II (APA, 2022).

Key Takeaways

You should have learned the following in this section:

- Major depressive disorder is experienced by about 7% of the population in the United States, afflicting young adults and women the most.
- Bipolar I disorder afflicts 1.5% and bipolar II disorder afflicts 0.8% of the U.S. population with bipolar II affecting women more than men and no gender difference being apparent for bipolar I.
- Individuals with a depressive disorder have a 17-fold increased risk for suicide while the lifetime risk of suicide for an individual with a bipolar disorder is estimated to be 20- to 30-fold greater than in the general population and 5-6% of individuals with bipolar disorder die by suicide.

Review Questions

- What are the prevalence rates of the mood disorders?
- What gender differences exist in the rate of occurrence of mood disorders?
- How do depressive and bipolar disorders compare in terms of suicidality (attempts and lethality)?

COMORBIDITY

Comorbidity Learning Objectives

- Describe the comorbidity of depressive disorders.
- Describe the comorbidity of bipolar disorders.

Depressive Disorders

Studies exploring depression symptoms among the general population show a substantial pattern of comorbidity between depression and other mental disorders, particularly substance use disorders [7]. Nearly three-fourths of participants with lifetime MDD in a large-scale research study also met the criteria for at least one other DSM disorder [7]. MDD has been found to co-occur with substance-related disorders, panic disorder, generalized anxiety disorder, PTSD, OCD, anorexia, bulimia, and borderline personality disorder. Gender differences do exist within comorbidities such that women report comorbid anxiety disorders, bulimia, and somatoform disorders while men report comorbid alcohol and substance abuse. In contrast, those with PDD are at higher risk for psychiatric comorbidity in general and for anxiety disorders, substance use disorders, and personality disorders in particular (APA, 2022).

Given the extent of comorbidity among individuals with MDD, researchers have tried to identify which disorder precipitated the other. The majority of studies found that most depression cases occur secondary to another mental health disorder, meaning that the onset of depression is a direct result of the onset of another disorder [8].

Bipolar Disorders

Those with bipolar I disorder typically have a history of three or more mental disorders. The most frequent comorbid disorders include anxiety disorders, alcohol use disorder, other substance use disorder, and ADHD, along with borderline, schizotypal, and antisocial personality disorder.

Bipolar II disorder is more often than not associated with one or more comorbid mental disorders, with anxiety disorders being the most common (38% with social anxiety, 36% with specific phobia, and 30% having generalized anxiety). As with bipolar I, substance use disorders are common with alcohol use (42%) leading the way, followed by cannabis use (20%). Premenstrual syndrome and premenstrual dysphoric disorder are common in women with bipolar II disorder especially (APA, 2022).

Finally, cyclothymic disorder has been found to be comorbid with substance-related disorders and sleep disorders.

Key Takeaways

You should have learned the following in this section:

- Depressive disorders have high comorbidity with substance use disorders, anxiety disorders, ADHD, and substance abuse with these other disorders often causing depression.
- Bipolar disorder has high comorbidity with anxiety disorders, disruptive/impulse-control disorders, and substance abuse disorders.

Review Questions

- What are common comorbidities for the depressive disorder?
- What are common comorbidities for bipolar disorders?

ETIOLOGY

Etiology Learning Objectives

- Describe the biological causes of mood disorders.
- Describe the cognitive causes of mood disorders.
- Describe the behavioural causes of mood disorders.
- Describe the socio-cultural causes of mood disorders.

Biological

Research throughout the years continues to provide evidence that depressive disorders have some biological cause. While it does not explain every depressive case, it is safe to say that some individuals may at least

have a predisposition to developing a depressive disorder. Among the biological factors are genetic factors, biochemical factors, and brain structure.

Genetics Like with any disorder, researchers often explore the prevalence rate of depressive disorders among family members to determine if there is some genetic component, whether it be a direct link or a predisposition. If there is a genetic predisposition to developing depressive disorders, one would expect a higher rate of depression within families than that of the general population. Research supports this with regards to depressive disorders as there is nearly a 30% increase in relatives diagnosed with depression compared to 10% of the general population [(9).] Similarly, there are an elevated prevalence among first-degree relatives for both Bipolar I and Bipolar II disorders as well.

Another way to study the genetic component of a disorder is via twin studies. One would expect identical twins to have a higher rate of the disorder as opposed to fraternal twins, as identical twins share the same genetic make-up, whereas fraternal twins only share roughly 50%, similar to that of siblings. A large-scale study found that if one identical twin was diagnosed with depression, there was a 46% chance their identical twin was diagnosed with depression. In contrast, the rate of depression diagnosis in fraternal twins was only 20%. Despite the fraternal twin rate still being higher than that of a first-degree relative, this study provided enough evidence that there is a strong genetic link in the development of depression [(10)]

More recently, scientists have been studying depression at a molecular level, exploring possibilities of gene abnormalities as a cause for developing a depressive disorder. While much of the research is speculation due to sampling issues and low power, there is some evidence that depression may be tied to the 5-HTT gene on chromosome 17, as this is responsible for the activity of serotonin [(11).]

Bipolar disorders share a similar genetic predisposition to that of major depressive disorder. Twin studies within bipolar disorder yielded concordance rates for identical twins at as high as 72%, yet the range for fraternal twins, siblings, and other close relatives ranged from 5-15%. It is important to note that both percentages are significantly higher than that of the general population, suggesting a strong genetic component within bipolar disorder [(12)]. The DSM-5-TR more recently reports heritability estimates around 90% in some twin studies and the risk of bipolar disorder being around 1% in the general population compared to 5-10% in a first-degree relative (APA, 2022).

Biochemical As you will read in the treatment section, there is strong evidence of a biochemical deficit in depression and bipolar disorders. More specifically, low activity levels of norepinephrine and serotonin, have long been documented as contributing factors to developing depressive disorders. This relationship was discovered accidentally in the 1950s when MAOIs were given to tuberculosis patients, and miraculously, their depressive moods were also improved. Soon thereafter, medical providers found that medications used to treat high blood pressure by causing a reduction in norepinephrine also caused depression in their patients [(13)].

While these initial findings were premature in the identification of how neurotransmitters affected the development of depressive features, they did provide insight as to *what* neurotransmitters were involved in this system. Researchers are still trying to determine the exact pathways; however, it does appear that *both*

norepinephrine and serotonin are involved in the development of symptoms, whether it be between the interaction between them, or their interaction with other neurotransmitters [14].

Due to the close nature of depression and bipolar disorder, researchers initially believed that both norepinephrine and serotonin were implicated in the development of bipolar disorder; however, the idea was that there was a drastic *increase* in serotonin during mania episodes. Unfortunately, research supports the opposite. It is believed that low levels of serotonin and *high levels* of norepinephrine may explain mania episodes [15]. Despite these findings, additional research in this area is needed to conclusively determine what is responsible for the manic episodes of bipolar disorder.

Endocrine system. As you may know, the endocrine system is a collection of glands responsible for regulating hormones, metabolism, growth and development, sleep, and mood, among other things. Some research has implicated hormones, particularly **cortisol**, a hormone released as a stress response, in the development of depression [16]. Additionally, **melatonin**, a hormone released when it is dark outside to assist with the transition to sleep, may also be related to depressive symptoms, particularly during the winter months.

Brain anatomy. Seeing as neurotransmitters have been implicated in the development of depressive disorders, it should not be a surprise that various brain structures have also been identified as contributors to mood disorders. While exact anatomy and pathways are yet to be determined, research studies implicate the **prefrontal cortex**, the **hippocampus**, and the **amygdala**. More specifically, drastic changes in blood flow throughout the prefrontal cortex have been linked with depressive symptoms. Similarly, a smaller hippocampus, and consequently, fewer neurons, has also been linked to depressive symptoms. Finally, heightened activity and blood flow in the amygdala, the brain area responsible for our fight or flight emotions, is also consistently found in individuals with depressive symptoms.

Abnormalities to several brain structures have also been identified in individuals with bipolar disorder; however, what or why these structures are abnormal has yet to be determined. Researchers continue to focus on areas of the **basal ganglia** and **cerebellum**, which appear to be much smaller in individuals with bipolar disorder compared to the general public. Additionally, there appears to be a decrease in brain activity in regions associated with regulating emotions, as well as an increase in brain activity among structures related to emotional responsiveness [17]. Additional research is still needed to determine precisely how each of these brain structures may be implicated in the development of the bipolar disorder.

Cognitive

The cognitive model, arguably the most conclusive model with regards to depressive disorders, focuses on the negative thoughts and perceptions of an individual. One theory often equated with the cognitive model of depression is **learned helplessness.** Coined by Martin Seligman [18], learned helplessness was developed based on his laboratory experiment involving dogs. In this study, Seligman restrained dogs in an apparatus and routinely shocked them regardless of their behaviour. The following day, the dogs were placed in a similar apparatus; however, this time they were not restrained and there was a small barrier placed between the "shock"

floor and the "safe" floor. What Seligman observed was that despite the opportunity to escape the shock, the dogs flurried for a bit, and then ultimately laid down and whimpered while being shocked.

Based on this study, Seligman concluded that the animals essentially learned that they were unable to avoid the shock the day prior, and therefore, learned that they were helpless in preventing the shocks. When they were placed in a similar environment but had the opportunity to escape the shock, their learned helplessness carried over, and they continued to believe they were unable to escape the shock.

This study has been linked to humans through research on **attributional style** [19]. There are two types of attributional styles—positive and negative. A negative attributional style focuses on the *internal, stable*, and *global* influence of daily lives, whereas a positive attributional style focuses on the *external, unstable,* and *specific* influence of the environment. Research has found that individuals with a negative attributional style are more likely to experience depression. This is likely due to their negative interpretation of daily events. For example, if something bad were to happen to them, they would conclude that it is *their* fault (internal), bad things *always* happen to them (stable), and bad things happen *all* day to them. Unfortunately, this maladaptive thinking style often takes over an individual's daily view, thus making them more vulnerable to depression.

In addition to attributional style, Aaron Beck also attributed negative thinking as a precursor to depressive disorders [20, 21, 22]. Often viewed as the grandfather of Cognitive-Behavioural Therapy, Beck went on to coin the terms—maladaptive attitudes, cognitive triad, errors in thinking, and automatic thoughts—all of which combine to explain the cognitive model of depressive disorders.

Maladaptive attitudes, or negative attitudes about oneself, others, and the world around them are often present in those with depressive symptoms. These attitudes are inaccurate and often global. For example, "If I fail my exam, the world will know I'm stupid." Will the entire world *really* know you failed your exam? Not likely. Because you fail the exam, are you stupid? No. Individuals with depressive symptoms often develop these maladaptive attitudes regarding everything in their life, indirectly isolating themselves from others. The **cognitive triad** also plays into the maladaptive attitudes in that the individual interprets these negative thoughts about their *experiences, themselves*, and their *futures.*

Cognitive distortions, also known as **errors in thinking**, are a key component in Beck's cognitive theory. Beck identified 15 errors in thinking that are most common in individuals with depression (see the end of the module). Among the most common are catastrophizing, jumping to conclusions, and overgeneralization. I always like to use my dad (first author's dad) as an example for overgeneralization. Whenever we go to the grocery store, he *always* comments about how *whatever* line he chooses, at *every* store, it is always the slowest line. Does this happen *every* time he is at the store? I'm doubtful, but his error in thinking leads to him believing this is true.

Finally, **automatic thoughts**, or the constant stream of negative thoughts, also lead to symptoms of depression as individuals begin to feel as though they are inadequate or helpless in a given situation. While some cognitions are manipulated and interpreted negatively, Beck stated that there is another set of negative thoughts that occur automatically. Research studies have continually supported Beck's maladaptive thoughts, attitudes, and errors in thinking as fundamental issues in those with depressive disorders [23][24]. Furthermore,

as you will see in the treatment section, cognitive strategies are among the most effective forms of treatment for depressive disorders.

Behavioural

The behavioural model explains depression as a result of a change in the number of rewards and punishments one receives throughout their life. This change can come from work, intimate relationships, family, or even the environment in general. Among the most influential in the field of depression is Peter Lewinsohn. He stated depression occurred in most people due to the reduced positive rewards in their life. Because they were not positively rewarded, their constructive behaviours occurred more infrequently until they stop engaging in the behaviour completely [(25) (26)]. An example of this is a student who keeps receiving bad grades on their exam despite studying for hours. Over time, the individual will reduce the amount of time they are studying, thus continuing to earn poor grades.

Sociocultural

In the sociocultural theory, the role of family and one's social environment play a substantial role in the development of depressive disorders. There are two sociocultural views- the *family-social perspective* and the *multi-cultural perspective.*

Family-social perspective. Similar to that of the behavioural theory, the family-social perspective of depression suggests that depression is related to the unavailability of social support. This is often supported by research studies that show separated and divorced individuals are three times more likely to experience depressive symptoms than those that are married or even widowed [(27)]. While many factors lead a couple to separate or end their marriage, some relationships end due to a spouse's mental health issues, particularly depressive symptoms. Depressive symptoms have been positively related to increased interpersonal conflicts, reduced communication, and intimacy issues, all of which are often reported as causal factors leading to a divorce [(28)].

The family-social perspective can also be viewed oppositely, with stress and marital discord leading to increased rates of depression in one or both spouses [(29)]. While some research indicates that having children provides a positive influence on one's life, it can also lead to stress both within the individual, as well as between partners due to division of work and discipline differences. Studies have shown that women who had three or more young children and also lacked a close confidante and outside employment, were more likely than other mothers to become depressed [(30)].

Multi-cultural perspective. While depression is experienced across the entire world, one's cultural background may influence *what* symptoms of depression are presented. Common depressive symptoms such as feeling sad, lack of energy, anhedonia, difficulty concentrating, and thoughts of suicide are a hallmark

in most societies; other symptoms may be more specific to one's nationality. More specifically, individuals from non-Western countries (China and other Asian countries) often focus on the physical symptoms of depression—tiredness, weakness, sleep issues—and less emphasis on the cognitive symptoms. Individuals from

Within the United States (similar to Canada), many researchers have explored potential differences across ethnic or racial groups in both rates of depression, as well as presenting symptoms of those diagnosed with depression. These studies continually fail to identify any significant differences between ethnic and racial groups; however, one major study has identified a difference in the rate of recurrence of depression in Hispanic and African Americans [(31)]. While the exact reason for this is unclear, researchers propose a lack of treatment opportunities as a possible explanation. According to Gonzalez and colleagues [(31),] approximately 54% of depressed white Americans seek out treatment, compared to the 34% and 40% Hispanic and African Americans, respectively. The fact that there is a large discrepancy in the use of treatment between white Americans and minority Americans suggests that these individuals are not receiving the effective treatment necessary to resolve the disorder, thus leaving them more vulnerable for repeated depressive episodes.

Gender differences. As previously discussed, there is a significant difference between gender and rates of depression, with women twice as likely to experience an episode of depression than men [(32)]. There are a few speculations as to why there is such an imbalance in the rate of depression across genders.

The first theory, *artifact theory,* suggests that the difference between genders is due to clinician or diagnostic systems being more sensitive to diagnosing women with depression than men. While women are often thought to be more "emotional," easily expressing their feelings and more willing to discuss their symptoms with clinicians and physicians, men often withhold their symptoms or will present with more traditionally "masculine" symptoms of anger or aggression. While this theory is a possible explanation for the gender differences in the rate of depression, research has failed to support this theory, suggesting that men and women are equally likely to seek out treatment and discuss their depressive symptoms [(33)(34)]

The second theory, *hormone theory*, suggests that variations in hormone levels trigger depression in women more than men [(35)]. While there is biological evidence supporting the changes in hormone levels during various phases of the menstrual cycle and their impact on women's ability to integrate and process emotional information, research fails to support this theory as the reason for higher rates of depression in women [(36)].

The third theory, the *life stress theory,* suggests that women are more likely to experience chronic stressors than men, thus accounting for their higher rate of depression [(37)]. Women face increased risk for poverty, lower employment opportunities, discrimination, and poorer quality of housing than men, all of which are strong predictors of depressive symptoms [(38)].

The fourth theory, the *gender roles theory,* suggests that social and or psychological factors related to traditional gender roles also influence the rate of depression in women. For example, men are often encouraged to develop personal autonomy, seek out activities that interest them, and display achievement-oriented goals; women are encouraged to empathize and care for others, often fostering an interdependent functioning, which may cause women to value the opinion of others more highly than their male counterparts do.

The final theory, *rumination theory*, suggests that women are more likely than men to ruminate, or intently

focus, on their depressive symptoms, thus making them more vulnerable to developing depression at a clinical level [39]. Several studies have supported this theory and shown that rumination of negative thoughts is positively related to an increase in depression symptoms [40].

While many theories try to explain the gender discrepancy in depressive episodes, no single theory has produced enough evidence to fully explain why women experience depression more than men. Due to the lack of evidence, gender differences in depression remain one of the most researched topics within the subject of depression, while simultaneously being the least understood phenomena within clinical psychology.

Key Takeaways

- In terms of biological explanations for depressive disorders, there is evidence that rates of depression are higher among identical twins (the same is true for bipolar disorders), that the 5-HTT gene on chromosome 17 may be involved in depressive disorders, that norepinephrine and serotonin affect depressive (both being low) and bipolar disorders (low serotonin and high norepinephrine), the hormones cortisol and melatonin affect depression, and several brain structures are implicated in depression (prefrontal cortex, hippocampus, and amygdala) and bipolar disorder (basal ganglia and cerebellum).
- In terms of cognitive explanations, learned helplessness, attributional style, and maladaptive attitudes to include the cognitive triad, errors in thinking, and automatic thoughts, help to explain depressive disorders.
- Behavioural explanations centre on changes in the rewards and punishments received throughout life.
- Sociocultural explanations include the family-social perspective and multi-cultural perspective.
- Women are twice as likely to experience depression and this could be due to women being more likely to be diagnosed than men (called the artifact theory), variations in hormone levels in women (hormone theory), women being more likely to experience chronic stressors (life stress theory), the fostering of an interdependent functioning in women (gender roles theory), and that women are more likely to intently focus on their symptoms (rumination theory).

Review Questions

- How do twin studies explain the biological causes of mood disorders?
- What brain structures are implicated in the development of mood disorders? Discuss their role.
- What is learned helplessness? How has this concept been used to study the development and maintenance of mood disorders?
- What is cognitive triad?
- What are common cognitive distortions observed in individuals with mood disorders?
- What are the identified theories that are used to explain the gender differences in mood disorder development?

TREATMENT OF MOOD DISORDERS

Treatment of Mood Disorders Learning Objectives

- Describe treatment options for depressive disorders.
- Describe treatment options for bipolar disorders.
- Determine the efficacy of treatment options for depressive disorders.
- Determine the efficacy of treatment options for bipolar disorders.

Depressive Disorders

Given that Major Depressive Disorder is among the most frequent and debilitating psychiatric disorders, it should not be surprising that the research on this disorder is quite extensive. Among its treatment options, the most efficacious treatments include antidepressant medications, Cognitive-Behavioral Therapy [41], Behavioral Activation [42], and Interpersonal Therapy [43]. Although CBT is the most widely known and used treatment

for Major Depressive Disorder, there is minimal evidence to support one treatment modality over the other; treatment is generally dictated by therapist competence, availability, and patient preference [44].

Psychopharmacology – Antidepressant medications. Antidepressants are often the most common first-line attempt at treatment for MDD for a few reasons. Oftentimes an individual will present with symptoms to their primary caregiver (a medical doctor) who will prescribe them some line of antidepressant medication. Medication is often seen as an "easier" treatment for depression as the individual can take the medication at their home, rather than attending weekly therapy sessions; however, this also leaves room for adherence issues as a large percentage of individuals to fail to take prescription medication as indicated by their physician. Given the biological functions of neurotransmitters and their involvement in maintaining depressive symptoms, it makes sense that this is an effective type of treatment.

Within antidepressant medications, there are a few different classes, each categorized by its structural or functional relationships. It should be noted that no specific antidepressant medication class or medication has been proven to be more effective in treating MDD than others (APA, 2010). In fact, many patients may try several different types of antidepressant medications until they find one that is effective, with minimal side effects.

Psychopharmacology – Selective serotonin reuptake inhibitors(SSRIs). SSRIs are among the most common medications used to treat depression due to their relatively benign side effects. Additionally, the required dose to reach therapeutic levels is low compared to the other medication options. Possible side effects from SSRIs include but are not limited to nausea, insomnia, and reduced sex drive.

SSRIs improve depression symptoms by blocking the reuptake of norepinephrine and/or serotonin in presynaptic neurons, thus allowing more of these neurotransmitters to be available for postsynaptic neurons. While this is the general mechanism through which all SSRIs work, there are minor biological differences among different types of medications within the SSRI family. These small differences are actually beneficial to patients in that there are a few treatment options to maximize medication benefits and minimize side effects.

Psychopharmacology – Tricyclic antidepressants. Although originally developed to treat schizophrenia, tricyclic antidepressants were adapted to treat depression after failing to manage symptoms of schizophrenia [45]. The term tricyclic came from the molecular shape of the structure: three rings.

Tricyclic antidepressants are similar to SSRIs in that they work by affecting brain chemistry, altering the number of neurotransmitters available for neurons. More specifically, they block the absorption or reuptake of serotonin and norepinephrine, thus increasing their availability for postsynaptic neurons. While effective, tricyclic antidepressants have been increasingly replaced by SSRIs due to their reduced side effects. However, tricyclic antidepressants have been shown to be more effective in treating depressive symptoms in individuals who have not been able to achieve symptom reduction via other pharmacological approaches.

While the majority of the side effects are minimal- dry mouth, blurry vision, constipation, others can be serious- sexual dysfunction, tachycardia, cognitive and/or memory impairment, to name a few. Due to the potential impact on the heart, tricyclic antidepressants should not be used in cardiac patients as they may exacerbate cardiac arrhythmias [46].

Psychopharmacology – Monoamine oxidase inhibitors (MAOIs). The use of MAOIs as a treatment for depression began serendipitously as patients in the early 1950s reported reduced depression symptoms while on the medication to treat tuberculosis. Research studies confirmed that MAOIs were effective in treating depression in adults outside the treatment of tuberculosis. Although still prescribed, they are not typically first-line medications due to their safety concerns with hypertensive crises. Because of this, individuals on MAOIs have strict diet restrictions to reduce their risk of hypertensive crises [(47)].

How do MAOIs work? In basic terms, monoamine oxidase is released in the brain to remove excess neurotransmitters norepinephrine, serotonin, and dopamine. MAOIs essentially prevent the monoamine oxidase (hence the name monoamine oxidase *inhibitors*) from removing these neurotransmitters, thus resulting in an increase in these brain chemicals [(47)]. As previously discussed, norepinephrine, serotonin, and dopamine are all involved in the biological mechanisms of maintaining depressive symptoms.

While these drugs are effective, they come with serious side effects. In addition to the hypertensive episodes, they can also cause nausea, headaches, drowsiness, involuntary muscle jerks, reduced sexual desire, weight gain, etc. (APA, 2010). Despite these side effects, studies have shown that individuals prescribed MAOIs for depression have a treatment response rate of 50-70% [(48)]. Overall, despite their effectiveness, MAOIs are likely the best treatment for late-stage, treatment-resistant depression patients who have exhausted other treatment options [(48)].

It should be noted that occasionally, antipsychotic medications are used for individuals with MDD; however, these are limited to individuals presenting with psychotic features.

Psychotherapy – Cognitive behavioural therapy (CBT). CBT was founded by Aaron Beck in the 1960s and is a widely practiced therapeutic tool used to treat depression (and other disorders as well). The basics of CBT involve what Beck called the **cognitive triangle** — cognitions (thoughts), behaviours, and emotions. Beck believed that these three components are interconnected, and therefore, affect one another. It is believed that CBT can improve emotions in depressed patients by changing both cognitions (thoughts) and behaviours, which in return enhances mood. Common cognitive interventions with CBT include thought monitoring and recording, identifying cognitive errors, examining evidence supporting/negating cognitions, and creating rational alternatives to maladaptive thought patterns. Behavioural interventions of CBT include activity planning, pleasant event scheduling, task assignments, and coping skills training.

CBT generally follows four phases of treatment:

- **Phase 1: Increasing pleasurable activities.** Similar to behavioUral activation (see below), the clinician encourages the patient to identify and engage in activities that are pleasurable to the individual. The clinician can help the patient to select the activity, as well as help them plan when they will engage in that activity.
- **Phase 2: Challenging automatic thoughts.** During this stage, the clinician provides psychoeducation about the negative automatic thoughts that can maintain depressive symptoms. The patient will learn to identify these thoughts on their own during the week and maintain a thought journal of these

cognitions to review with the clinician in session.

- **Phase 3: Identifying negative thoughts.** Once the individual is consistently able to identify these negative thoughts on a daily basis, the clinician can help the patient identify *how* these thoughts are maintaining their depressive symptoms. It is at this point that the patient begins to have direct insight as to how their cognitions contribute to their disorder.
- **Phase 4: Changing thoughts.** The final stage of treatment involves challenging the negative thoughts the patient has been identifying in the last two phases of treatment and replacing them with positive thoughts.

Psychotherapy – Behavioural activation (BA). BA is similar to the behavioUral component of CBT in that the goal of treatment is to alleviate depression and prevent future relapse by changing an individual's behaviour. Founded by Ferster [(49)], as well as Lewinsohn and colleagues [(50)(51)], the goal of BA is to increase the frequency of behavioUrs so that individuals have opportunities to experience greater contact with sources of reward in their lives. To do this, the clinician assists the patient by developing a list of pleasurable activities that they can engage in outside of treatment (i.e., going for a walk, going shopping, having dinner with a friend). Additionally, the clinician assists the patient in identifying their negative behaviours—crying, sleeping in, avoiding friends—and monitoring them so that they do not impact the outcome of their pleasurable activities. Finally, the clinician works with the patient on effective social skills. By minimizing negative behaviours and maximizing pleasurable activities, the individual will receive more positive rewards and reinforcement from others and their environment, thus improving their overall mood.

Psychotherapy – Interpersonal therapy (IPT). IPT was developed by Klerman, Weissman, and colleagues in the 1970s as a treatment arm for a pharmacotherapy study of depression [(52)]. The treatment was created based on data from post-World War II individuals who expressed a substantial impact on their psychosocial life events. Klerman and colleagues noticed a significant relationship between the development of depression and complicated bereavement, role disputes, role transitions, and interpersonal deficits in these individuals [(52)]. The idea behind IPT is that depressive episodes compromise interpersonal functioning, which makes it difficult to manage stressful life events. The basic mechanism of IPT is to establish effective strategies to manage interpersonal issues, which in return, will ameliorate depressive symptoms.

There are two main principles of IPT. First, depression is a common medical illness with a complex and multi-determined etiology. Since depression is a medical illness, it is also treatable and *not* the patient's fault. Second, depression is connected to a current or recent life event. The goal of IPT is to identify the interpersonal problem that is related to the depressive symptoms and solve this crisis so the patient can improve their life situation while relieving depressive symptoms.

Multimodal treatment. While both pharmacological and psychological treatment alone is very effective in treating depression, a combination of the two treatments may offer additional benefits, particularly in the maintenance of wellness. Additionally, multimodal treatment options may be helpful for individuals who have not achieved wellness in a single modality.

Multimodal treatments can be offered in three different ways: concurrently, sequentially, or within a stepped manner [53]. With a stepped manner treatment, pharmacological therapy is often used initially to treat depressive symptoms. Once the patient reports some relief in symptoms, psychosocial treatment is added to address the remaining symptoms. While all three methods are effective in managing depressive symptoms, matching patients to their treatment preferences may produce better outcomes than clinician-driven treatment decisions.

Bipolar Disorder

Psychopharmacology. Unlike treatment for MDD, there is some controversy regarding the effective treatment of Bipolar Disorder. One suggestion is to treat Bipolar Disorder aggressively with mood stabilizers such as Lithium or Depakote as these medications do not induce pharmacological mania/hypomania. These mood stabilizers are occasionally combined with antidepressants later in treatment *only* if absolutely necessary [54]. Research has shown that mood stabilizers are less potent in treating depressive symptoms, and therefore, the combination approach is believed to help manage both manic and depressive episodes [54].

The other treatment option is to forgo the mood stabilizer and treat symptoms with newer antidepressants early in treatment. Unfortunately, large-scale research studies have not shown great support for this method [55][56]. Antidepressants often trigger a manic or hypomanic episode in bipolar patients. Because of this, the first-line treatment option for Bipolar Disorder is mood stabilizers, particularly Lithium.

Psychological treatment. Although psychopharmacology is the first and most widely used treatment for bipolar disorders, occasionally psychological interventions are also paired with medication as psychotherapy alone is not a sufficient treatment option. The majority of psychological interventions are aimed at medication adherence, as many bipolar patients stop taking their mood stabilizers when they "feel better" [57]. Social skills training and problem-solving skills are also helpful techniques to address in the therapeutic setting as individuals with bipolar disorder often struggle in this area.

Outcome of Treatment

Depressive treatment. As we have discussed, the major depressive disorder has a variety of treatment options, all found to be efficacious. However, research suggests that while psychopharmacological interventions are more effective in rapidly reducing symptoms, psychotherapy, or even a combined treatment approach, are more effective in establishing long-term relief of symptoms.

Rates of relapse for major depressive disorder are often associated with individuals whose onset was at a younger age (particularly adolescents), those who have already experienced multiple major depressive episodes, and those with more severe symptomology, especially those presenting with severe suicidal ideation and psychotic features (APA, 2022).

Bipolar treatment. Lithium and other mood stabilizers are very effective in managing symptoms of patients with bipolar disorder. Unfortunately, it is the adherence to the medication regimen that is often the issue with these patients. Bipolar patients often desire the euphoric highs that are associated with manic and hypomanic episodes, leading them to forgo their medication. A combination of psychopharmacology and psychotherapy aimed at increasing the rate of adherence to medical treatment may be the most effective treatment option for bipolar I and II disorder.

Key Takeaways

You should have learned the following in this section:

- Treatment of depressive disorders includes psychopharmacological options such as anti-depressant mediations, SSRIs, tricyclic antidepressants, and MAOIs AND/OR psychotherapy options including CBT, behavioural activation (BA), and interpersonal therapy (IPT). A combination of the two main approaches often works best, especially in relation to the maintenance of wellness.
- Treatment of bipolar disorder involves mood stabilizers such as Lithium and psychological interventions with the goal of medication adherence, as well as social skills training and problem-solving skills.
- In regard to depression, psychopharmacological interventions are more effective in rapidly reducing symptoms, while psychotherapy, or even a combined treatment approach, is more effective in establishing long-term relief of symptoms.
- A combination of psychopharmacology and psychotherapy aimed at increasing the rate of adherence to medical treatment may be the most effective treatment option for bipolar I and II disorder.

Module Recap

That concludes our discussion of mood disorders. You should now have a good understanding of the two major types of mood disorders – depressive and bipolar disorders. Be sure you are clear on what makes them different from one another in terms of their clinical presentation, epidemiology, comorbidity, and etiology. This will help you with understanding treatment options and their efficacy.

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4.6 THE PLACEBO EFFECT

The Power of The Placebo and the Therapeutic Encounter Effect

The placebo effect is a beneficial health outcome resulting from a person's anticipation that an intervention—pill, procedure, or injection, for example—will help them. A clinician's style of interacting with patients also may bring about a positive response that is independent of any specific treatment. – Placebo Effect NIH

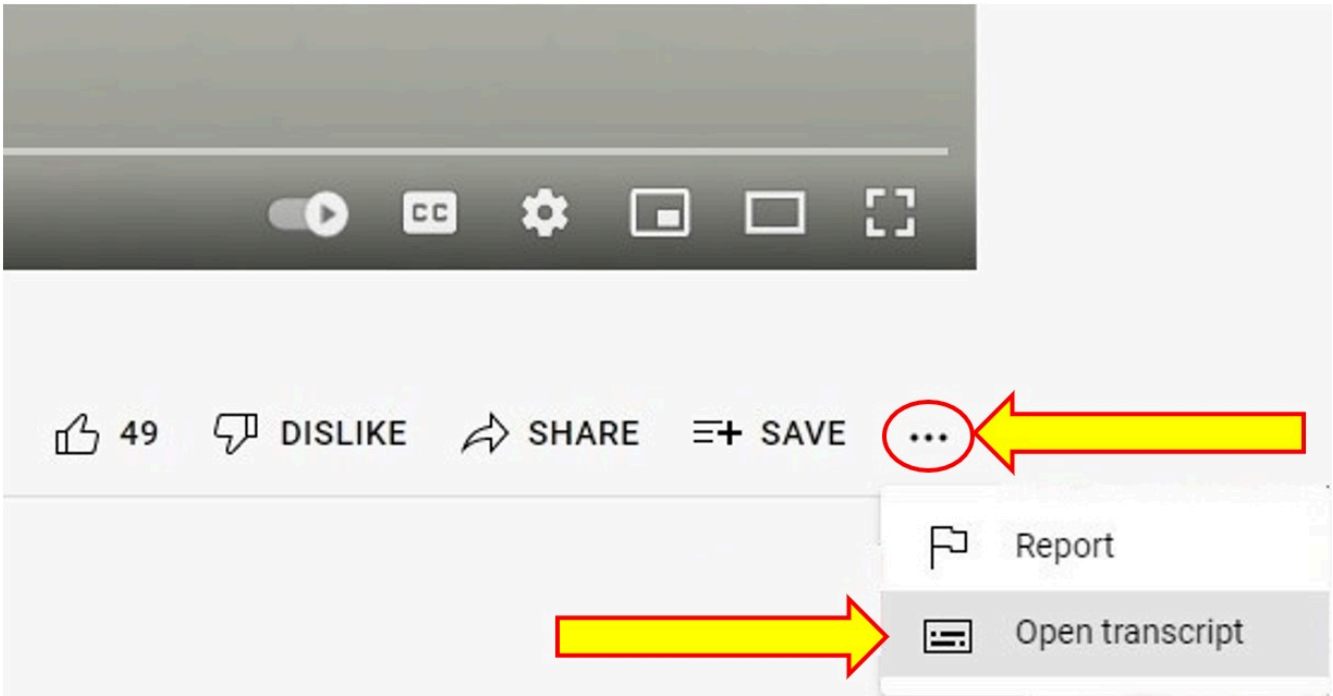
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=59#oembed-1

What Is a Placebo? Q and A with Ted Kaptchuk. Professor of Medicine, Harvard Medical School. NCCIH Ted Kaptchuk talks about the placebo effect and the therapeutic encounter, including the role of placebo in scientific research and what consumers should know about the placebo effect in their health care decision-making.

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



Attribution

LICENSE

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4.7 KEY TERMS STUDY GUIDE

Key Terms – How Drugs Work in the Body and the Mind (Levinthal, 2015)

The material in this chapter and the supporting web pages and video are the core of this course. Once you understand the brain, nervous systems, neurotransmitters, and how drugs enter, exit and are metabolized you will have a solid foundation for understanding the rest of the course content. Some of you have had several physiology courses and may be very familiar with this material. If you are not familiar with the terms below, I recommend you download this study sheet, add more spaces to write in definitions and relevant information (or make flashcards) as you read the chapter and watch videos.

1. Acetylcholine
2. Antidepressant
3. Behavioural
4. Behavioural activation (BA)
5. Bipolar Disorders
6. Biotransformation
7. Blood-brain barrier
8. Central nervous system (CNS)
9. Cerebral cortex
10. Cross-dependence
11. Cross-tolerance
12. Cognitive
13. Cognitive Behavioural Therapy (CBT)
14. Comorbidity
15. Depressive Disorders
16. Diagnostic Criteria
17. Dopamine
18. Double-blind
19. Elimination half-life
20. Epidemiology
21. Endocannabinoids
22. Endorphins

23. Etiology
24. Gamma-aminobutyric acid (GABA)
25. Glutamate
26. Hypomanic
27. Interpersonal Therapy (IPT)
28. Intramuscular
29. Intranasal
30. Intravenous
31. Manic
32. Metabolite
33. Mood Disorders
34. Monoamine Oxidase Inhibitors (MAOIs)
35. Multimodal Treatment
36. Neuron
37. Neurotransmitter
38. Norepinephrine
39. Nucleus accumbens
40. Parasympathetic branch of the autonomic nervous system
41. Peripheral nervous system
42. Placebo
43. Psychopharmacology
44. Psychotherapy
45. Reuptake
46. Selective Serotonin Reuptake Inhibitors (SSRI)
47. Serotonin
48. Subcutaneous
49. Sublingual
50. Sympathetic branch of the autonomic nervous system
51. Synapse
52. Tricyclic Antidepressants

4.8 SELF-CARE

Creating a community of practice is one way Social Service workers can engage in self care. Communities of practice are groups of individuals who gather together to share information, resources and best practice.

Photo by Hannah Busing on Unsplash

Example

- What is a Community of Practice by the Edmonton Regional Learning Consortium (ERLC), CC BY-NC-SA.

Review the Community of Practice website to see how a community of practice can come together [1]

How can you create a community of practice with your peers?

Attribution:

Reference:

1. Edmonton Regional Learning Consortium. (2016). *What is a community of practice?* . https://www.communityofpractice.ca/background/what-is-a-community-of-practice

ADDITIONAL RESOURCES

The most common routes used to administer drugs, advantages & disadvantages, and examples of doses.

Routes of Drug Administration – Knowledge Dose

CHAPTER 5: TYPES OF DRUGS COMMONLY MISUSED

CHAPTER 5: INTRODUCTION

This chapter provides an opportunity to learn about the historically abused drugs as well as new drugs and to examine how the industry and user preferences shape the experiences of users and abusers of various drugs.

LEARNING OBJECTIVES

Learning Objectives

By the end of this chapter you should be able to:

1. Categorize drugs and determine their origin
2. Give examples of each type of drug category
3. Explain the effects on the mind and body of each drug
4. Recognize overdose effects
5. Indicate the legal status of each drug
6. Explore nicotine and the change the tobacco industry had to make to keep up with trends in nicotine use
7. Indicate the trends in drug use that shaped the meth epidemic
8. Consider the pros and cons of performance-enhancing drugs

5.1 INTRODUCTION TO DRUG CLASSES

The Controlled Drugs and Substances Act (CDSA) regulates five classes of drugs:

Figure 5.1.1 – Photo by Angel Sinigersky on Unsplash

1. **Depressants** (e.g., antihistamines, alcohol, barbiturates, non-barbiturate sedative-hypnotics,

benzodiazepines including Z-drugs and inhalants)

2. **Opioids (Narcotics)** (e.g., fentanyl, heroin, methadone, morphine, opium, oxycodone)
3. **Stimulants** (e.g., amphetamines, anorexiants, bath salts (methylendioxypyrovalerone and mephedrone), betel, caffeine, cocaine, decongestants, khat methamphetamines, Ritalin and related drugs to treat attention-deficit/hyperactivity disorder {ADHD}, and nicotine)
4. **Hallucinogens** – (placed into five categories: Cannabis, dissociative anaesthetics {PCP and ketamine}, LSD-like, novel psychoactive substances and phenylethylamines: mescaline-like psychoactive agents)
5. **Psychotherapeutic Agents** – (placed into three categories: antidepressants, antipsychotics and mood stabilizers)

Each class has distinguishing properties, and drugs within each class often produce similar effects. However, all controlled substances, regardless of class, share a number of common features. This introduction will familiarize you with these shared features and define the terms frequently associated with these drugs. All controlled substances have abuse potential or are immediate precursors to substances with abuse potential. With the exception of anabolic steroids, controlled substances are abused to alter mood, thought, and feeling through their actions on the central nervous system (brain and spinal cord). Some of these drugs alleviate pain, anxiety, or depression. Some induce sleep and others energize. Though some controlled substances are therapeutically useful, the "feel good" effects of these drugs contribute to their abuse. The extent to which a substance is reliably capable of producing intensely pleasurable feelings (euphoria) increases the likelihood of that substance being abused.

Drug Abuse

When controlled substances are used in a manner or amount inconsistent with the legitimate medical use, it is called drug abuse. The non-sanctioned use of substances controlled in Schedules I through III of the CDSA is considered drug abuse. While legal pharmaceuticals placed under control in the CDSA are prescribed and used by patients for medical treatment, the use of these same pharmaceuticals outside the scope of sound medical practice is drug abuse.

Dependence

In addition to having abuse potential, most controlled substances are capable of producing dependence, either physical or psychological.

Physical Dependence

Physical dependence refers to the changes that have occurred in the body after repeated use of a drug that

necessitates the continued administration of the drug to prevent a withdrawal syndrome. This withdrawal syndrome can range from mildly unpleasant to life-threatening and is dependent on a number of factors, such as:

- The drug being used
- The dose and route of administration
- Concurrent use of other drugs
- Frequency and duration of drug use
- The age, sex, health, and genetic makeup of the user

Psychological Dependence

Psychological dependence refers to the perceived "need" or "craving" for a drug. Individuals who are psychologically dependent on a particular substance often feel that they cannot function without the continued use of that substance. While physical dependence disappears within days or weeks after drug use stops, psychological dependence can last much longer and is one of the primary reasons for relapse (initiation of drug use after a period of abstinence). Contrary to common belief, physical dependence is not addiction. While individuals with a substance use disorder are usually physically dependent on the drug they are abusing, a physical dependence can exist without addiction. For example, patients who take narcotics for chronic pain management or benzodiazepines to treat anxiety are likely to be physically dependent on that medication.

Addiction

Figure 5.1.2 – Photo by Raimond Klavings on Unsplash

Addiction is defined as compulsive drug-seeking behaviour where acquiring and using a drug becomes the most important activity in the user's life. This definition implies a loss of control regarding drug use, and the person with a substance use disorder will continue to use a drug despite serious medical and/or social consequences.

Statistics Canada – Table 2 – Percentage of people who reported having used cannabis in the past 12 months by smoking status, household population aged 15 and older, Canada, 2017 and 2019 [1]. Drugs within a class are often compared with each other with terms like potency and efficacy. Potency refers to the amount of a drug that must be taken to produce a certain effect, while efficacy refers to whether or not a drug is capable of producing a given effect regardless of dose. Both the strength and the ability of a substance to produce certain effects play a role in whether that drug is selected by the drug user. It is important to keep in mind that the effects produced by any drug can vary significantly and is largely dependent on the dose and route of administration. Concurrent use of other drugs can enhance or block an effect, and substance abusers often take more than one drug to boost the desired effects or counter unwanted side effects. The risks associated with drug abuse cannot be accurately predicted because each user has his/her own unique sensitivity to a drug. There are

a number of theories that attempt to explain these differences, and it is clear that a genetic component may predispose an individual to certain toxicities or even addictive behaviour.

Useful links

In the Table 1 & Table 2 of Statistics Canada, each of the five classes of drugs is reviewed and various drugs within each class are profiled.

- "Table 1" by Statistics Canada is in the Public Domain
- "Table 2" by Statistics Canada is in the Public Domain

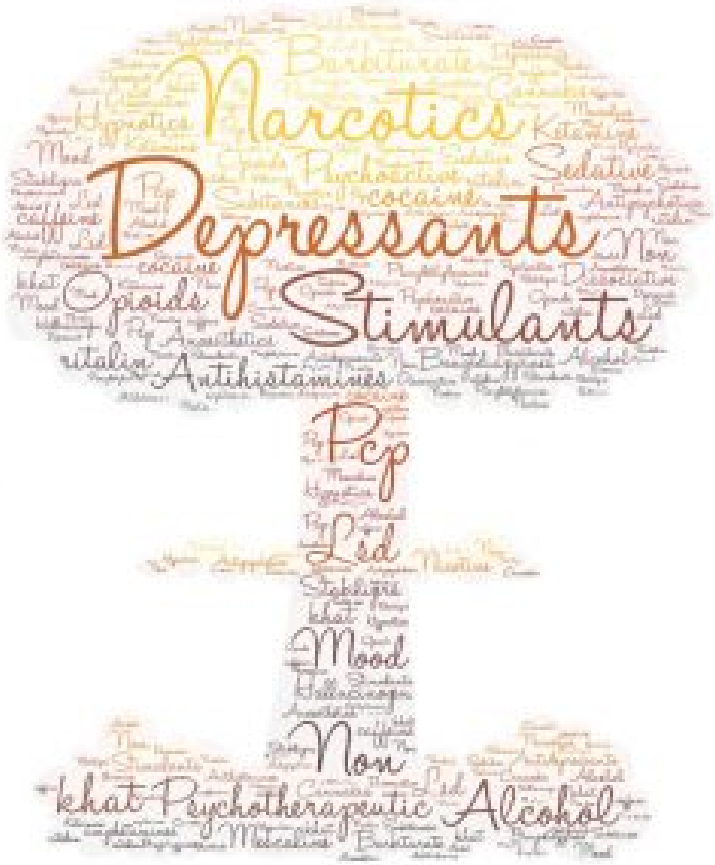

Figure 5.1.3 – *Drug Classes* WordArt Created by Denise Halsey

Table 1
Percentage of people who reported having used alcohol, cannabis, cigarettes or an illegal drug in the past year, household population aged 15 and older, Canada, 2019[2]

	Total population thousands of people	Percent %
Alcohol	23,697.4	76.5
Sex		
Men	11,971.1	78.3
Women	11,726.3	74.7
Age group		
15 to 19 years	986.0	46.3
20 to 24 years	1,912.6	84.4
25 years and older	20,798.8	78.2
Cannabis	6,410.3	20.7
Sex		
Men	3,490.5	22.8
Women	2,919.7	18.6
Age group		
15 to 19 years	467.9	21.9
20 to 24 years	1,010.6	44.6
25 years and older	4,931.8	18.5
Current cigarette smokers	4,236.0	13.7
Sex		
Men	2,380.0	15.6
Women	1,856.0	11.8
Age group		
15 to 19 years	171.9	8.1
20 to 24 years	315.6	13.9
25 years and older	3,748.5	14.1
Illegal drug	1,100.3	3.6
Sex		
Men	628.7	4.1
Women	471.6	3.0
Age group		

	Total population	Percent
15 to 19 years	65.7	3.1
20 to 24 years	310.2	13.7
25 years and older	724.4	2.7

Source: Canadian Alcohol and Drugs Survey (5289).

Table 2
Percentage of people who reported having used cannabis in the past 12 months by smoking status, household population aged 15 and older, Canada, 2017 and 2019

Current cigarette smokers – 2019 Canadian Alcohol and Drugs Survey	People who did not currently smoke cigarettes – 2019 Canadian Alcohol and Drugs Survey	Current cigarette smokers – 2017 Canadian Tobacco, Alcohol and Drugs Survey	People who did not currently smoke cigarettes – 2017 Canadian Tobacco, Alcohol and Drugs Survey	
	%	%	%	%
Total	**41.4**	**17.4**	**36.6**	**10.6**
Sex				
Men1	43.2	19.1	39.6	13.9
Women	39.1	15.9	33.1	7.42
Age group				
15 to 19 years	84.6	16.5	69.3	14.8
20 to 24 years1	83.0	38.4	64.1	26.0
25 years and older	35.92	15.72	32.72	8.8

Source(s):

Canadian Tobacco, Alcohol and Drugs Survey (4440) and Canadian Alcohol and Drugs Survey (5289).

ATTRIBUTION: This chapter is not covered by the adaptation statement, it is an original work.

References:

1. Government Of Canada, Statistics Canada. (2021, December 20). *Percentage of people who reported having used cannabis in the past 12 months by smoking status, household population aged 15 and older, Canada, 2017 and 2019*. https://www150.statcan.gc.ca/n1/daily-quotidien/211220/t002c-eng.htm
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5.2 NARCOTICS

What Are Narcotics?

Also known as "**opioids**," the term "**narcotic**" comes from the Greek word for "**stupor**" and originally referred to a variety of substances that dulled the senses and relieved pain. Though some people still refer to all drugs as "narcotics," today "**narcotic**" refers to opium, opium derivatives, and their semi-synthetic substitutes. A more current term for these drugs, with less uncertainty regarding its meaning, is "**opioid**." Examples include the illicit drug heroin and pharmaceutical drugs like OxyContin, Vicodin, codeine, morphine, methadone, and fentanyl.

What is their origin?

The poppy Papaver somniferum is the source of all-natural opioids, whereas synthetic opioids are made entirely in a lab and include meperidine, fentanyl, and methadone. Semi-synthetic opioids are synthesized from naturally occurring opium products, such as morphine and codeine, and include heroin, oxycodone, hydrocodone, and hydromorphone. Teens can obtain narcotics from friends, family members, medicine cabinets, pharmacies, nursing homes, hospitals, hospices, doctors, and the Internet.

Figure 5.2.1 – Photo by Severin Candrian on Unsplash

What are common street names?

Street names for various narcotics/opioids include:

Smack, Horse, Mud, Brown Sugar, Junk, Black Tat, Big H, Paregoric, Dover's Powder, MPTP (New Heroin), Hilbilly Heroin, Lean or Purple Drank, OC, Ox, Oxy, Oxycotton, Sippin Syrup.

What do they look like?

Narcotics/opioids come in various forms, including:

Tablets, capsules, skin patches, powder, chunks in varying colors (from white to shades of brown and black), liquid form for oral use and injection, syrups, suppositories, and lollipops.

How are they abused?

Narcotics/opioids can be swallowed, smoked, sniffed, or injected.

What is their effect on the mind?

Besides their medical use, narcotics/opioids produce a general sense of well-being by reducing tension, anxiety, and aggression. These effects are helpful in a therapeutic setting but contribute to the drugs' abuse. Narcotic/opioid use comes with a variety of unwanted effects, including drowsiness, inability to concentrate, and apathy.

What is their effect on the body?

Narcotics/opioids are prescribed by doctors to treat pain, suppress a cough, cure diarrhea, and put people to sleep. Effects depend heavily on the dose, how it's taken, and previous exposure to the drug. Negative effects include: slowed physical activity, constriction of the pupils, flushing of the face and neck, constipation, nausea, vomiting, and slowed breathing. As the dose is increased, both the pain relief and the harmful effects become more pronounced. Some of these preparations are so potent that a single dose can be lethal to an inexperienced user. However, except in cases of extreme intoxication, there is no loss of motor coordination or slurred speech.

Narcotics continue on the next page (chapter)

Source: *Drugs of Abuse: A DEA resource guide (DEA 2017)*

References

DEA. (2017). *Drugs of Abuse*. Retrieved March 30, 2022, from https://www.dea.gov/sites/default/files/drug_of_abuse.pdf

5.3 NARCOTICS CONTINUED

Psychological Dependence

Use can create psychological dependence. Long after the physical need for the drug has passed, the addict may continue to think and talk about using drugs and feel overwhelmed coping with daily activities. Relapse is common if there are no changes to the physical environment or the behavioural motivators that prompted the abuse in the first place.

Physical Dependence and Withdrawal

Physical dependence is a consequence of chronic opioid use, and withdrawal takes place when drug use is discontinued. The intensity and character of the physical symptoms experienced during withdrawal are directly related to the particular drug used, the total daily dose, the interval between doses, the duration of use, and the health and personality of the user. These symptoms usually appear shortly before the time of the next scheduled dose.

Early withdrawal symptoms often include watery eyes, runny nose, yawning, and sweating. As the withdrawal worsens, symptoms can include: Restlessness, irritability, loss of appetite, nausea, tremors, drug craving, severe depression, vomiting, increased heart rate, and blood pressure, and chills alternating with flushing and excessive sweating.

However, without intervention, the withdrawal usually runs its course, and most physical symptoms disappear within days or weeks, depending on the particular drug.

What are their Overdose Effects?

Figure 5.3.1 – Photo by thom masat by Unsplash

Overdoses of narcotics are not uncommon and can be fatal. Physical signs of narcotics/opioid overdose include:

- constricted (pinpoint) pupils
- cold clammy skin, confusion
- convulsions
- extreme drowsiness
- slowed breathing

Which Drugs Cause Similar Effects?

With the exception of pain relief and cough suppression, most central nervous system depressants (like barbiturates, benzodiazepines, and alcohol) have similar effects, including slowed breathing, tolerance, and dependence. What is their legal status in the Canada? Narcotics/opioids are controlled substances

under The *Narcotics Safety and Awareness Act, 2010* [1] and its requirements apply to a list of prescription medications called monitored drugs. Monitored drugs are defined as follows:

1. Any controlled substance under the federal *Controlled Drugs and Substances Act*. Examples of these include narcotic analgesics (e.g., codeine, morphine, oxycodone, etc.), and controlled drugs such as methylphenidate and barbiturates, as well as benzodiazepines and targeted substances. Complete list of the Controlled Drugs and Substances Act (Canada)[2].
2. Other opioid medications not listed in the *Controlled Drugs and Substances Act such as* tramadol containing products.

Fentanyl
Heroin
Hydromorphone
Methadone
Morphine
Opium
Oxycodone

What is Fentanyl?

Fentanyl is a potent synthetic opioid drug approved by the Food and Drug Administration for use as an analgesic (pain relief) and anesthetic. It is approximately 100 times more potent than morphine and 50 times more potent than heroin as an analgesic.

What is its Origin?

Fentanyl was first developed in 1959 and introduced in the 1960s as an intravenous anesthetic. It is legally manufactured and distributed in the United States and Canada. Licit fentanyl pharmaceutical products are diverted via theft, fraudulent prescriptions, and illicit distribution by patients, physicians, and pharmacists.

Most street fentanyl in Canada is produced illegally as a powder. Street fentanyl may be swallowed, smoked, snorted or injected. Fentanyl is released from prescription patches by smoking or chewing. Fentanyl is sold as a powder or a pill, or is cut into (mixed with) drugs such as heroin[3] or cocaine[4]. This type of fentanyl is usually sold as another substance, so people swallow, snort or inject it without realizing. Many overdoses have occurred because people did not know that what they were taking was contaminated with fentanyl. If you or someone you know uses opioids, it is a good idea to have a free naloxone kit[5]. Naloxone[6] is a medication that can temporarily reverse the effects of an opioid overdose and allow time for medical help to arrive.

What are Common Street Names?

Common street names include:

Apache, China Girl, China Town, Dance Fever, Friend, Good-fellas, Great Bear, He-Man, Jackpot, King Ivory, Murder 8, and Tango & Cash.

What does it Look Like?

Figure 5.3.2 – Photo by Stillness InMotion on Unsplash

Fentanyl pharmaceutical products are currently available in the following dosage forms: tablets, injections and skin patches. Fentanyl is a **very** potent opioid pain reliever. A few grains can be enough to kill you. Fentanyl is usually used in a hospital setting. A doctor can also prescribe it to help control severe pain.

How is it Abused?

Fentanyl can be injected, snorted/sniffed, smoked, taken orally by pill or tablet, and spiked onto blotter paper. Fentanyl patches are abused by removing its gel contents and then injecting or ingesting these contents. Patches have also been frozen, cut into pieces, and placed under the tongue or in the cheek cavity. Illicitly produced fentanyl is sold alone or in combination with heroin and other substances and has been identified in counterfeit pills, mimicking pharmaceutical drugs such as oxycodone. .

What is the Effect on the Body?

Fentanyl, similar to other commonly used opioid analgesics(e.g., morphine), produces effects such as relaxation, euphoria, pain relief, sedation, confusion, drowsiness, dizziness, nausea, vomiting, urinary retention, pupillary constriction, and respiratory depression.

What are the Overdose Effects?

Overdose may result in stupor, changes in pupillary size, cold and clammy skin, cyanosis, coma, and respiratory failure leading to death. The presence of the triad of symptoms such as coma, pinpoint pupils, and respiratory depression are strongly suggestive of opioid poisoning. Fentanyl is dangerous for many reasons:

- It is often impossible to tell if a powder or pill contains fentanyl. You can't see it, smell it or taste it. Even your dealer might not know what they are selling or how strong it is.
- Because fentanyl is so strong, the difference between a dose that will get you high and a dose that can kill you is very small.
- You can overdose even if you use someone's prescription patch and know the dose. Everyone handles fentanyl differently. One person's dose can kill another person.
- If you are using other drugs at the same time—for example, other opioids, alcohol or sedatives such as Xanax, Valium or Ativan—the risk of overdose is even higher.

Which Drugs Cause Similar Effects?

Drugs that cause similar effects include other opioids such as morphine, hydrocodone, oxycodone, hydromorphone, methadone, and heroin.

What is the Legal Status in Canada?

Fentanyl and its equivalents (analogues) are **controlled under Schedule I of the Controlled Drugs and**

Substances Act[2] Activities such as sale, possession and production are illegal, unless authorized for medical, scientific or industrial purposes.

For more information on Fentanyl:

- CAMH – Fentanyl
- Government of Canada – Fentanyl
- Global News – Fentanyl

Staying at the scene of an overdose is important to help save the life of the person experiencing an overdose. The *Good Samaritan Drug Overdose Act*[7] provides some legal protection for individuals who witness an overdose and call 911 or their local emergency number for help.

What is Heroin?

Heroin is a highly addictive drug and it is a rapidly acting opioid.

What is its Origin?

Heroin is processed from morphine, a naturally occurring substance extracted from the seed pod of certain varieties of poppy plants grown in Mexico, South America, Southwest Asia (Afghanistan and Pakistan), and Southeast Asia (Thailand, Laos, and Myanmar (Burma). ,

Heroin comes in several forms, primarily white powder from Mexico and South America; and "black tar" and brown powder from Mexico.

What are Common Street Names?

Common Street Names for Heroin Include: Big H, H, Junk, Black Tar, Chiva, Hell Dust, Horse, Negra, Smack, Skag, China white and Thunder.

What Does it Look Like?

Figure 5.3.3 – Photo by Colin Davis on Unsplash

Heroin is typically sold as a white or brownish powder, or as the black sticky substance known on the streets as "black tar heroin." Although purer heroin is becoming more common, most street heroin is "cut" with other drugs or with substances such as sugar, starch, powdered milk, or quinine.

How is it Abused?

Heroin can be injected, smoked, or sniffed/snorted. High purity heroin is usually snorted or smoked.

What is its Effect on the Mind?

Because it enters the brain so rapidly, heroin is particularly addictive, both psychologically and physically. Heroin users report feeling a surge of euphoria or "rush," followed by a twilight state of sleep and wakefulness. One of the most significant effects of heroin use is addiction. With regular heroin use, tolerance to the drug develops. Once this happens, the person must use more heroin to achieve the same intensity. As higher doses of the drug are used over time, physical dependence and addiction to the drug develop.

What is its effect on the body?

One of the most significant effects of heroin use is addiction. With regular heroin use, tolerance to the drug develops. Once this happens, the person must use more heroin to achieve the same intensity. As higher doses of the drug are used over time, physical dependence and addiction to the drug develop. Effects of heroin use include drowsiness, respiratory depression, constricted pupils, nausea, a warm flushing of the skin, dry mouth, and heavy extremities.

What are its Overdose Effects?

Because heroin users do not know the actual strength of the drug or its true contents, they are at a high risk of overdose or death. The effects of a heroin overdose are slow and shallow breathing, blue lips and fingernails, clammy skin, convulsions, coma, and possible death.

Which Drugs Cause similar Effects?

Other opioids such as OxyContin®, Vicodin®, codeine, morphine, methadone, and fentanyl can cause similar effects as heroin.

What is its legal status in Canada?

Heroin is controlled under Schedule I of the **Controlled Drugs and Substances Act** [(2)]. Activities such as sale, possession and production are illegal, unless authorized for medical, scientific or industrial purposes.

For more information on Heroin:

- CAMH Heroin
- Government of Canada – Heroin
- article on HAT (Heroin Assistant Treatment)

Hydromorphone

Figure 5.3.4 – Photo by Hal Gatewood on Unsplash

What is Hydromorphone?

Hydromorphone belongs to a class of drugs called "opioids," which includes morphine. It has an analgesic potency of two to eight times greater than that of morphine and has a rapid onset of action.

What is its Origin?

Hydromorphone is legally manufactured and distributed in the United States. However, users can obtain hydromorphone from forged prescriptions, "doctor-shopping," theft from pharmacies, and from friends and acquaintances.

What are the Street Names?

Common street names include: D, Dillies, Dust, Footballs, Juice, and Smack.

What Does it Look Like?

Hydromorphone comes in tablets, capsules, oral solutions, and injectable formulations.

How is it Abused?

Users may abuse hydromorphone tablets by ingesting them. Injectable solutions, as well as tablets that have been crushed and dissolved in a solution, may be injected as a substitute for heroin.

What is its Effect on the Mind?

When used as a drug of abuse, and not under a doctor's supervision, hydromorphone is taken to produce feelings of euphoria, relaxation, sedation, and reduced anxiety. It may also cause mental clouding, changes in mood, nervousness, and restlessness. It works centrally (in the brain) to reduce pain and suppress a cough. Hydromorphone use is associated with both physiological and psychological dependence.

What is its Effect on the Body?

Hydromorphone may cause constipation, pupillary constriction, urinary retention, nausea, vomiting, respiratory depression, dizziness, impaired coordination, loss of appetite, rash, slow or rapid heartbeat, and changes in blood pressure.

What are its Overdose Effects?

Acute overdose of hydromorphone can produce: Severe respiratory depression, drowsiness progressing to stupor or coma, lack of skeletal muscle tone, cold and clammy skin, constricted pupils, and reduction in blood pressure and heart rate. Severe overdose may result in death due to respiratory depression.

Which Drugs cause Similar Effects?

Drugs that have similar effects include: Heroin, morphine, hydrocodone, fentanyl, and oxycodone.

What is its Legal status in Canada?

Hydromorphone products are controlled in schedule II of the federal **Controlled Drugs & Substances Act**[(2)].

For more information on:

- RCMP – Hydromorphone – Summerside
- Government of Canada – Hydromorphone
- RCMP – Hydromorphone – Alberton

Methadone

What is Methadone?

Figure 5.3.5 – Photo by Towfiqu Barbhuiya on Unsplash

Methadone is a synthetic (man-made) narcotic. Methadone is an opioid medication used to treat severe pain and opioid addiction[8]. When used to treat severe pain, methadone is available as a tablet or oral solution. When used to treat opioid addiction, methadone usually comes in the form of a fruit-flavoured drink. The powder is dissolved and taken orally once a day.

What is its Origin?

German scientists synthesized methadone during World War II because of a shortage of morphine. Methadone was introduced into the United States in 1947 as an analgesic (Dolophinel).

What are Common Street Names?

Common street names include:

Amidone, Chocolate Chip Cookies, Fizzies, Maria, Pastora, Salvia, Street Methadone, and Wafer.

What Does it Look Like?

Methadone is available as a tablet, oral solution, or injectable liquid. Tablets are available in 5 mg and 10 mg formulations. As of January 1, 2008, manufacturers of methadone hydro- chloride tablets 40 mg (dispersible) have voluntarily agreed to restrict distribution of this formulation to only those facilities authorized for detoxification and maintenance treatment of opioid addiction, and hospitals. Manufacturers will instruct their wholesale distributors to discontinue supplying this formulation to any facility not meeting the above criteria.

How is it Abused?

Methadone can be swallowed or injected.

What is its Effect on the Mind?

Abuse of methadone can lead to psychological dependence.

What is its Effect on the Body?

When an individual uses methadone, he/she may experience physical symptoms like sweating, itchy skin, or sleepiness. Individuals who abuse methadone risk becoming tolerant of and physically dependent on the drug. When use is stopped, individuals may experience withdrawal symptoms including: Anxiety, muscle tremors, nausea, diarrhea, vomiting, and abdominal cramps.

What are its Overdose Effects?

The effects of a methadone overdose are slow and shallow breathing, blue fingernails and lips, stomach spasms, clammy skin, convulsions, weak pulse, coma, and possible death.

Which Drugs cause Similar Effects?

Although chemically unlike morphine or heroin, methadone produces many of the same effects.

What is its Legal Status in Canada?

It is a controlled substance that is regulated under the **Controlled Drugs and Substances Act (CDSA)**[2], **and the Narcotic Control Regulations (NCR)**[9]. In the past, practitioners were required to obtain an exemption from Health Canada before they could prescribe, sell, provide or administer methadone. While it may legally be used under a doctor's supervision, its non-medical use is illegal.

For more information on methadone:

- CAMH – Methadone
- Government of Canada – Methadone

Morphine

What is Morphine?

Figure 5.3.6 – Photo by Olga DeLawrence on Unsplash

Morphine is a non-synthetic narcotic with a high potential for abuse and is derived from opium. It is used for the treatment of pain.

What is its Origin?

In Canada Morphine is one of many different chemicals present in raw opium. Heroin is morphine that has been even further refined via chemical reaction (it is simply morphine with an acetyl molecule attached). Heroin is roughly two to three times as potent as morphine.

What are Common Street Names?

Common street names include Dreamer, Emsel, First Line, God's Drug, Hows, M.S., Mister Blue, Morf, Morpho, and Unkie.

What Does it Look Like?

Morphine is marketed under generic and brand name products, including: MS-Contin, Oramorph SR, MSIR, Roxanol, Kadian, and RMS.

How is it Abused?

Traditionally, morphine was almost exclusively used by injection, but the variety of pharmaceutical forms that it is marketed as today support its use by oral and other routes of administration.

Forms Include:

Oral solutions, immediate-and extended-release tablets and capsules, and injectable preparations. Those dependent on morphine prefer injection because the drug enters the bloodstream more quickly.

What is its Effect on the Mind?

Morphine's effects include euphoria and relief of pain. Chronic use of morphine results in tolerance and physical and psychological dependence.

What is its Effect on the Body?

Morphine use results in relief from physical pain, a decrease in hunger, and inhibition of the cough reflex.

What are its Overdose Effects?

Overdose effects include cold and clammy skin, lowered blood pressure, sleepiness, slowed breathing, slow pulse rate, coma, and possible death.

Which Drugs Cause Similar Effects?

Drugs causing similar effects as morphine include opium, codeine, heroin, methadone, hydrocodone, fentanyl, and oxycodone.

What is its Legal status in Canada?

Morphine is a **class A, schedule 2 drug**. It is illegal to possess without a prescription, or to supply or produce without a licence.

For more information about Morphine:

- Global News – morphine
- Government of Canada – Morphine
- CBC – morphine

What is Opium?

Figure 5.3.7 – Photo by Ingo Doerrie on Unsplash

Opium is a highly addictive non-synthetic narcotic that is extracted from the poppy plant, Papaver somniferum. The opium poppy is the key source for many narcotics, including morphine, codeine, and heroin.

What is its Origin?

The poppy plant, Papaver somniferum, is the source of opium. It was grown in the Mediterranean region as early as 5000 B.C. and has since been cultivated in a number of countries throughout the world. The milky fluid that seeps from its incisions in the unripe seedpod of this poppy has been scraped by hand and air-dried to produce what is known as opium.

A more modern method of harvesting for pharmaceutical use is by the industrial poppy straw process of extracting alkaloids from the mature dried plant (concentrate of a poppy straw). Currently, there is no commercial cultivation of opium poppy taking place in Canada. **Opioid-based pharmaceuticals sold in Canada are either imported as finished dosage forms or manufactured domestically from active pharmaceutical ingredients imported into Canada**.

What are Common Street Names?

Common street names include Ah-pen-yen, Aunti, Aunti Emma, Big O, Black Pill, Chandoo, Chandu, Chinese Molasses, Chinese Tobacco, Dopium, Dover's Powder, Dream Gun, Dream Stick, Dreams, Easing Powder, Fi-do-nie, Gee, God's Medicine, Gondola, Goric, Great Tobacco, Guma, Hop/hops, Joy Plant, Midnight Oil, Mira, O, O.P., Ope, Pen Yan, Pin Gon, Pox, Skee, Toxy, Toys, When-shee, Ze, and Zero.

What Does it Look Like?

Opium can be a liquid, solid, or powder, but most poppy straw concentrate is available commercially as a fine brownish powder.

How is it Abused?

Opium can be smoked, intravenously injected, or taken in pill form. Opium is also abused in combination with other drugs. For example, "Black" is a combination of marijuana, opium, and methamphetamine, and "Buddha" is potent marijuana spiked with opium.

What is its Effect on the Mind?

The intensity of opium's euphoric effects on the brain depends on the dose and route of administration. It works quickly when smoked because the opiate chemicals pass into the lungs, where they are quickly absorbed and then sent to the brain. An opium "high" is very similar to a heroin "high"; users experience a euphoric rush, followed by relaxation and the relief of physical pain.

What is its Effect on the Body?

Opium inhibits muscle movement in the bowels leading to constipation. It also can dry out the mouth and mucous membranes in the nose. Opium use leads to physical and psychological dependence and can lead to overdose.

What are its Overdose Effects?

Overdose effects include slow breathing, seizures, dizziness, weakness, loss of consciousness, coma, and possible death.

Drugs that Cause Similar Effects Include:

Morphine, codeine, heroin, methadone, hydroquinone, fentanyl, and oxycodone.

What is its Legal Status in Canada?

Opium poppy and its derivatives are regulated under Schedule I of the **Controlled Drugs and Substances Act**[2]. Only licensed dealers under the Narcotic Control Regulations are allowed to import or export opium, with a valid permit.

For more information:

- CAMH – Opium
- RCMP – Opium

Oxycodone

What is Oxycodone?

Oxycodone is a semi-synthetic narcotic analgesic and historically has been a popular drug of abuse among the narcotic abusing population.

What is its Origin?

Oxycodone is synthesized from thebaine, a constituent of the poppy plants.

What are Common Street Names?

Common street names include: Hillbilly Heroin, Kicker, OC, Ox, Roxy, Perc, and Oxy.

What Does it Look Like?

Oxycodone is marketed alone as OxyContin in 10, 20, 40 and 80 mg extended-release tablets and other immediate-release capsules like 5 mg OxyIR. It is also marketed in combination products with aspirin such as Percodan or acetaminophen such as Roxicet or Percocet. (Note: when acetaminophen is added to a drug, it often gets the suffix "cet.")

How is it Abused?

Oxycodone is abused orally or intravenously. The tablets are crushed and sniffed or dissolved in water and injected. Others heat a tablet that has been placed on a piece of foil then inhale the vapors.

What is its Effect on the Mind?

Euphoria and feelings of relaxation are the most common effects of oxycodone on the brain, which explains its high potential for abuse.

What is its Effect on the Body?

Physiological effects of oxycodone include pain relief, sedation, respiratory depression, constipation, papillary constriction, and cough suppression. Extended or chronic use of oxycodone containing acetaminophen may cause severe liver damage.

What are its Overdose Effects?

Overdose effects include: Extreme drowsiness, muscle weakness, confusion, cold and clammy skin, pinpoint pupils, shallow breathing, slow heart rate, fainting, coma, and possible death.

Which Drugs cause Similar Effects?

Drugs that cause similar effects to Oxycodone include opium, codeine, heroin, methadone, hydrocodone, fentanyl, and morphine.

What is its Legal Status in Canada?

Oxycodone is used for its analgesic properties to treat moderate to severe pain and should be taken as prescribed by a doctor. It is **illegal for anyone to possess oxycodone in Canada without a valid prescription**.

For more information:

- CAMH – Oxycodone
- RCMP – Oxycodone

Additional Information to Explore

NIDA information on opioids

if you are interested to learn more on your own, Top Documentary Films has many films on drugs, especially opioids.

ATTRIBUTION

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5.4 STIMULANTS

What are Stimulants?

Figure 5.4.1 – Photo by simone van-der-koelen on Unsplash

Stimulants speed up the body's systems. This class of drugs includes: Prescription drugs such as amphetamines [Adderall and dexedrine], Methylphenidate [Concerta and Ritalin], diet aids [such as Didrex, Bontril, Preludin, Fastin, Adipex P, ionomin, and Meridia] and illicitly produced drugs such as methamphetamine, cocaine, and methcathinone. The stimulant nicotine will be covered in the next section.

What is their Origin?

Stimulants are diverted from legitimate channels and clandestinely manufactured exclusively for the ilicit market.

What are Common Street Names?

Common street names for stimulants include:

- Bennies, Black Beauties, Cat, Coke, Crank, Crystal, Flake, Ice, Pellets, R-Ball, Skippy, Snow, Speed, Uppers, and Vitamin R.

What do They Look Like?

Stimulants come in the form of pills, powder, rocks, and injectable liquids.

How are they Abused?

Stimulants can be pills or capsules that are swallowed. Smoking, snorting, or injecting stimulants produces a sudden sensation known as a "rush" or a "flash." Abuse is often associated with a pattern of binge use — sporadically consuming large doses of stimulants over a short period of time. Heavy users may inject themselves every few hours, continuing until they have depleted their drug supply or reached a point of delirium, psychosis, and physical exhaustion. During heavy use, all other interests become secondary to recreating the initial euphoric rush.

What is Their Effect on the Mind?

When used as drugs of abuse and not under a doctor's supervision, stimulants are frequently taken to:

- Produce a sense of exhilaration, enhance self-esteem, improve mental and physical performance, increase activity, reduce appetite, extend wakefulness for a prolonged period, and "get high"
- Chronic, high-dose use is frequently associated with agitation, hostility, panic, aggression, and suicidal or homicidal tendencies.
- Paranoia, sometimes accompanied by both auditory and visual hallucinations, may also occur.
- Tolerance, in which more and more drug is needed to produce the usual effects, can develop rapidly, and psychological dependence occurs. In fact, the strongest psychological dependence observed occurs with the more potent stimulants, such as amphetamine, methylphenidate, methamphetamine, cocaine, and methcathinone.

Abrupt cessation is commonly followed by depression, anxiety, drug craving, and extreme fatigue, known as a "crash".

What is Their Effect on the Body?

Stimulants are sometimes referred to as uppers and reverse the effects of fatigue on both mental and physical tasks. Therapeutic levels of stimulants can produce exhilaration, extended wakefulness, and loss of appetite. These effects are greatly intensified when large doses of stimulants are taken. Taking too large a dose at one time or taking large doses over an extended period of time may cause such physical side effects as dizziness, tremors, headache, flushed skin, chest pain with palpitations, excessive sweating, vomiting, and abdominal cramps.

What are Their Overdose Effects?

In overdose, unless there is medical intervention, high fever, convulsions, and cardiovascular collapse may precede death. Because accidental death is partially due to the effects of stimulants on the body's cardiovascular and temperature-regulating systems, physical exertion increases the hazards of stimulant use.

Which Drugs cause Similar Effects?

Some hallucinogenic substances, such as ecstasy, have a stimulant component to their activity.

What is Their Legal Status in Canada?

Prescription stimulants are classified as Schedule III drugs under the **Controlled Drugs and Substances Act (CDSA)**[(1).] Their use is legal only when they are prescribed by licensed practitioners and are used by the person for whom they are prescribed. Illegal possession of stimulants and "double doctoring" (i.e., obtaining a prescription from more than one practitioner without telling the prescribing practitioner about other prescriptions received in the past 30 days) can result in three years imprisonment. Trafficking, importing, exporting or producing stimulants can result in 10 years imprisonment[1]

For more Information on Stimulants legal status in Canada:

- Prescription Stimulants – Canadian Drug Summary – CCSA
- Government of Canada – Prescription Stimulants

Amphetamines

Figure 5.4.2 – Photo by Towfiqu barbhuiya on Unsplash

What are Amphetamines?

Amphetamines are stimulants that speed up the body's system. Many are legally prescribed and used to treat attention-deficit hyperactivity disorder (ADHD).

What is Their Origin?

Amphetamine was first marketed in the 1930s as Benzedrine in an over-the-counter inhaler to treat nasal congestion. By 1937 amphetamine was available by prescription in tablet form and was used in the treatment of the sleeping disorder narcolepsy and ADHD. Over the years, the use and abuse of clandestinely produced amphetamines have spread. Today, clandestine laboratory production of amphetamines has mushroomed, and the abuse of the drug has increased dramatically.

What are Common Street Names?

Common street names include: Bennies, Black Beauties, Crank, Ice, Speed, and Uppers.

What do they Look Like?

Amphetamines can look like pills or powders. Common prescription amphetamines include methylphenidate (Ritalin or Ritalin SR), amphetamine and dextroamphetamine (Adderall), and dextroamphetamine (Dexedrine).

How are they Abused?

Amphetamines are generally taken orally or injected. However, the addition of "ice," the slang name of crystallized methamphetamine hydrochloride, has promoted smoking as another mode of administration. Just as "crack" is smokable cocaine, "ice" is smokable methamphetamine.

What is their Effect on the Mind?

The effects of amphetamines and methamphetamine are similar to cocaine, but their onset is slower and their duration is longer. In contrast to cocaine, which is quickly removed from the brain and is almost completely metabolized, methamphetamine remains in the central nervous system longer, and a larger percentage of the drug remains unchanged in the body, producing prolonged stimulant effects. Chronic abuse produces a psychosis that resembles schizophrenia and is characterized by paranoia, picking at the skin, preoccupation with one's own thoughts, and auditory and visual hallucinations. Violent and erratic behaviour is frequently seen among chronic users of amphetamines and methamphetamine.

What is their Effect on the Body?

Physical effects of amphetamine use include increased blood pressure and pulse rates, insomnia, loss of appetite, and physical exhaustion.

What are their Overdose Effects?

Overdose effects include agitation, increased body temperature, hallucinations, convulsions, and possible death.

Which Drugs Cause Similar Effects?

Drugs that cause similar effects include dexmethylphenidate, phentermine, benzphetamine, phendimetrazine, cocaine, crack, methamphetamine, and khat.

What is their Legal Status in Canada?

Prescription stimulants are classified as Schedule III drugs under the **Controlled Drugs and Substances Act (CDSA)**[(1)]. Their use is legal only when they are prescribed by licensed practitioners and are used by the person for whom they are prescribed. Illegal possession of stimulants and "double doctoring" (i.e., obtaining a prescription from more than one practitioner without telling the prescribing practitioner about other prescriptions received in the past 30 days) can result in three years imprisonment. Trafficking, importing, exporting or producing stimulants can result in 10 years imprisonment[1]

Cocaine

Figure 5.4.3 – Photo by Colin Davis on Unsplash

What is Cocaine?

Cocaine is an intense, euphoria-producing stimulant drug with strong addictive potential.

What is its Origin?

Cocaine is derived from coca leaves grown in Bolivia, Peru, and Colombia. The cocaine manufacturing process takes place in remote jungle labs where the raw product undergoes a series of chemical transformations. Colombia produces about 90 percent of the cocaine powder reaching the United States. Most of the cocaine entering the United States comes through Mexico.

What are Common Street Names?

Common street names include Coca, Coke, Crack, Flake, Snow, and Soda Cot.

What does it Look Like?

Cocaine is usually distributed as a white, crystalline powder. Cocaine is often diluted ("cut") with a variety of substances, the most common of which are sugars and local anesthetics. It is "cut" to stretch the amount of the product and increase profits for dealers. In contrast, cocaine base (crack) looks like small, irregularly shaped chunks (or "rocks") of a whitish solid.

How is it Abused?

Powdered cocaine can be snorted or injected into the veins after dissolving in water. Cocaine base (crack) is smoked, either alone or on marijuana or tobacco. Cocaine is also used in combination with an opiate, like heroin, a practice known as "speedballing." Although injecting into veins or muscles, snorting, and smoking are the common ways of using cocaine, all mucous membranes readily absorb cocaine. Cocaine users typically binge on the drug until they are exhausted or run out of cocaine.

What is its Effect on the Mind?

The intensity of cocaine's euphoric effects depends on how quickly the drug reaches the brain, which depends on the dose and method of abuse. Following smoking or intravenous injection, cocaine reaches the brain in seconds, with a rapid buildup in levels. This results in a rapid-onset, intense euphoric effect known as a "rush". By contrast, the euphoria caused by snorting cocaine is less intense and does not happen as quickly due to the slower build-up of the drug in the brain. Other effects include increased alertness and excitation, as well as restlessness, irritability, and anxiety. Tolerance to cocaine's effects develops rapidly, causing users to take higher and higher doses. Taking high doses of cocaine or prolonged use, such as binging, usually causes paranoia. The crash that follows euphoria is characterized by mental and physical exhaustion, sleep, and depression lasting several days. Following the crash, users experience a craving to use cocaine again.

What is its Effect on the Body?

Physiological effects of cocaine include increased blood pressure and heart rate, dilated pupils, insomnia, and loss of appetite. The widespread abuse of highly pure street cocaine has led to many severe adverse health consequences such as cardiac arrhythmias, ischemic heart conditions, sudden cardiac arrest, convulsions,

strokes, and death. In some users, the long-term use of inhaled cocaine has led to a unique respiratory syndrome, and chronic snorting of cocaine has led to the erosion of the upper nasal cavity.

Which Drugs cause Similar Effects?

Other stimulants, such as methamphetamine, cause effects similar to cocaine that vary mainly in degree.

What is its Legal status in Canada?

Cocaine is a **Schedule I drug under the Canadian Controlled Drugs and Substances Act (CDSA)**[1]. Possession of the drug can result in seven years' imprisonment, while trafficking and production of the drug can result in life imprisonment.

What is Khat?

Khat is a flowering evergreen shrub that is abused for its stimulant-like effect. Khat has two active ingredients, cathine, and cathinone.

What is its Origin?

Khat is native to East Africa and the Arabian Peninsula, where its use of it, is an established cultural tradition for many social situations.

What does it Look Like?

Khat is a flowering evergreen shrub. Khat that is sold and abused is usually just the leaves, twigs, and shoots of the Khat shrub.

How is it Abused?

Khat is typically chewed like tobacco, then retained in the cheek and chewed intermittently to release the active drug, which produces a stimulant-like effect. Dried Khat leaves can be made into a tea or a chewable paste, and Khat can also be smoked and even sprinkled on food.

What is its Effect on the Mind?

Khat can induce manic behaviour with grandiose delusions, paranoia, nightmares, hallucinations, and hyperactivity. Chronic Khat abuse can result in violence and suicidal depression.

What is its Effect on the Body?

Khat causes an immediate increase in blood pressure and heart rate. Khat can also cause a brown staining of the teeth, insomnia, and gastric disorders. Chronic abuse of Khat can cause physical exhaustion. The dose needed to constitute an overdose is not known, however, it has been historically associated with those who are long-term chewers of the leaves. Symptoms of toxicity include delusions, loss of appetite, difficulty with breathing, and increases in both blood pressure and heart rate. Additionally, there are reports of liver damage (chemical hepatitis) and cardiac complications; specifically myocardial infarctions. This mostly occurs among long-term chewers of khat or those who have chewed too large a dose.

Which Drugs cause Similar Effects?

Khat's effects are similar to other stimulants, such as cocaine, amphetamine, and methamphetamine.

What is its Legal Status in Canada?

Khat and its derivatives are listed under **Schedule IV** of the Controlled Drugs and Substances Act. The active ingredients contained in khat are cathine and cathinone, which produce a stimulant effect similar to amphetamine when the green parts of the plant are ingested.

Methamphetamine

Figure 5.4.4 – Photo by Jason D on Unsplash

What is Methamphetamine?

Methamphetamine (meth) is a stimulant. The FDA- approved brand-name medication is Desoxyn.

What is its Origin?

Mexican drug trafficking organizations have become the primary manufacturers and distributors of methamphetamine to cities throughout the United States, including in Hawaii. Domestic clandestine laboratory operators also produce and distribute meth but usually on a smaller scale. The methods used depend on the availability of precursor chemicals.

Currently, this domestic clandestinely produced meth is mainly made with diverted products that contain pseudoephedrine. Mexican methamphetamine is made with different precursor chemicals. The Combat Methamphetamine Epidemic Act of 2005 requires retailers of non-prescription products containing

pseudoephedrine, ephedrine, or phenylpropanolamine to place these products behind the counter or in a locked cabinet. Consumers must show identification and sign a logbook for each purchase.

What are Common Street Names?

Common street names include Batu, Bikers Coffee, Black Beauties, Chalk, Chicken Feed, Crank, Crystal, Glass, Go-Fast, Hiropon, Ice, Meth, Methlies Quick, Poor Man's Cocaine, Shabu, Shards, Speed, Stove Top, Tina, Trash, Tweak, Uppers, Ventana, Vidrio, Yaba, and Yellow Bam.

What does it Look Like?

Regular meth is a pill or powder. Crystal meth resembles glass fragments or shiny blue-white "rocks" of various sizes.

How is it Abused?

Meth is swallowed, snorted, injected, or smoked.

To intensify the effects, users may take higher doses of the drug, take it more frequently, or change their method of intake.

What is its effect on the mind?

Meth is a highly addictive drug with a potent central nervous system (CNS) stimulant properties. Those who smoke or inject it report a brief, intense sensation, or rush. Oral ingestion or snorting produces a long-lasting high instead of a rush, which reportedly can continue for as long as half a day. Both the rush and the high are believed to result from the release of very high levels of the neurotransmitter dopamine into areas of the brain that regulate feelings of pleasure. Long-term meth use results in many damaging effects, including addiction. Chronic meth users can exhibit violent behaviour, anxiety, confusion, insomnia, and psychotic features including paranoia, aggression, visual and auditory hallucinations, mood disturbances, and delusions such as the sensation of insects creeping on or under the skin. Such paranoia can result in homicidal or suicidal thoughts. Researchers have reported that as much as 50 percent of the dopamine-producing cells in the brain can be damaged after prolonged exposure to relatively low levels of meth. Researchers also have found that serotonin-containing nerve cells may be damaged even more extensively.

What is its Effect on the Body?

Taking even small amounts of meth can result in increased wakefulness, increased physical activity, decreased

appetite, rapid breathing and heart rate, irregular heartbeat, increased blood pressure, and hyperthermia (overheating). High doses can elevate body temperature to dangerous, sometimes lethal, levels, and cause convulsions and even cardiovascular collapse and death. Meth use may also cause extreme anorexia, memory loss, and severe dental problems.

What are its Overdose Effects?

High doses may result in death from stroke, heart attack, or multiple organ problems caused by overheating.

Which Drugs cause Similar Effects?

Cocaine and potent stimulant pharmaceuticals, such as amphetamines and methylphenidate, produce similar effects.

What is its Legal status in Canada?

Prescription stimulants are classified as Schedule III drugs under the **Controlled Drugs and Substances Act (CDSA)**[(1)]. Their use is legal only when they are prescribed by licensed practitioners and are used by the person for whom they are prescribed. Illegal possession of stimulants and "double doctoring" (i.e., obtaining a prescription from more than one practitioner without telling the prescribing practitioner about other prescriptions received in the past 30 days) can result in three years imprisonment. Trafficking, importing, exporting or producing stimulants can result in 10 years imprisonment[1]

Frontline – The Meth Epidemic

Watch this 53-minute film – Frontline – The Meth Epidemic and explore the accompanying website. While the meth epidemic has been taken over by the opioid epidemic, this film makes it clear how drug epidemics spread as well as ebb and flow.

For additional information, see

Methamphetamine DrugFacts – NIH.

For more information:

- Khan Academy Video – Stimulants – 3.18
- Effects of Performance Enhancing Drugs: Stimulants Video – 1.12 min

ATTRIBUTION

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5.5 NICOTINE

What is Tobacco?

Figure 5.5.1 – Photo by Rusty Watson on Unsplash

Tobacco is a plant grown for its leaves, which are dried and fermented before being put in tobacco products. Tobacco contains nicotine, an ingredient that can lead to addiction, which is why so many people who use

tobacco find it difficult to quit. There are also many other potentially harmful chemicals found in tobacco or created by burning it.

How Do People use Tobacco?

People can smoke, chew, or sniff tobacco. Smoked tobacco products include cigarettes, cigars, bidis, and kreteks. Some people also smoke loose tobacco in a pipe or hookah (water pipe). Chewed tobacco products include chewing tobacco, snuff, dip, and snus; snuff can also be sniffed.

How Does Tobacco Affect the Brain?

The nicotine in any tobacco product readily absorbs into the blood when a person uses it. Upon entering the blood, nicotine immediately stimulates the adrenal glands to release the hormone epinephrine (adrenaline). Epinephrine stimulates the central nervous system and increases blood pressure, breathing, and heart rate. As with drugs such as cocaine and heroin, nicotine activates the brain's reward circuits and also increases levels of the chemical messenger *dopamine*, which reinforces rewarding behaviours. Studies suggest that other chemicals in tobacco smoke, such as acetaldehyde, may enhance nicotine's effects on the brain.

What are the Other Health Effects of Tobacco Use?

Although nicotine is addictive, most of the severe health effects of tobacco use come from other chemicals. Tobacco smoking can lead to lung cancer, chronic bronchitis, and emphysema. It increases the risk of heart disease, which can lead to stroke or heart attack. Smoking has also been linked to other cancers, leukemia, cataracts, and pneumonia. All of these risks apply to use of any smoked product, including hookah tobacco. Smokeless tobacco increases the risk of cancer, especially mouth cancers.

Electronic Cigarettes

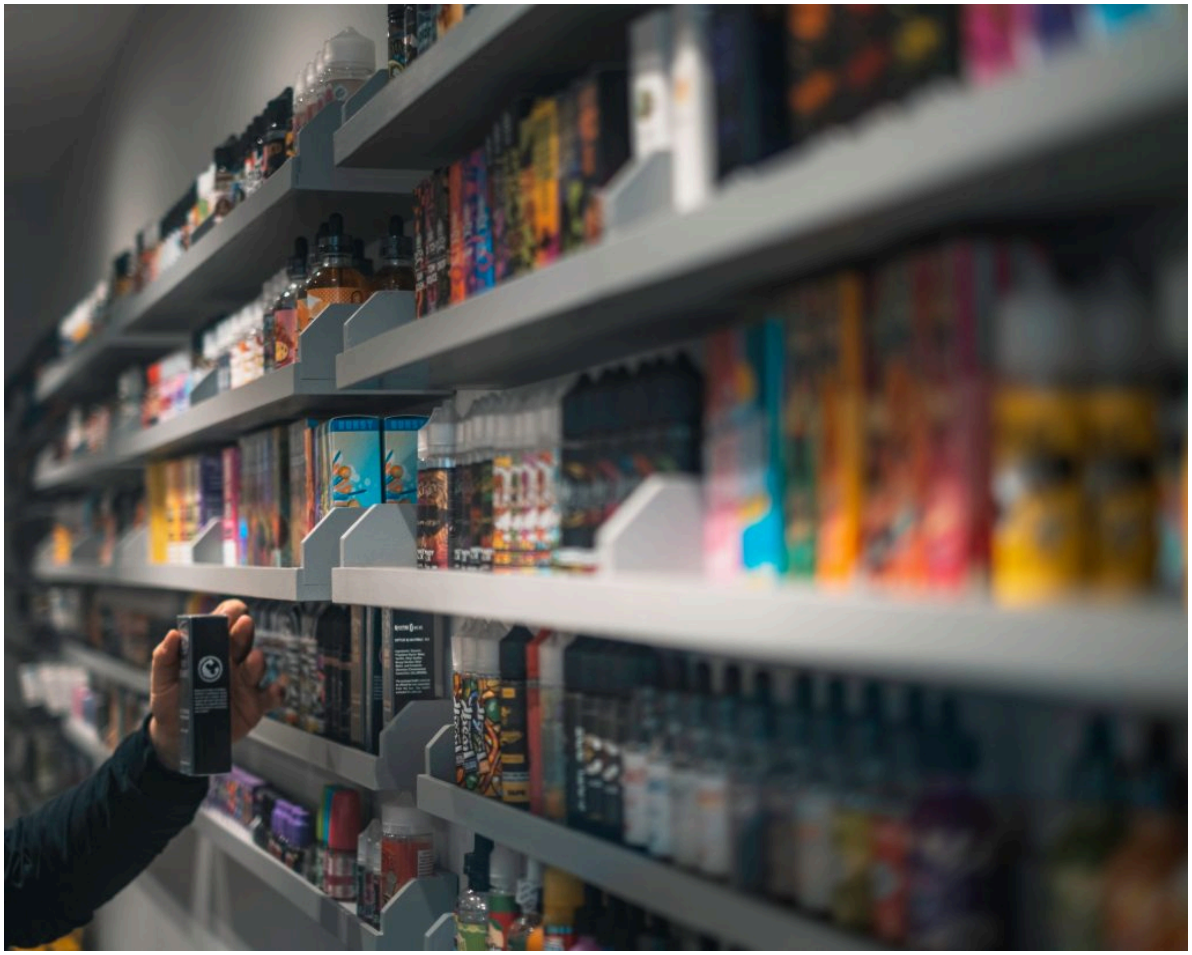


Figure 5.5.2 – Photo by E-Liquids UK on Unsplash

Electronic cigarettes, also known as e-cigarettes or e-vaporizers, are battery-operated devices that deliver nicotine with flavourings and other chemicals to the lungs in vapour instead of smoke. E-cigarette companies often advertise them as safer than traditional cigarettes because they don't burn tobacco. But researchers actually know little about the health risks of using these devices. **E-cigarettes are less harmful but this doesn't mean harmless.** Read more about e-cigarettes in our *Electronic Cigarettes (e-Cigarettes) DrugFacts*[1].

One of the challenges that began with Vaping was the Advertising of flavours to youth, making it more appealing:

Government of Canada / Health Canada – Health Canada proposes to ban advertising of vaping products wherever they can be seen or heard by youth on December 19, 2019[2]

Health Canada confirms ban of advertising for vaping products wherever they can be seen or heard by youth – July 8, 2020[3]

So, what's up with vaping?

Vaping has many risks and long-term health effects that are unknown. Youth and non-smokers should not vape. Vaping is a less harmful option only for people who are already smoking if they quit smoking and switch completely. **Less harmful doesn't mean harmless.** We're here to give you the facts about vaping so you can make informed decisions.

- Consider the consequences of Vaping
- Risks of Vaping
- Talking with your Teen about Vaping
- Tobacco and Vaping Products Act

Pregnant women who smoke cigarettes run an increased risk of miscarriage, stillborn or premature infants, or infants with low birth weight. Smoking while pregnant may also be associated with learning and behavioural problems in exposed children.

People who stand or sit near others who smoke are exposed to secondhand smoke, either coming from the burning end of the tobacco product or exhaled by the person who is smoking. Secondhand smoke exposure can also lead to lung cancer and heart disease. It can cause health problems in both adults and children, such as coughing, phlegm, reduced lung function, pneumonia, and bronchitis. Children exposed to secondhand smoke are at an increased risk of ear infections, severe asthma, lung infections, and death from sudden infant death syndrome.

How Does Tobacco Use Lead to Addiction?

For many who use tobacco, long-term brain changes brought on by continued nicotine exposure result in addiction. When a person tries to quit, he or she may have withdrawal symptoms, including:

- irritability
- problems paying attention

- trouble sleeping
- increased appetite
- powerful cravings for tobacco

In Canada How Can People Get Treatment for Nicotine Addiction?

Both behavioural treatments and medications can help people quit smoking, but the combination of medication with counseling is more effective than either alone.

Government of Canada – Quitting smoking: Provincial and Territorial Services[4]

Click on your province or territory to access services to quit smoking.

- Ontario
- Quebec
- British Columbia
- Alberta
- Manitoba
- Saskatchewan
- Nova Scotia
- New Brunswick
- Newfoundland and Labrador
- Prince Edward Island
- Northwest Territories
- Yukon
- Nunavut

Or call **1-866-366-3667** toll-free and talk to a quit coach.

Government Regulation of Tobacco Products

Tobacco use is the leading preventable cause of disease and premature death in Canada. The Tobacco and Vaping Products Act[5] is intended to protect the health of Canadians by:

- restricting youth access to tobacco products
- protecting people from inducements to use tobacco products
- enhancing public awareness of the health hazards of using tobacco products

The Act provides the authority for Health Canada to regulate the manufacture, sale, labelling and promotion of tobacco products.

Tobacco products are allowed on the Canadian market if they meet the requirements of the Act and its regulations. This includes:

- labelling requirements for most tobacco products, such as:
  - health warnings
  - toxic emissions statements
  - health information messages
- minimum packaging requirements for:
  - cigarettes
  - most cigars
  - blunt wraps
- a ban on the use of certain flavour additives in:
  - cigarettes
  - most cigars
  - blunt wraps
- a prohibition on promoting banned flavour additives on product packaging
- meeting the fire safety requirements under the cigarette ignition propensity standard[(6)]

We also:

- regulate the promotion of tobacco products and accessories
- require tobacco manufacturers and importers to regularly report on their tobacco products and related activities

Behavioural Treatments

Behavioural treatments use a variety of methods to help people quit smoking, ranging from self-help materials to counselling. These treatments teach people to recognize high-risk situations and develop strategies to deal with them. For example, people who hang out with others who smoke are more likely to smoke and less likely to quit.

Nicotine Replacement Therapies (NRT)

Nicotine replacement therapies (NRTs) is an over-the-counter medications to help people quit smoking cigarettes.

Currently approved NRT products include chewing gum, transdermal patch, nasal sprays, inhalers, and lozenges. NRTs deliver a controlled dose of nicotine to relieve withdrawal symptoms while the person tries to quit. NRT acts as a temporary substitute for the nicotine from tobacco products, and you can gradually taper down the dose of NRT to reduce the amount of nicotine entering your body until you stop using NRT.

Other Medications

Bupropion (Zyban®) and varenicline (Chantix®) are two approved non-nicotine medications that have helped people quit smoking. They target nicotine receptors in the brain, easing withdrawal symptoms and blocking the effects of nicotine if people start smoking again.

Combination therapy of varenicline and bupropion in smoking cessation: A meta-analysis of the randomized controlled trials

Can a person overdose on nicotine?

Nicotine is poisonous and, though uncommon, an overdose is possible. An overdose occurs when the person uses too much of a drug and has a toxic reaction that results in serious, harmful symptoms or death. Nicotine poisoning usually occurs in young children who accidentally chew on nicotine gum or patches used to quit smoking or swallow e-cigarette liquid. Symptoms include difficulty breathing, vomiting, fainting, headache, weakness, and increased or decreased heart rate. Anyone concerned that a child or adult might be experiencing a nicotine overdose should seek immediate medical help.

Key Takeaways

- Tobacco is a plant grown for its leaves, which are dried and fermented before being put in tobacco products. Tobacco contains nicotine, the ingredient that can lead to addiction.
- People can smoke, chew, or sniff tobacco.
- Nicotine acts in the brain by stimulating the adrenal glands to release the hormone epinephrine (adrenaline) and by increasing levels of the chemical messenger dopamine.
- Tobacco smoking can lead to lung cancer, chronic bronchitis, and emphysema. It increases the risk of heart disease, which can lead to stroke or heart attack. Smoking has also been linked to other cancers, leukemia, cataracts, and pneumonia. Smokeless tobacco increases the risk of cancer, especially mouth cancers.
- Secondhand smoke can lead to lung cancer and heart disease as well as other health effects in adults and children.
- For many who use tobacco, long-term brain changes brought on by continued nicotine exposure result in addiction.
- Both behavioural treatments and medication can help people quit smoking, but the combination of medication with counselling is more effective than either alone.
- Nicotine overdose is possible, though it usually occurs in young children who accidentally chew on nicotine gum or patches or swallow e-cigarette liquid.
- Anyone concerned that a child or adult might be experiencing a nicotine overdose should seek immediate medical help.
- E-cigarettes or e-vaping are less harmful but this doesn't mean harmless, research is showing many health risks when using these products
- Youth and non-smokers should not vape
- Although vaping is a less harmful option only for people who are already smoking if they quit smoking and switch completely

For more Information:

- Quitting smoking: How to quit – Government of Canada
- CAMH: Smoking Cessation: Overview of Nicotine Replacement Therapy
- CAMH – stop (nicotine dependence clinic)

- Help Them Quit
- Gum Nicotine Replacement Therapy – CADTH
- cmaj – Canadian Medical Association Journal
- Smoking Cessation – Canadian Pharmacists Association

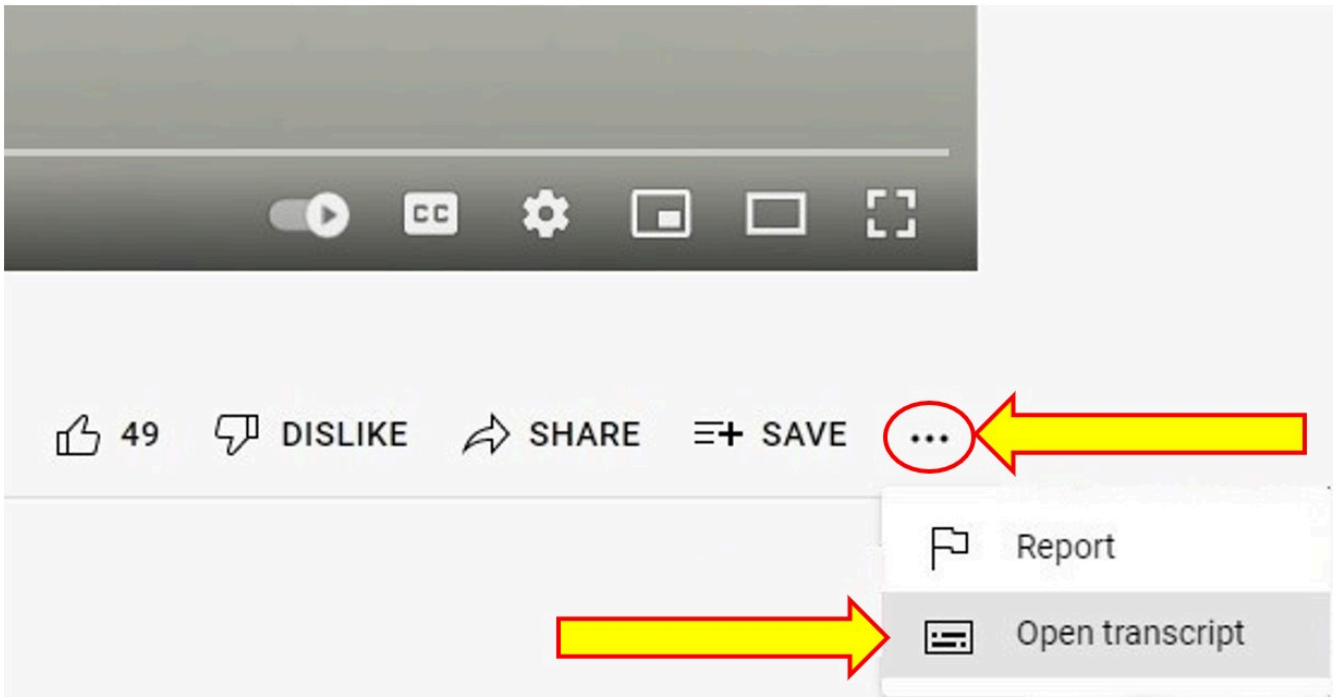
Source: National Institute on Drug Abuse; National Institutes of Health; U.S. Department of Health and Human Services.

Films for Course Assignment

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=87#oembed-1

NIDA TV Spotlight on Electronic Cigarettes. By National Institute on Drug Abuse (NIDA/NIH). Interview with Virginia Commonwealth University Professor of Psychology, Dr. Thomas Eissenberg, following his discussion on electronic cigarette research[7]

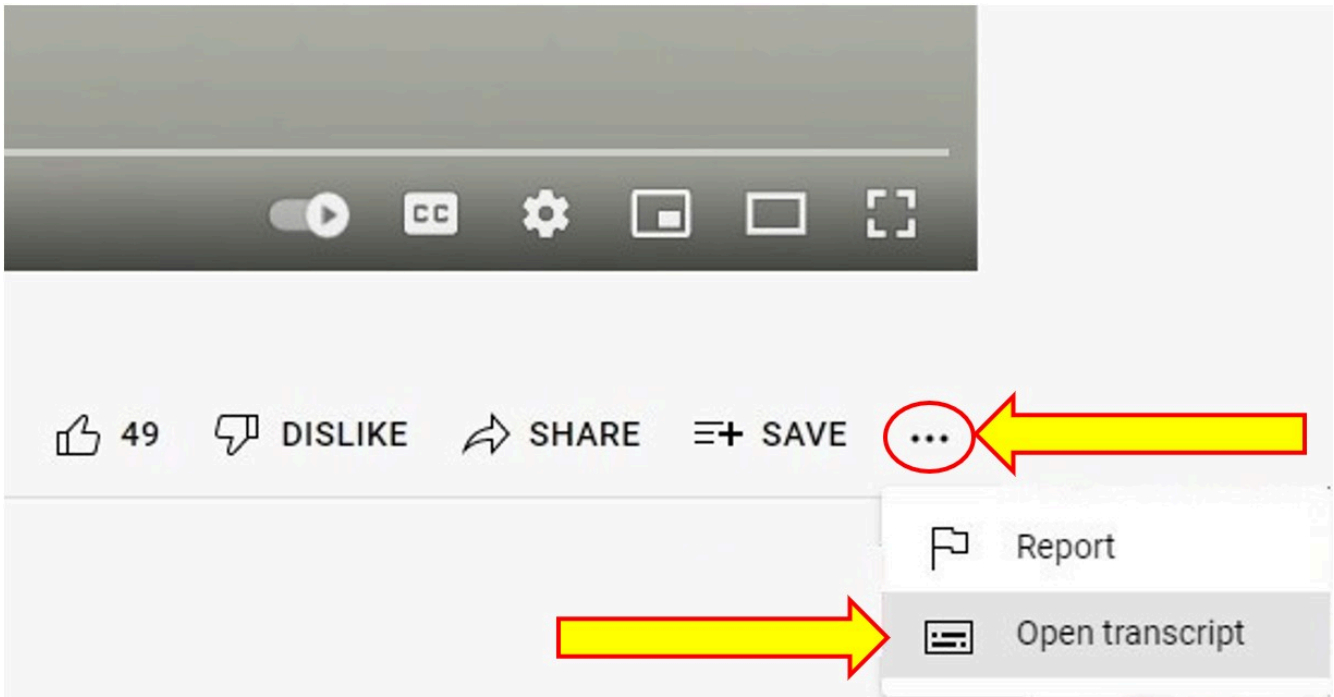
Transcript



One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=87#oembed-2

E-Cigarettes : Welcome Back, Big Tobacco – the fifth estate. Big Tobacco is trying clean up its image, moving into the booming e-cigarette business which continuing to peddle the deadly tobacco products. [8]

Transcript



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5.6 DEPRESSANTS

What Are Depressants?

Depressants work on your CNS (Central Nervous System) and will put you to sleep, relieve anxiety and muscle spasms, and prevent seizures. Barbiturates are older drugs and include butalbital (Fiorina), phenobarbital, Pentothal, Seconal, and Nembutal. A person can rapidly develop a dependence on and tolerance to barbiturates, meaning a person needs more and more of them to feel and function normally. This makes them unsafe, increasing the likelihood of coma or death.

Benzodiazepines were developed to replace barbiturates, though they still share many of the undesirable side effects including tolerance and dependence. Some examples are Valium, Xanax, Halcion, Ativan, Klonopin, and Restoril.

Lunesta, Ambien, and Sonata are sedative-hypnotic medications approved for the short-term treatment of insomnia that shares many of the properties of benzodiazepines. Other **CNS depressants** include meprobamate, methaqualone (Quaalude), and the illicit drug GHB. Alcohol will be covered in the next section.

What is their Origin?

Generally, legitimate pharmaceutical products are diverted to the illicit market. Teens can obtain depressants from the family medicine cabinet, friends, family members, the Internet, doctors, and hospitals.

Figure 5.6.1 – Photo by Christina Victoria Craft on Unsplash

What are Common Street Names?

Common street names for depressants include:

Barbs, Benzos, Downers, Georgia Home Boy, GHB, Grievous Bodily Harm, Liquid X, Nerve Pills, Phennies, R2, Reds, Roofies, Rophies, Tranks, and Yellows.

What do They Look Like?

Depressants come in the form of pills, syrups, and injectable liquids.

How are they Abused?

Individuals abuse depressants to experience euphoria. Depressants are also used with other drugs to add to the other drugs' high or to deal with their side effects. Users take higher doses than people taking the drugs under a doctor's supervision for therapeutic purposes. Depressants like GHB and Rohypnol are also misused to facilitate sexual assault.

What is their Effect on the Mind?

Depressants used therapeutically do what they are prescribed to induce sleep, relieve anxiety and muscle spasms, and prevent seizures. They also cause amnesia, leaving no memory of events that occur while under the influence, reduce reaction time, impair mental functioning and judgment, and cause confusion. Long-term use of depressants produces psychological dependence and tolerance.

What is their Effect on the Body?

Some depressants can relax the muscles. Unwanted physical effects include slurred speech, loss of motor coordination, weakness, headache, lightheadedness, blurred vision, dizziness, nausea, vomiting, low blood pressure, and slowed breathing. Prolonged use of depressants can lead to physical dependence even at doses recommended for medical treatment. Unlike barbiturates, large doses of benzodiazepines are rarely fatal unless combined with other drugs or alcohol. But unlike the withdrawal syndrome seen with most other drugs of abuse, withdrawal from depressants can be life-threatening.

What is their Legal Status in Canada?

Most prescription sedatives/depressants are classified as a Schedule IV drug under the **Controlled Drugs and Substances Act (CDSA)**[1]. Their use is legal only when they are prescribed by specific licensed practitioners and are used by the person for whom they are prescribed. Possession of sedatives is not, in and of itself, illegal. However, "double doctoring" (i.e., obtaining a prescription from more than one practitioner without telling the prescribing practitioner about other prescriptions received in the past 30 days) can result in 18 months imprisonment. Trafficking, importing, exporting or the production of sedatives can result in three years imprisonment.

Barbiturates

What are Barbiturates?

Figure 5.6.2 – Photo by Myriam Zilles on Unsplash

Barbiturates are depressants that produce a wide spectrum of central nervous system depression from mild sedation to coma. They also have been used as sedatives, hypnotics, anesthetics, and anticonvulsants. Barbiturates are classified as: Ultrashort, Short, Intermediate, Long-acting

What is their origin?

Barbiturates were first introduced for medical use in the 1900s, and today about 12 substances are in medical use.

What are Common Street Names?

Common street names include: Barbs, Block Busters, Christmas Trees, Goof Balls, Pinks, Red Devils, Reds & Blues, and Yellow Jackets

What do They Look Like?

Barbiturates come in a variety of multicolored pills and tablets. Users prefer the short-acting and intermediate barbiturates such as Amytal and Seconal.

How are they Abused?

Barbiturates are abused by swallowing a pill or injecting a liquid form. Barbiturates are generally abused to reduce anxiety, decrease inhibitions, and treat unwanted effects of illicit drugs. Barbiturates can be extremely dangerous because overdoses can occur easily and lead to death.

What is their Effect on the Mind?

Barbiturates cause mild euphoria, lack of inhibition, relief of anxiety, and sleepiness. Higher doses cause impairment of memory, judgment, and coordination; irritability; and paranoid and suicidal ideation. Tolerance develops quickly and larger doses are then needed to produce the same effect, increasing the danger of an overdose.

What is their Effect on the Body?

Barbiturates slow down the central nervous system and cause sleepiness.

What are their Overdose Effects?

Effects of overdose include shallow respiration, clammy skin, dilated pupils, weak and rapid pulse, coma, and possible death.

Which Drugs cause Similar Effects?

Drugs with similar effects include Alcohol, benzodiazepines like Valium and Xanax, tranquilizers, sleeping pills, Rohypnol, and GHB.

What is their Legal Status in Canada?

Schedule IV of the **Controlled Drugs and Substances Act (CDSA)**[1].

Benzodiazepines

What are Benzodiazepines?

Figure 5.6.3 – Photo by James Yarema on Unsplash

Benzodiazepines are depressants that produce sedation and hypnosis, relieve anxiety and muscle spasms, and reduce seizures.

What is their Origin?

Benzodiazepines are only legally available through prescription. Many users maintain their drug supply by getting prescriptions from several doctors, forging prescriptions, or buying them illicitly. Alprazolam and diazepam are the two most frequently encountered benzodiazepines on the illicit market.

What are Common Street Names?

Common street names include Benzos and Downers.

What do They Look Like?

The most common benzodiazepines are the prescription drugs Valium, Xanax, Halcion, Ativan, and Klonopin. Tolerance can develop, although at variable rates and to different degrees. Shorter-acting benzodiazepines used to manage insomnia include estazolam (ProSom), flurazepam (Dalmane), temazepam (Restoril), and triazolam (Halcion). Midazolam (Versed), a short-acting benzodiazepine, is utilized for sedation, anxiety, and amnesia in critical care settings and prior to anesthesia. It is available in the United States as an injectable preparation and as a syrup (primarily for pediatric patients). Benzodiazepines with a longer duration of action are utilized to treat insomnia in patients with daytime anxiety. These benzodiazepines include alprazolam (Xanax), chlordiazepoxide (Librium), clorazepate (Tranxene), diazepam (Valium), halazepam (Paxipam), lorazepam (Ativan), oxazepam (Serax), prazepam (Centrax), and quazepam (Doral). Clonazepam (Klonopin), diazepam, and clorazepate are also used as anticonvulsants.

How are they Abused?

Abuse is frequently associated with adolescents and young adults who take the drug orally or crush it up and snort it to get high. Abuse is particularly high among heroin and cocaine users.

What is their Effect on the Mind?

Benzodiazepines are associated with amnesia, hostility, irritability, and vivid or disturbing dreams.

What is their Effect on the Body?

Benzodiazepines slow down the central nervous system and may cause sleepiness.

What are their Overdose Effects?

Effects of overdose include shallow respiration, clammy skin, dilated pupils, weak and rapid pulse, coma, and possible death.

Which Drugs cause Similar Effects?

Drugs that cause similar effects include: Alcohol, barbiturates, sleeping pills, and GHB.

What is their Legal Status in the Canada?

Benzodiazepine use can become problematic, which can lead to substance use disorder, overdose and even death. For this reason, benzodiazepines are controlled under Schedule IV of the **Controlled Drugs and Substances Act (CDSA)**[(1).]

GHB

What is GHB?

Gamma-Hydroxybutyric acid (GHB) is another name for the generic drug sodium oxybate. Xyrem (which is sodium oxybate) is the trade name of the Food and Drug Administration (FDA)-approved prescription medication. Analogues that are often substituted for GHB include GBL (gamma-butyrolactone) and 1,4 BD (also called just "BD"), which is 1,4-butanediol. These analogues are available legally as industrial solvents used to produce polyurethane, pesticides, elastic fibers, pharmaceuticals, coatings on metal or plastic, and other products. They are also sold illicitly as supplements for bodybuilding, fat loss, reversal of baldness, improved eyesight, and to combat aging, depression, drug addiction, and insomnia.

Figure 5.6.4 – GHB Photo by DEA.Gov

GBL and BD are sold as "fish tank cleaner," "ink stain remover," "ink cartridge cleaner," and "nail enamel remover" for approximately $100 per bottle — much more expensive than comparable products. Attempts to identify the abuse of GHB analogues are hampered by the fact that routine toxicological screens do not detect the presence of these analogues.

What Does it Look Like?

See the photo above of GHB vials.

What is its Origin?

GHB is produced illegally in both domestic and foreign clandestine laboratories. The major source of GHB on the street is through clandestine synthesis by local operators. At bars or "rave" parties, GHB is typically sold in liquid form by the capful or "swig" for $5 to $25 per cap. Xyrem has the potential for diversion and abuse like any other pharmaceutical containing a controlled substance. GHB has been encountered in nearly every region of the country.

What are Common Street Names?

Common street names include: Easy Lay, G, Georgia Home Boy, GHB, Goop, Grievous Bodily Harm, Liquid Ecstasy, Liquid X, and Scoop. GHB is usually sold as a liquid or as a white powder that is dissolved in a liquid, such as water, juice, or alcohol. GHB dissolved in liquid has been packaged in small vials or small water bottles. In liquid form, GHB is clear and colorless and slightly salty in taste.

How is it Abused?

GHB and its analogues are abused for their euphoric and calming effects and because some people believe they build muscles and cause weight loss. GHB and its analogues are also misused for their ability to increase libido, suggestibility, passivity, and to cause amnesia (no memory of events while under the influence of the substance) — traits that make users vulnerable to sexual assault and other criminal acts. GHB abuse became popular among teens and young adults at dance clubs and "raves" in the 1990s and gained notoriety as a date rape drug. GHB is taken alone or in combination with other drugs, such as alcohol (primarily), other depressants, stimulants, hallucinogens, and marijuana. The average dose ranges from 1 to 5 grams (depending on the purity of the compound, this can be 1-2 teaspoons mixed in a beverage). However, the concentrations of these "home-brews" have varied so much that users are usually unaware of the actual dose they are drinking.

What is its Effect on the Mind?

GHB occurs naturally in the central nervous system in very small amounts. Use of GHB produces Central Nervous System (CNS) depressant effects including euphoria, drowsiness, decreased anxiety, confusion, and memory impairment. GHB can also produce both visual hallucinations and — paradoxically — excited and aggressive behavior. GHB greatly increases the CNS depressant effects of alcohol and other depressants.

What is its Effect on the Body?

GHB takes effect in 15 to 30 minutes, and the effects last 3 to 6 hours. Low doses of GHB produce nausea. At

high doses, GHB overdose can result in unconsciousness, seizures, slowed heart rate, greatly slowed breathing, lower body temperature, vomiting, nausea, coma, and death. Regular use of GHB can lead to addiction and withdrawal that includes insomnia, anxiety, tremors, increased heart rate and blood pressure, and occasional psychotic thoughts. Currently, there is no antidote available for GHB intoxication. GHB analogues are known to produce side effects such as topical irritation to the skin and eyes, nausea, vomiting, incontinence, loss of consciousness, seizures, liver damage, kidney failure, respiratory depression, and death.

What are its Overdose Effects?

GHB overdose can cause death.

Which Drugs cause Similar Effects?

GHB analogues are often abused in place of GHB. Both GBL and BD metabolize to GHB when taken and produce effects similar to GHB. CNS depressants such as barbiturates and methaqualone also produce effects similar to GHB.

What is its legal status in Canada?

Benzodiazepines are controlled under Schedule IV of the**Controlled Drugs and Substances Act (CDSA)**[(1)]. Activities such as sale, possession and production of benzodiazepines are illegal, unless authorized for medical, scientific or industrial purposes.

Rohypnol

What is Rohypnol?

Rohypnol is a trade name for flunitrazepam, a central nervous system (CNS) depressant that belongs to a class of drugs known as benzodiazepines. Flunitrazepam is also marketed as generic preparations and other trade name products outside of the United States. Like other benzodiazepines, Rohypnol produces sedative-hypnotic, anti-anxiety, and muscle relaxant effects. Rohypnol is the latest of these drugs used for this purpose. **Rohypnol can't be legally prescribed or sold in Canada** or the United States; however, it is available as a prescription drug in 80 other countries. In other countries, Rohypnol is commonly prescribed to treat insomnia. Rohypnol is also referred to as a "date rape" drug.

What is its Origin?

Rohpnol is smuggled into the Canada and the United States from other countries, such as Mexico.

What are common street names?

Common street names include:

Circles, Forget Pill, Forget-Me-Pill, La Rocha, Lunch Money Drug, Mexican Valium, Pingus, R2, Reynolds, Roach, Roach 2, Roaches, Roachies, Roapies, Robutal, Rochas Dos, Rohypnol, Roofies, Rophies, Ropies, Roples, Row-Shay, Ruffies, and Wolfies.

What Does it Look Like?

Prior to 1997, Rohypnol was manufactured as a white tablet (0.5-2 milligrams per tablet), and when mixed in drinks, was colorless, tasteless, and odorless. In 1997, the manufacturer responded to concerns about the drug's role in sexual assaults by reformulating the drug. Rohypnol is now manufactured as an oblong olive green tablet with a speckled blue core that when dissolved in light-colored drinks will dye the liquid blue. However, generic versions of the drug may not contain the blue dye.

How is it Abused?

The tablet can be swallowed whole, crushed and snorted, or dissolved in liquid. Adolescents may abuse Rohypnol to produce a euphoric effect often described as a "high." While high, they experience reduced inhibitions and impaired judgment. Rohypnol is also used in combination with alcohol to produce an exaggerated intoxication. In addition, abuse of Rohypnol may be associated with multiple-substance abuse. For example, cocaine users may use benzodiazepines such as Rohypnol to relieve the side effects (e.g., irritability and agitation) associated with cocaine binges.

Rohypnol is also misused to physically and psychologically incapacitate victims targeted for sexual assault. The drug is usually placed in the alcoholic drink of an unsuspecting victim to incapacitate them and prevent resistance to sexual assault. The drug leaves the victim unaware of what has happened to them.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=91#oembed-1

Dangers of GHB "Date Rape Drug" – Police Warn Public To Be Watchful. By ANewsVanIsland. LANGFORD — West Shore RCMP Corporal Scott Hilderley says he's no chemist, but easily managed to whip up a batch of GHBB – commonly called the 'date rape drug' Friday morning at the detachment in about 10 minutes. "Unfortunately you don't have to be technically gifted to make these drugs" he says (2)

Date rape drugs are illegal and are sometimes used to assist a sexual assault. Sexual assault is any type of sexual activity that a person does not agree to. Both men and women can be drugged with date rape drugs. They often have no colour, smell, or taste, so you can't tell if you are being drugged. The drugs can make you weak and confused — or even cause you to pass out — so that you cannot consent to sex. Both men and women can be drugged with date rape drugs.

For more Information on GHB:

- Harm Reduction – GHB
- CAMH: GHB
- Government of Canada – GHB

References

1. Legislative Services Branch. (2023h, January 14). *Consolidated federal laws of Canada, Controlled Drugs and Substances Act*. https://laws-lois.justice.gc.ca/eng/acts/C-38.8/
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3. DEA – United States Drug Enforcement. (n.d.). *GHB – Gamma-Hydroxybutyric Acid*. Retrieved March 25, 2022, from https://www.dea.gov/factsheets/ghb-gamma-hydroxybutyric-acid

5.7 ALCOHOL

Alcohol Facts and Statistics

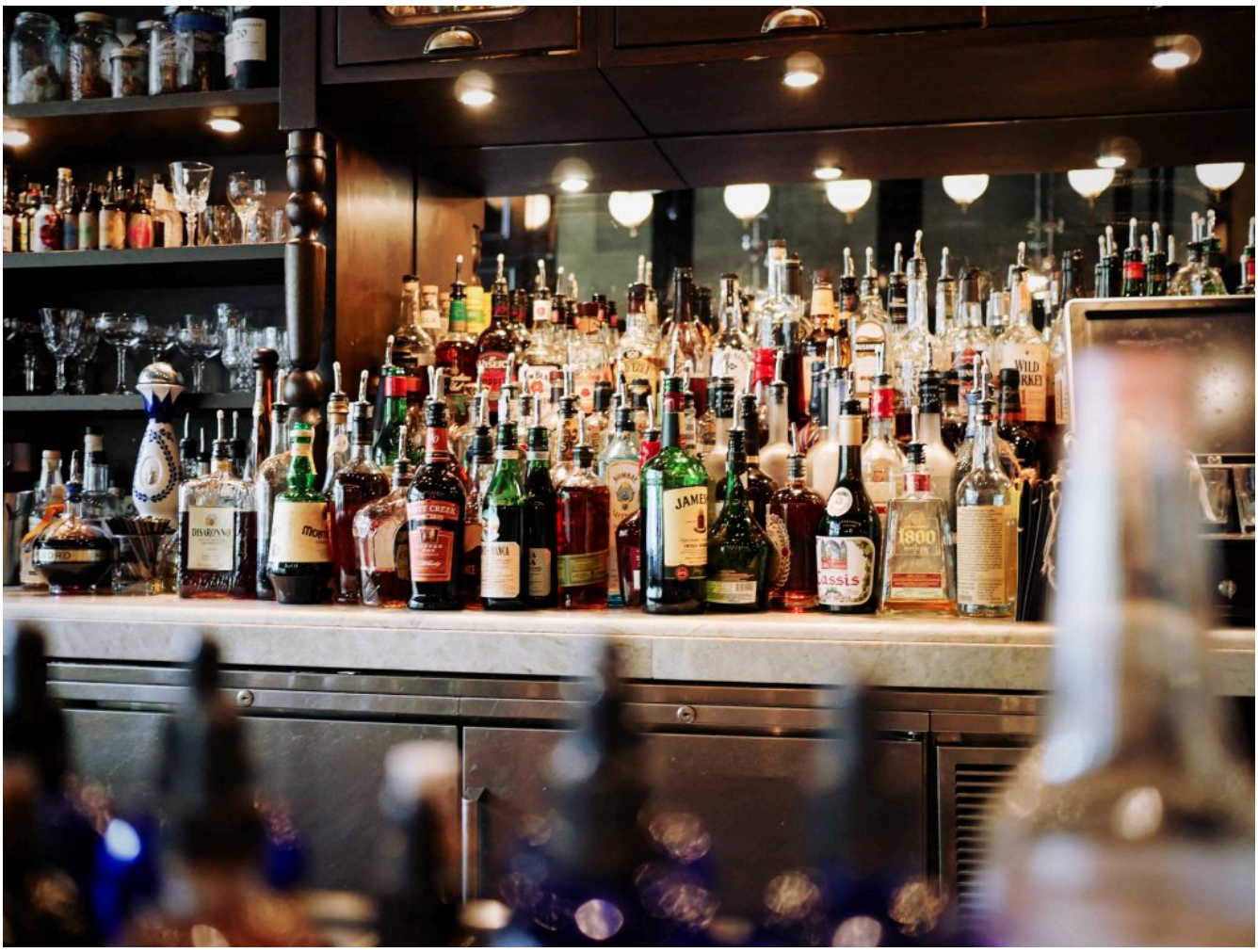

Figure 5.7.1 – Photo by Eaters Collective on Unsplash

Alcohol Use in Canada:

- **Prevalence of Drinking:** General population (age 15+): According to data collected from the 2017 Canadian Tobacco, Alcohol and Drugs Survey (CTADS), **78.2% of Canadians aged 15 and over reported drinking alcohol at least once in the last year**. This level has remained relatively stable since 2013 (75.9%) (CCSA) Canada's Guidance on Alcohol and Health: Final Report (Jan 2023)

- **Prevalence of Binge Drinking and Heavy Alcohol Use:** In 2018, 19.1% of Canadians aged 12 and older (roughly 5.9 million people) reported alcohol consumption that classified them as heavy drinkers.The proportion of people classified as heavy drinkers remained stable between 2017 and 2018 (19.5%, 19.1%).Overall, males were more likely (23.5%) to report heavy drinking than females (14.8%) in 2018. The highest proportion of heavy drinking for both sexes was among those aged 18 to 34. In this age group, 33.5% of males and 23.8% of females were heavy drinkers (Chart 1). Statistics Canada

Alcohol Use Disorder (AUD) in Canada:

- **Adults (ages 18+):** Approximately 21.6% of Canadians (about 6 million people) met the criteria for a substance use disorder during their lifetime (Table 1). Alcohol was the most common substance for which people met the criteria for abuse or dependence at 18.1% Statistics Canada
- **Adults (65+):** Alcohol is the most commonly used and misused substance among older adults (Kuerbis et al., 2014). Alcohol Use Disorder (AUD) and risky alcohol consumption is common among older adults, with reported problem drinking rates ranging from 1–22% (Woodruff et al., 2009). CCSMH
- **Youth (ages 12–17):** The overall prevalence of alcohol use in the past 12 months among students in grades 7–12 for 2016–2017 is 44.0%. 17 This rate is similar for males (44.2%) and females (43.8%) (Figure 3) (CCSA)[1] Canada's Guidance on Alcohol and Health: Final Report (Jan 2023)

Alcohol-Related Deaths

- In 2014, alcohol contributed to 14,826 deaths in Canada, representing 22% of all substance use attributable deaths. CCSA

Economic Burden:

- In 2017, the rate of hospitalizations entirely caused by alcohol (249 per 100,000) was comparable to the rate of hospitalizations for heart attacks (243 per 100,000) and the rate was thirteen times higher than for opioids.
- Healthcare costs in Canada associated with the use of alcohol in 2014 were estimated to be 4.2 billion and accounted for 38% of all healthcare costs attributable to substance use.3 Healthcare costs include inpatient hospitalizations, day surgeries, emergency department visits, substance use treatment, family physician time and prescription drugs. Per-person healthcare costs associated with alcohol increased by approximately 25% from $95 per person in 2007 to $119 per person in 2014. CCSA

Brief Interventions with Alcohol Abuse Disorder

FRAMES Model

When working with brief interventions with Alcohol or Substance Abuse the **FRAMES** model is a great brief intervention that can be used in many different setting. It is very client-centred, non-judgemental, supportive that is a harm reduction strategy that is effective if the client is interested. It can be used in many different settings (outpatient or primary care settings) and in applied in many different ways, depending on the individual.

FRAMES stands for:

- provide **F**eedback about the persons drinking
- stress personal **R**esponsibility for change
- provide clear **A**dvice to cut down on drinking
- provide a **M**enu of options for reducing drinking
- use an **E**mpathic approach in interacting with the client
- support **S**elf-efficacy by enhancing beliefs about ability to change (Cunningham & Hodges, 2014, Outpatient Addiction Settings)

Global Burden:

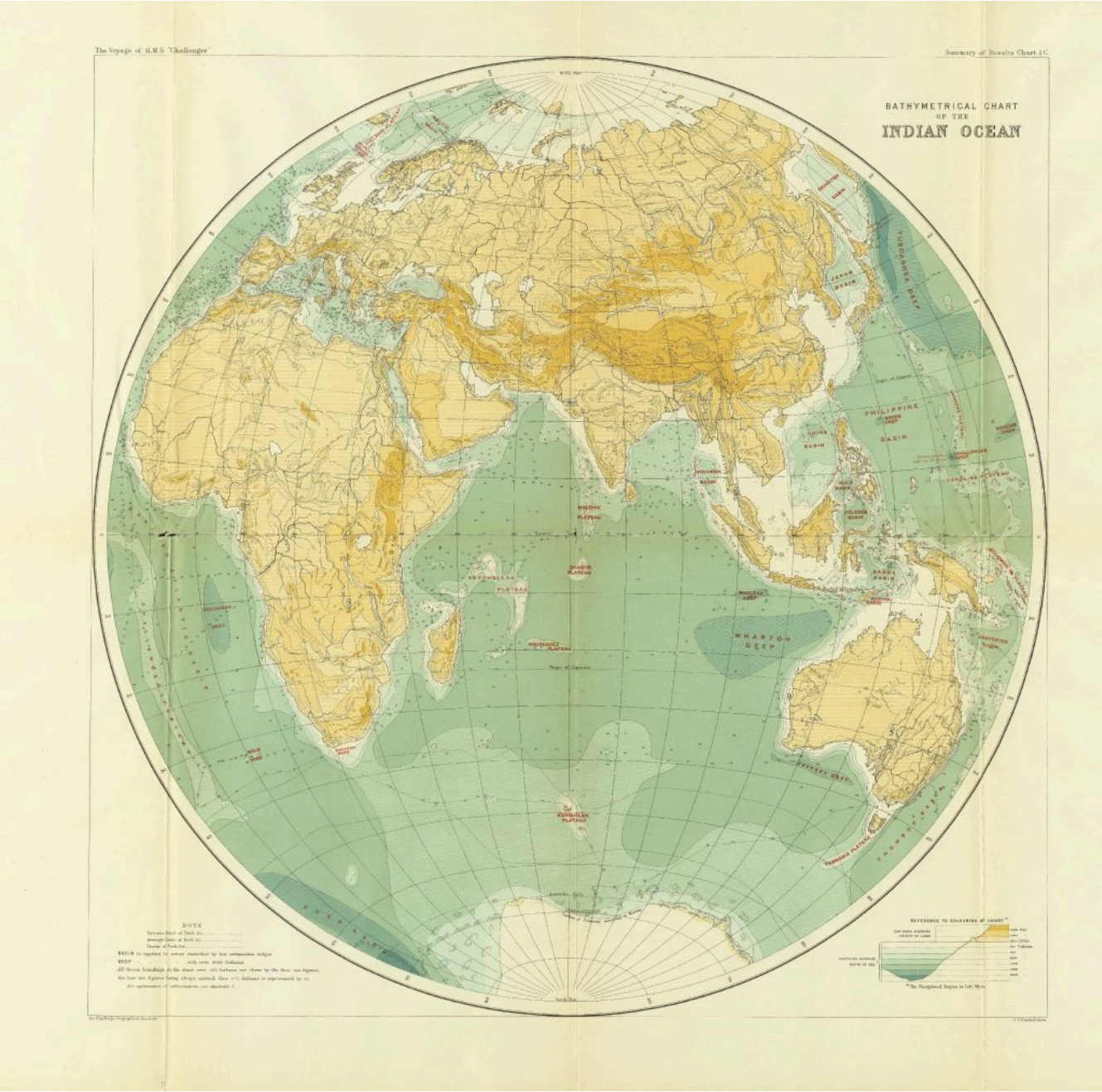

Figure 5.7.2 – Photo by NOAA on Unsplash

- In 2012, 3.3 million deaths, or 5.9 percent of all global deaths (7.6 percent for men and 4.1 percent for women), were attributable to alcohol consumption.[12]
- In 2014, the World Health Organization reported that alcohol contributed to more than 200 diseases and injury-related health conditions, most notably DSM–IV alcohol dependence (see sidebar), liver cirrhosis, cancers, and injuries.[13] In 2012, 5.1 percent of the burden of disease and injury worldwide

(139 million disability-adjusted life-years) was attributable to alcohol consumption.[12]

- Globally, alcohol misuse was the fifth leading risk factor for premature death and disability in 2010. Among people between the ages of 15 and 49, it is the first.[14] In the age group 20–39 years, approximately 25 percent of the total deaths are alcohol-attributable.[15]

Family Consequences:

- Approximately one in 10 *Canadian children* under the age of 12 *lives with a parent* with a substance use disorder according to a 2014 study CCSA

Underage Drinking:

Figure 5.7.3 – Photo by Drew Farwell on Unsplash

- **Prevalence of Underage Alcohol Use:**
  - ***Prevalence of Drinking:*** *Close to 80% of young Canadians 15 years and older have reported*

drinking alcohol during the past year. It is the substance that the majority of young people in grades 7 through 12 will try first

- ***Prevalence of Binge Drinking and Heavy Alcohol Use:*** *The overall prevalence of alcohol use in the past 12 months among students in grades 7–12 for 2016–2017 is 44.0%. 17 This rate is similar for males (44.2%) and females (43.8%)*

- **Consequences of Underage Alcohol Use:** Whatever the reason, the younger the person is when they begin drinking, the higher the risk for poor health and problems related to alcohol consumption later in life.
  - At higher risk for:
    - blackouts
    - alcohol poisoning
    - developing or worsening depression
    - anxiety & other mental health problems
    - physically sick and possibly dying from alcohol poisoning
    - getting into a fight or being assaulted
    - unwanted sex or pushing unwanted sex on others
    - suicide
    - injured or killed while driving

If you think a youth you know is dealing with addiction or drug-related issues, talk to them about it. If they don't want to talk to you, provide them with other options such as:

- going with them to seek help from a doctor, counsellor, or other health care professional;
- sharing youth-appropriate information with them, that they can look at on their own time; or
- suggesting they contact **Kids Help Phone** (1-800-668-6868), a free, 24-hour anonymous professional telephone counselling and live chat service.

Dealing with alcoholism is never easy. If you think you are or someone close to you is suffering from an addiction to alcohol, you should talk about it with your parents, legal guardian, a friend, a teacher, a counsellor, a doctor or any other health care professional that will know how to help you. You can also call

- **Kids Help Phone** at 1-800-668-6868, where they can provide anonymous phone counselling.

The guidelines for consumption limits for Youth (with Parental Consent)

Group	Limit alcohol to no more than:	Avoid Drinking Alcohol
Youth	• no more than twice weekly • no more than 1 or 2 standard drinks each time	• no more than twice weekly • no more than 1 or 2 standard drinks each time

For more information of Underage Drinking:

- Underage drinking on school grounds on the rise
- Heavy Episodic Drinking Among Post-secondary Students: Influencing Factors and Implications (Report)

Alcohol and College Students:

Figure 5.7.4 – Photo by John Arano on Unsplash

- **Prevalence of Alcohol Use:**
  - ***Prevalence of Drinking:*** In general, young adults consume substances at higher levels than the general population. In the past 12 months, 84% of students had consumed alcohol. Alcohol consumption in the past 12 months was higher among females and students in their third year or

higher. majority of survey participants had consumed alcohol in their lifetime (88%), in the past 12 months (84%) and in the past 30 days (77%)

- ***Prevalence of Binge Drinking:*** Male respondents drank more frequently in the past 30 days. The proportion of males drinking once per week or more often was 46%, compared to 35% among females in the past 30 days. The most common response was spirits and liquors (69%), followed by beer (67%). In the past 30 days, 60% of respondents had consumed alcohol in a pattern consistent with heavy drinking. Among past-12 month drinkers, the proportion of students who reported driving within two hours of consuming at least two drinks was 9%, with males more likely to do so than females (12% males; 6% females). One in six (16%) of students reported ever being a passenger with a driver who had recently consumed alcohol.
- ***Prevalence of Heavy Alcohol Use:*** students who drank alcohol within the past 12 months, 56% had experienced at least one alcohol-related harm in the past month and the top five harms reported they experienced a hangover (33%), less energy or felt tired (25%), drank on nights when planned not to (22%), said or did something embarrassing (22%), or felt sick to their stomach or threw up (17%). 31% of all respondents experienced at least one harm within the past month as a result of another student's drinking. five most commonly reported secondary harms were the need to take care of another student (14%), sleep was affected (13%), another student upset or disappointed them (11%), studies were interrupted (8%) another student caused an argument with them (7%).

Source: "Canadian Postsecondary Education Alcohol and Drug Use Survey, 2019/2020 Published:(2021-05-10)" by Government of Canada is in the Public Domain

For more information on Alcohol and College Students

- Canadian Postsecondary Education Alcohol and Drug Use Survey, 2019/2020 Published:(2021-05-10) – Government of Canada
- Alcohol on Campus – heretohelp
- How Canadian universities are trying to stop students from binge-drinking – CTV News

Alcohol and Pregnancy

Figure 5.7.5 – Photo by Glitch Lab App on Unsplash

- Drinking alcohol during pregnancy can seriously harm an unborn baby. Each year in Canada, it is estimated that nine babies in every 1,000 are born with Fetal Alcohol Spectrum Disorder (FASD). The birth defects and developmental disabilities that result from FASD are preventable by avoiding alcohol during pregnancy Health Canada.

The guidelines for consumption limits for Pregnant Women

- **Always Avoid Drinking Alcohol**
- Government of Canada – Healthy Pregnancy
- Prenatal Education – Ontario
- Alcohol use during pregnancy and fetal alcohol spectrum disorder in Canada: who, what, where – Government of Ontario

Alcohol and Women:

Figure 5.7.6 – Photo by Jarritos Mexican Soda on Unsplash

Women are generally more sensitive to the effects of alcohol than men, and all adults become increasingly sensitive to alcohol's effects as they age. When someone is more sensitive, it takes less alcohol to cause intoxication and more time for the body to eliminate the alcohol consumed.

The guidelines for consumption limits for Women

The guidelines for consumption limits for Women

Group	Limit Alcohol to no more than:	Avoid Drinking Alcohol
Women	• 2 standard drinks per day • 10 standard drinks per week • 3 standard drinks on special occasions	on some days

The guidelines for consumption limits for Men

Group	Limit alcohol to no more than:	Avoid Drinking Alcohol
men	• 3 standard drinks per day • 15 standard drinks per week • 4 standard drinks on special occasions	on some days

Alcohol and the Human Body:

Figure 5.7.7 – Photo by camilo jimenez on Unsplash

Definitions

Alcohol Use Disorder (AUD): AUD is a chronic relapsing brain disease characterized by an impaired ability to stop or control alcohol use despite adverse social, occupational, or health consequences. AUD can range from mild to severe, and recovery is possible regardless of severity. The fourth edition of the *Diagnostic and Statistical Manual* (DSM-IV), published by the American Psychiatric Association, described two distinct disorders—alcohol abuse and alcohol dependence—with specific criteria for each. The fifth edition, DSM-5, integrates the two DSM-IV disorders, alcohol abuse, and alcohol dependence, into a single disorder called alcohol use disorder, or AUD, with mild, moderate, and severe subclassifications.

Binge Drinking: CAMH says Researchers define binge drinking as having many drinks on one occasion: five or more drinks for a male, or four or more drinks for a female. A standard drink is defined as:

- 341 mL (12 oz.) beer, cider or cooler (5% alcohol)
- 142 mL (5 oz.) wine (12% alcohol)
- 85 mL (3 oz.) fortified wine (18% alcohol)
- 43 mL (1.5 oz.) liquor (40% alcohol)

Young people who binge drink are especially at risk. This is because they are less familiar with the effects of alcohol, and are more likely to do something impulsive or dangerous. Binge drinking is also more common among young people. Recent surveys show that:

- one-fifth (20%) of Ontario students in grades 7-12 report binge drinking at least once in the past month
- almost one in three (32%) Canadians between 20 and 34 years report binge drinking 12 or more times in the past year
- nearly one in five (19%) of Canadians between 35 and 44 years report binge drinking at this same rate.

Heavy Alcohol Use: SAMHSA defines heavy alcohol use as binge drinking on 5 or more days in the past month.

Moderate alcohol consumption: To reduce long-term health risks, Canada's Low-Risk Alcohol Drinking Guidelines recommend: No more than 10 drinks a week for women, with no more than 2 drinks a day most days. No more than 15 drinks a week for men, with no more than 1 or 2 drinks a day most days for youth (with parental consent).

Definition of Drinking at Low Risk for Developing AUD: Low Risk Guidelines – CCSA

Alcohol-Impaired-Driving Fatality: A fatality in a crash involving a driver or motorcycle rider (operator) with a BAC of 0.08 g/dL or greater

In Ontario's zero tolerance law for young, novice and commercial drivers, you cannot have any alcohol in your system if you are: age 21 or under Ontario's zero tolerance law for young, novice and commercial drivers, you cannot have any alcohol in your system if you are: age 21 or under

Disability-Adjusted Life-Years (DALYs): A measure of years of life lost or lived in less than full health.

Underage Drinking: 18 years of age in Alberta, Manitoba and Quebec, and 19 years in the rest of the Canadian provinces and territories

Resource: RCMP – Alcohol

WHAT IS A STANDARD DRINK/HOW DO YOU KNOW HOW MUCH ALCOHOL IS IN YOUR DRINK?

A standard drink is a measure of how much pure alcohol you are drinking. It varies based on the concentration of alcohol in a beverage.

In Canada, a standard drink is 17.05 millilitres or 13.45 grams of pure alcohol. This is the equivalent of:

- a bottle of beer (12 oz., 341 ml, 5% alcohol)
- a bottle of cider (12 oz., 341 ml, 5% alcohol)
- a glass of wine (5 oz., 142 ml, 12% alcohol)
- a shot glass of spirits (1.5 oz., 43 ml, 40% alcohol)

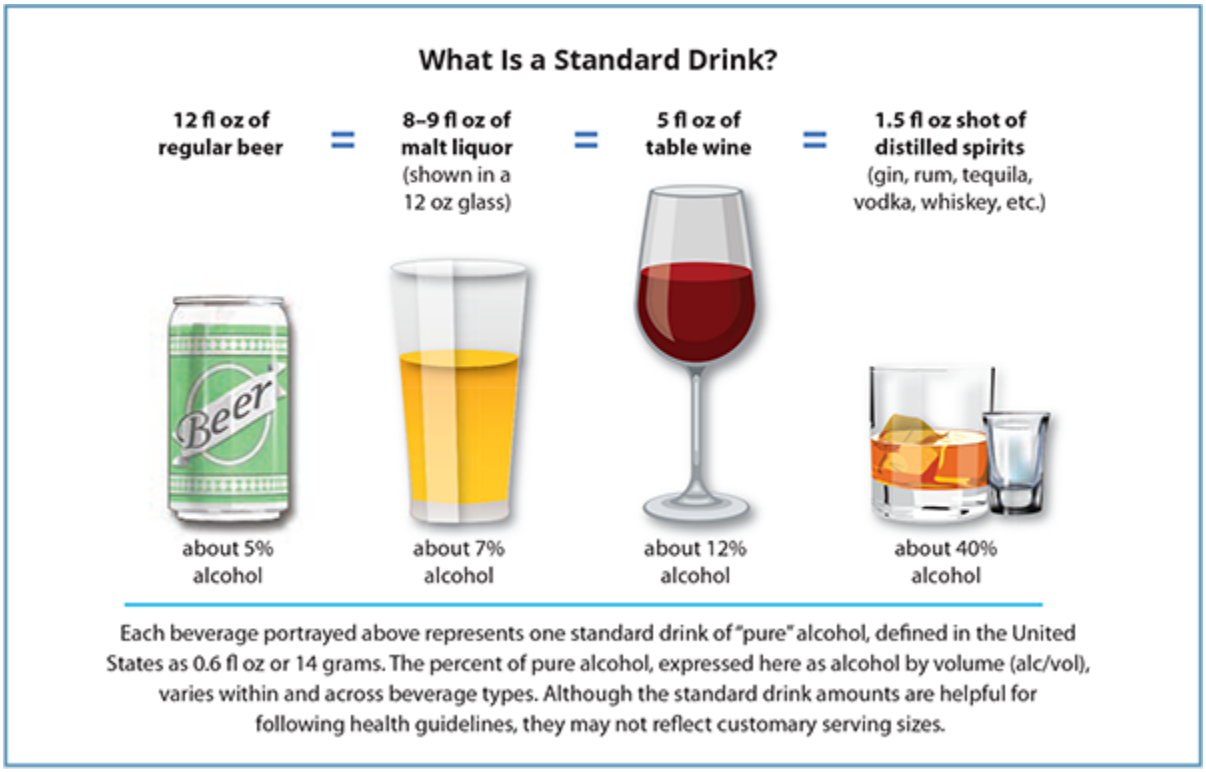

Figure 5.7.8 – The same amount of alcohol is contained in 12 fluid ounces of regular beer, 8 to 9 fluid ounces of malt liquor, 5 fluid ounces of table wine, or a 1.5 fluid ounce shot of 80-proof spirits ("hard liquor" such as whiskey, gin, etc.) The percent of 'pure' alcohol varies by beverage.

Low-risk Alcohol Drinking Guidelines – Government of Canada

Heavy drinking, by age group

Statistics Canada. Table 13-10-0096-11 Heavy drinking, by age group

Geography	**Canada (excluding territories)[3]**			
Sex	**Both sexes**			
Indicators	**Heavy drinking[6]**			
Characteristics[5, 7, 8, 9, 10, 11, 12, 13]	**Number of persons**		**Percent**	
Age group	**2019**	**2020**	**2019**	**2020**
Total, 12 years and over	5,802,200	5,320,500	18.3	16.6
12 to 17 years	62,100	66,500	2.7	2.8
18 to 34 years	2,249,300	1,885,900	26.9	22.4
35 to 49 years	1,595,900	1,522,000	22.2	21.0
50 to 64 years	1,414,000	1,368,600	18.8	18.1
65 years and over	480,900	477,500	7.6	7.4

Canada's low-risk alcohol drinking guidelines

Canada's Low-Risk Alcohol Drinking Guidelines can help you make informed decisions about drinking. The guidelines recommend setting limits to help you reduce the acute (short-term) and chronic (long-term) health risks of alcohol use.

It is important to keep in mind that:

- the intention of these guidelines is not to encourage people who abstain (for cultural, spiritual, health or other reasons) to start drinking
- these are "low-risk" guidelines, not "no-risk" guidelines. Any amount of alcohol consumption can have risks to your health

Visit the following websites for information on alcohol

- Rethinking Drinking
- Link to alcohol fact sheets from drugabuse.gov
- WebMD slideshow on How Alcohol Affects Your Body
- Canadians Under 54 Drinking More While at Home Due to COVID-19 Pandemic (CCSA)
- Alcohol Consumption in Canada – Government of Canada

Specialized Programs for Alcohol – Government of Canada

The Health Portfolio plays an important role in addressing alcohol-related harm. A number of initiatives are aimed at reducing alcohol misuse among Canadians, such as:

- Fetal alcohol spectrum disorder: About, causes and co-occurring conditions
- https://www.canada.ca/en/health-canada/services/health-concerns/drug-prevention-treatment/canadian-alcohol-drug-use-monitoring-survey.html
- Government of Canada – National Native Alcohol and Drug Abuse Program (NNADAP)
- First Nations Health Authority – Health through Wellness
- Developing an Indigenous approach to FASD
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5.8 HALLUCINOGENS

Hallucinogens are found in plants and fungi or are synthetically produced and are among the oldest known group of drugs used for their ability to alter human perception and mood.

What is their Origin?

Hallucinogens can be synthetically produced in illicit laboratories or are found in plants.

Figure 5.8.1 – MDMA/Ecstasy pills

Figure 5.8.2 – LSD Blotter Sheet

What are common street names?

Common street names include: Acid, Blotter, Blotter Acid, Cubes, Doses, Fry, Mind Candy, Mushrooms, Shrooms, Special K, STP, X, and XTC.

What do they look like?

Hallucinogens come in a variety of forms. MDMA or ecstasy tablets are sold in many colours with a variety of logos to attract youth. LSD is sold in the form of impregnated paper (blotter acid), typically imprinted with colourful graphic designs.

How are they abused?

The most commonly abused hallucinogens among junior and senior high school students are hallucinogenic mushrooms, LSD, and MDMA (ecstasy). Hallucinogens are typically taken orally or can be smoked.

What is their effect on the mind?

Sensory effects include perceptual distortions that vary with dose, setting, and mood. Psychic effects include distortions of thought associated with time and space. Time may appear to stand still, and forms and colours seem to change and take on new significance. Weeks or even months after some hallucinogens have been taken, the user may experience flashbacks — fragmentary recurrences of certain aspects of the drug experience in the

absence of actually taking the drug. The occurrence of a flashback is unpredictable, but is more likely to occur during times of stress and seems to occur more frequently in younger individuals. With time, these episodes diminish and become less intense.

Figure 5.8.3 – LSD Powder and Capsules

What is their effect on the body?

Physiological effects include elevated heart rate, increased blood pressure, and dilated pupils.

What are their overdose effects?

Deaths exclusively from an acute overdose of LSD, magic mushrooms, and mescaline are extremely rare. Deaths generally occur due to suicide, accidents, and dangerous behaviour, or due to the person inadvertently eating poisonous plant material. A severe overdose of PCP and ketamine can result in respiratory depression, coma, convulsions, seizures, and death due to respiratory arrest.

What is their legal status in Canada?

Health Canada regulates the Psychedelics under the **Controlled Drugs and Substances Act (CDSA)** [(1)]– **MDMA and ketamine are Schedule I controlled substances, while LSD and psilocybin are both Schedule III controlled substances**

Ecstasy/MDMA

What is Ecstasy/MDMA?

MDMA acts as both a stimulant and psychedelic, producing an energizing effect, distortions in time and perception, and enhanced enjoyment of tactile experiences.

Adolescents and young adults use it to reduce inhibitions and to promote euphoria, feelings of closeness, empathy, and sexuality. Although MDMA is known among users as ecstasy, researchers have determined that many ecstasy tablets contain not only MDMA but also a number of other drugs or drug combinations that can be harmful, such as methamphetamine, ketamine, cocaine, the over-the-counter cough suppressant dextromethorphan (DXM), the diet drug ephedrine, and caffeine.

In addition, other drugs similar to MDMA, such as MDA or PMA, are often sold as ecstasy, which can lead to overdose and death when the user takes additional doses to obtain the desired effect.

What is its origin?

MDMA is a synthetic chemical made in illegal laboratories in Canada, United States and, to a lesser extent, the Netherlands.

What are common street names?

Common street names include Adam, Beans, Clarity, Disco Biscuit, E, Ecstasy, Eve, Go, Hug Drug, Lover's Speed, MDMA, Peace, STP, X, and XTC.

What does it look like?

MDMA is mainly distributed in tablet form. MDMA tablets are sold with logos, creating brand names for users to seek out. The colourful pills are often hidden among colourful candies. MDMA is also distributed in capsules, powder, and liquid forms.

How is it abused?

MDMA use mainly involves swallowing tablets (50-150 mg), which are sometimes crushed and snorted, occasionally smoked but rarely injected. MDMA is also available as a powder. MDMA users usually take MDMA by "stacking" (taking three or more tablets at once) or by "piggy-backing" (taking a series of tablets over a short period of time). One trend among young adults is "candy flipping," which is the co-abuse of MDMA and LSD. MDMA is considered a "party drug." As with many other drugs of abuse, MDMA is rarely used alone. It is common for users to mix MDMA with other substances, such as alcohol and marijuana.

What is its effect on the mind?

MDMA mainly affects brain cells that use the chemical serotonin to communicate with each other. Serotonin helps to regulate mood, aggression, sexual activity, sleep, and sensitivity to pain. Clinical studies suggest that MDMA may increase the risk of long-term, perhaps permanent, problems with memory and learning. MDMA causes changes in perception, including euphoria and increased sensitivity to touch, energy, sensual and sexual arousal, need to be touched, and need for stimulation. Some unwanted psychological effects include: Confusion, anxiety, depression, paranoia, sleep problems, and drug craving. All these effects usually occur within 30 to 45 minutes of swallowing the drug and usually last 4 to 6 hours, but they may occur or last weeks after ingestion.

What is its effect on the body?

Users of MDMA experience many of the same effects and face many of the same risks as users of other stimulants such as cocaine and amphetamines. These include increased motor activity, alertness, heart rate, and blood pressure.

Figure 5.8.4 – MDMA/Ecstasy pills

What are its overdose effects?

In high doses, MDMA can interfere with the body's ability to regulate temperature. On occasions, this can lead to a sharp increase in body temperature (hyperthermia), resulting in liver, kidney, and cardiovascular system failure, and death. Because MDMA can interfere with its own metabolism (that is, its breakdown within the body), potentially harmful levels can be reached by repeated drug use within short intervals.

Which drugs cause similar effects?

MDMA produces both amphetamine-like stimulation and mild mescaline-like hallucinations.

What is its legal status in Canada?

MDMA is **controlled under Schedule I of the Controlled Drugs and Substances Act**. Activities such as sale, possession or production of MDMA are illegal unless authorized for medical, scientific or industrial purposes

Some unwanted physical effects include:

Muscle tension, tremors, involuntary teeth clenching, muscle cramps, nausea, faintness, chills, sweating, and blurred vision.

High doses of MDMA can interfere with the ability to regulate body temperature, resulting in a sharp increase in body temperature (hyperthermia), leading to liver, kidney, and cardiovascular failure. Severe dehydration can result from the combination of the drug's effects and the crowded and hot conditions in which the drug is often taken. Studies suggest the chronic use of MDMA can produce damage to the serotonin system. It is ironic that a drug that is taken to increase pleasure may cause damage that reduces a person's ability to feel pleasure.

Ketamine

Figure 5.8.5 – Vials of Ketamine

What is Ketamine?

Ketamine is a dissociative anesthetic that has some hallucinogenic effects. It distorts perceptions of sight and sound and makes the user feel disconnected and not in control. It is an injectable, short-acting anesthetic for use in humans and animals. It is referred to as a "dissociative anesthetic" because it makes patients feel detached from their pain and environment.

Ketamine can induce a state of sedation (feeling calm and relaxed), immobility, relief from pain, and amnesia (no memory of events while under the influence of the drug).

It is abused for its ability to produce dissociative sensations and hallucinations. Ketamine has also been used to facilitate sexual assault.

What is its origin?

Originally Ketamine was created in Belgium in the 1960s as an anesthesia medicine for animals. It became approved for in 1970's for humans. It was used in treating injured soldiers on the battlefields in the Vietnam War. Ketamine is produced commercially in a number of countries, including the Canada and the United

States. Most of the ketamine illegally distributed in Canada is diverted or stolen from legitimate sources, particularly veterinary clinics, or smuggled into the Canada. Distribution of ketamine typically occurs among friends and acquaintances, most often at raves, nightclubs, and at private parties; street sales of ketamine are rare.

How is it abused?

Ketamine, along with the other "club drugs," has become popular among teens and young adults at dance clubs and "raves." Ketamine is manufactured commercially as a powder or liquid. Powdered ketamine is also formed from pharmaceutical ketamine by evaporating the liquid using hot plates, warming trays, or microwave ovens, a process that results in the formation of crystals, which are then ground into powder.

What are common street names?

Common street names include: Cat Tranquilizer, Cat Valium, Jet K, Kit Kat, Purple, Special K, Special La Coke, Super Acid, Super K, and Vitamin K.

What does it look like?

Ketamine comes in a clear liquid and a white or off-white powder. Powdered ketamine (100 milligrams to 200 milligrams) typically is packaged in small glass vials, small plastic bags, and capsules as well as paper, glassine, or aluminum foil folds. Powdered ketamine is cut into lines known as bumps and snorted, or it is smoked, typically in marijuana or tobacco cigarettes. Liquid ketamine is injected or mixed into drinks. Ketamine is found by itself or often in combination with MDMA, amphetamine, methamphetamine, or cocaine.

What is its effect on the mind?

Ketamine produces hallucinations. It distorts perceptions of sight and sound and makes the user feel disconnected and not in control. A "Special K" trip is touted as better than that of LSD or PCP because its hallucinatory effects are relatively short in duration, lasting approximately 30 to 60 minutes as opposed to several hours.

Slang for experiences related to Ketamine or effects of ketamine include:

- "K-land" (refers to a mellow & colorful experience)
- "K-hole" (refers to the out-of-body, near-death experience)

- "Baby food" (users sink into blissful, infantile inertia)
- "God" (users are convinced that they have met their maker)

The onset of effects is rapid and often occurs within a few minutes of taking the drug, though taking it orally results in a slightly slower onset of effects. Flashbacks have been reported several weeks after ketamine is used. Ketamine may also cause agitation, depression, cognitive difficulties, unconsciousness, and amnesia.

What is its effect on the body?

A couple of minutes after taking the drug, the user may experience an increase in heart rate and blood pressure that gradually decreases over the next 10 to 20 minutes. Ketamine can make users unresponsive to stimuli. When in this state, users experience:

- Involuntarily rapid eye movement, dilated pupils, salivation, tear secretions, and stiffening of the muscles.
- This drug can also cause nausea.

What are its overdose effects?

An overdose can cause unconsciousness and dangerously slowed breathing.

Which drugs cause similar effects?

Other hallucinogenic drugs such as LSD, PCP, and mescaline can cause hallucinations. There are also several drugs such as GHB, Rohypnol, and other depressants that are misused for their amnesiac or sedative properties to facilitate sexual assault.

Figure 5.8.6 – Ketamine in various forms

What is its legal status in Canada?

Ketamine is controlled under Schedule I of the **Controlled Drugs and Substances Act ([1)**. It has a currently accepted medical use but some potential for abuse, which may lead to moderate or low physical dependence or high psychological dependence.

LSD

What is LSD?

LSD is a potent hallucinogen that has a high potential for abuse and currently has no accepted medical use in treatment in the United States.

What is its origin?

Most LSD is produced in illegal laboratories, with only a very small amount legally manufactured for use in research in Canada

What are common street names?

Common names for LSD include: Acid, Blotter Acid, Dots, Mellow Yellow, and Window Pane.

What does it look like?

LSD is sold on the street in tablets, capsules, and occasionally in liquid form. It is an odourless and colourless substance with a slightly bitter taste. LSD is often added to absorbent paper, such as blotter paper, and divided into small decorated squares, with each square representing one dose.

What is its effect on the body?

The physical effects include dilated pupils, higher body temperature, increased heart rate and blood pressure, sweating, loss of appetite, sleeplessness, dry mouth, and tremors.

How is it abused?

LSD is abused orally.

What is its effect on the mind?

During the first hour after ingestion, users may experience visual changes with extreme changes in mood. While hallucinating, the user may suffer impaired depth and time perception accompanied by a distorted perception of the shape and size of objects, movements, colours, sound, touch, and the user's own body image. The ability to make sound judgments and see common dangers is impaired, making the user susceptible to personal injury. It is possible for users to suffer acute anxiety and depression after an LSD "trip" and flashbacks have been reported days, and even months, after taking the last dose. The physical effects include dilated pupils, higher body temperature, increased heart rate and blood pressure, sweating, loss of appetite, sleeplessness, dry mouth, and tremor.

What are its overdose effects?

Longer, more intense "trip" episodes, psychosis, and possible death.

Which drugs cause similar effects?

LSD's effects are similar to other hallucinogens, such as PCP, mescaline, and peyote.

What is its legal status in Canada?

LSD is controlled under Schedule III of the **Controlled Drugs and Substances Act**[(1)]. Activities such as

sale, possession, and production of LSD are **illegal unless authorized for medical, scientific or industrial purposes**.

Peyote & Mescaline

What are Peyote and Mescaline?

Peyote is a small, spineless cactus. The active ingredient in peyote is the hallucinogen mescaline.

What is its origin?

In October 1956, a peyote ceremony took place at the Red Pheasant reserve in Saskatchewan. Organized by the Native American Church, the ceremony featured the use of peyote, a psychedelic substance from a cactus traditionally found in Mexico. Its use among Canadian Native peoples in the first half of the twentieth century had signalled concerns about American influences, but by the 1950s the issue escalated into a debate about spirituality, medicine, and Native-newcomer relations. The federal government by this time had embraced an ethos of multiculturalism.

What is its effect on the body?

Following the consumption of peyote and mescaline, users may experience:

Intense nausea, vomiting, dilation of the pupils, increased heart rate, increased blood pressure, a rise in body temperature that causes heavy perspiration, headaches, muscle weakness, and impaired motor coordination

Which drugs cause similar effects?

Other hallucinogens like LSD, psilocybin (mushrooms), and PCP.

What are common street names?

Common street names include: Buttons, Cactus, Mesc, and Peyote.

What does it look like?

The top of the peyote cactus is referred to as the “crown” and consists of disc-shaped buttons that are cut off.

How is it abused?

The fresh or dried buttons are chewed or soaked in water to produce an intoxicating liquid. Peyote buttons may also be ground into a powder that can be placed inside gelatin capsules to be swallowed, or smoked with a leafy material such as cannabis or tobacco.

What is its effect on the mind?

Abuse of peyote and mescaline will cause varying degrees of illusions, hallucinations, altered perception of space and time, and altered body image. Users may also experience euphoria, which is sometimes followed by feelings of anxiety.

What is its legal status in Canada?

Mescaline is prohibited under Canadian federal criminal law, but peyote (which contains mescaline) is **exempted from prohibition** (i.e., it is legal). Mescaline is prohibited in Canada under Schedule III of the **Controlled Drugs and Substances Act**[(1)]. However, the Act notably and specifically exempts peyote from prohibition.

Figure 5.8.7 – Peyote Cactus

Psilocybin

What is Psilocibin?

Psilocybin is a chemical obtained from certain types of fresh or dried mushrooms.

What is its origin?

Psilocybin mushrooms are found in Mexico, Central America, and the United States.

Figure 5.8.8 – Psilocybin Mushrooms

What are common street names?

Common street names include: Magic Mushrooms, Mushrooms, and Shrooms.

What does it look like?

Mushrooms containing psilocybin are available fresh or dried and have long, slender stems topped by caps with dark gills on the underside. Fresh mushrooms have white or whitish-gray stems; the caps are dark brown around the edges and light brown or white in the center. Dried mushrooms are usually rusty brown with isolated areas of off-white.

How is it abused?

Psilocybin mushrooms are ingested orally. They may also be brewed as a tea or added to other foods to mask their bitter flavour.

What is its effect on the body?

The physical effects include nausea, vomiting, muscle weakness, and lack of coordination.

What is its effect on the mind?

The psychological consequences of psilocybin use include hallucinations and an inability to discern fantasy from reality. Panic reactions and psychosis also may occur, particularly if a user ingests a large dose.

What are its overdose effects?

Effects of overdose include longer, more intense "trip" episodes, psychosis, and possible death. Abuse of psilocybin mushrooms could also lead to poisoning if one of the many varieties of poisonous mushrooms is incorrectly identified as a psilocybin mushroom.

Which drugs cause similar effects?

Psilocybin effects are similar to other hallucinogens, such as mescaline and peyote.

What is its legal status in Canada?

The production, sale and possession of magic mushrooms are illegal in Canada. There is increasing interest in the potential therapeutic uses of psilocybin. At this time, **there are no approved therapeutic products containing psilocybin in Canada**

Attribution:

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5.9 MARIJUANA / CANNABIS

What is Marijuana?

Figure 5.9.1 – Photo by Ryan Lange on Unsplash

Marijuana is a mind-altering (psychoactive) drug, produced by the Cannabis sativa plant. Marijuana contains

over 480 constituents. THC (delta-9-tetrahydrocannabinol) is believed to be the main ingredient that produces the psychoactive effect.

What is its origin?

Marijuana is grown in Canada, the United States, Mexico, South America, the Caribbean, and Asia. It can be cultivated in both outdoor and indoor settings.

What are common street names?

Common street names include Aunt Mary, BC Bud, Blunts, Boom, Chronic, Dope, Gangster, Ganja, Grass, Hash, Herb, Hydro, Indo, Joint, Kif, Mary Jane, Mota, Pot, Reefer, Sinsemilla, Skunk, Smoke, Weed, and Yerba.

What does it look like?

Marijuana is a dry, shredded green/brown mix of flowers, stems, seeds, and leaves from the Cannabis sativa plant. The mixture typically is green, brown, or gray in colour and may resemble tobacco.

Figure 5.9.2 – Photo by Roberto Valdivia on Unsplash

How is it abused?

Marijuana is usually smoked as a cigarette (called a joint) or in a pipe or bong. It is also smoked in blunts, which are cigars that have been emptied of tobacco and refilled with marijuana, sometimes in combination with another drug. Marijuana is also mixed with foods or brewed as tea.

What is its effect on the mind?

When marijuana is smoked, the THC passes from the lungs and into the bloodstream, which carries the chemical to the organs throughout the body, including the brain. In the brain, the THC connects to specific sites called cannabinoid receptors on nerve cells and influences the activity of those cells.

Many of these receptors are found in the parts of the brain that influence pleasure, memory, thought, concentration, sensory and time perception, and coordinated movement.

The short-term effects of marijuana include:

Problems with memory and learning, distorted perception, difficulty in thinking and problem-solving, and loss of coordination.

The effect of marijuana on perception and coordination is responsible for serious impairments in learning, associative processes, and psychomotor behaviour (driving abilities). Long-term, regular use can lead to physical dependence and withdrawal following discontinuation, as well as psychic addiction or dependence.

Clinical studies show that the physiological, psychological, and behavioural effects of marijuana vary among individuals and **present a list of common responses to cannabinoids**, as described in the scientific literature:

- Dizziness, nausea, tachycardia, facial flushing, dry mouth, and tremor initially
- Merriment, happiness, and even exhilaration at high doses
- Disinhibition, relaxation, increased sociability, and talkativeness
- Enhanced sensory perception, giving rise to increased appreciation of music, art, and touch Heightened imagination leading to a subjective sense of increased creativity
- Time distortions
- Illusions, delusions, and hallucinations are rare except at high doses
- Impaired judgment, reduced coordination, and ataxia can impede driving ability or lead to

an increase in risk-taking behaviour
- Emotional lability, the incongruity of affect, dysphoria, disorganized thinking, inability to converse logically, agitation, paranoia, confusion, restlessness, anxiety, drowsiness, and panic attacks may occur, especially in inexperienced users or in those who have taken a large dose
- Increased appetite and short-term memory impairment are common

What is its effect on the body?

Short-term physical effects from marijuana use may include sedation, bloodshot eyes, increased heart rate, coughing from lung irritation, increased appetite, and decreased blood pressure. Marijuana smokers experience serious health problems such as bronchitis, emphysema, and bronchial asthma. Extended use may cause suppression of the immune system. Withdrawal from chronic use of high doses of marijuana causes physical signs including a headache, shakiness, sweating, stomach pains and nausea. Withdrawal symptoms also include behavioural signs such as restlessness, irritability, sleep difficulties, and decreased appetite.

What are its overdose effects?

No deaths from overdose of marijuana have been reported.

Which drugs cause similar effects?

Hashish and hashish oil are drugs made from the cannabis plant that is like marijuana, only stronger. Hashish (hash) consists of the THC-rich resinous material of the cannabis plant, which is collected, dried, and then compressed into a variety of forms, such as balls, cakes, or cookie-like sheets. Pieces are then broken off, placed in pipes or mixed with tobacco and placed in pipes or cigarettes, and smoked. The main sources of hashish are the Middle East, North Africa, Pakistan, and Afghanistan. Hashish Oil (hash oil, liquid hash, cannabis oil) is produced by extracting the cannabinoids from the plant material with a solvent. The colour and odour of the extract will vary, depending on the solvent used. A drop or two of this liquid on a cigarette is equal to a single marijuana joint. Like marijuana, hashish and hashish oil are both Schedule I drugs.

What is its legal status in Canada?

Cannabis became legal in Canada on October 17, 2018, following the passage of the Cannabis Act.[1] With the passage of that act, Canada became the second country to legalize marijuana at a national level.

The *Cannabis Act* creates a strict legal framework for controlling the production, distribution, sale and possession of cannabis across Canada. The Act aims to accomplish 3 goals:

- keep cannabis out of the hands of youth
- keep profits out of the pockets of criminals
- protect public health and safety by allowing adults access to legal cannabis

It also has several measures that help prevent youth from accessing cannabis. These include both age restrictions and restricting promotion of cannabis.

In Canada Cannabis Legalization and Regulation – Government of Canada[2] states "Subject to provincial or territorial restrictions, adults who are 18 years of age or older". In Alberta the age is 18 & in Quebec it is 21. Majority of the provinces and Territories all have 19 years old to be able to consume cannabis.

Marijuana is a Schedule I substance under the Controlled Substances Act[3], meaning that it has a high potential for abuse, no currently accepted medical use in treatment in the United States, and a lack of accepted safety for use under medical supervision.

Marijuana Concentrates Also Known As THC Extractions

Figure 5.9.3 – Photo by Elsa Olofsson on Unsplash

What are Marijuana concentrates?

A marijuana concentrate is a highly potent THC concentrated mass that is most similar in appearance to either honey or butter, which is why it is referred to or known on the street as "honey oil" or "budder".

What is its Origin?

Marijuana concentrates contain extraordinarily high THC levels that could range from 40 to 80 percent. This form of marijuana can be up to four times stronger in THC content than high grade or top-shelf marijuana, which normally measures around 20 percent THC levels. Many methods are utilized to convert or "manufacture" marijuana into marijuana concentrates. One method is the butane extraction process. This process is particularly dangerous because it uses highly flammable butane to extract the THC from the cannabis plant. Given the extremely volatile nature of butane, this process has resulted in violent explosions.

THC extraction labs are being reported nationwide, particularly in the western states and in states where local and state marijuana laws are more relaxed.

What are common street names?

Common street names include 710 (the word "OIL" flipped and spelled backwards), wax, ear wax, honey oil, budder, butane hash oil, butane honey oil (BHO), shatter, dabs (dabbing), black glass, and errl.

What does it look like?

Marijuana concentrates are similar in appearance to honey or butter and are either brown or gold in colour

Figure 5.9.4 – Marijuana Concentrate Photo by NisonCo PR and SEO on Unsplash

How is it abused?

One form of abuse occurs orally by infusing marijuana concentrates in various food or drink products; however, smoking remains the most popular form of ingestion by use of water or oil pipes. A disturbing aspect of this emerging threat is the ingestion of concentrates via electronic cigarettes (also known as e-cigarettes) or vaporizers. Many users of marijuana concentrates prefer the e-cigarette/vaporizer because it's smokeless, odourless, and easy to hide or conceal. The user takes a small amount of marijuana concentrate, referred to as a "dab," then heats the substance using the e-cigarette/vaporizer producing vapours that ensure an instant "high" effect upon the user. Using an e-cigarette/vaporizer to ingest marijuana concentrates is commonly referred to as "dabbing" or "vaping".

What are the Effects of Using Marijuana Concentrates?

Being a highly concentrated form of marijuana, the effects upon the user may be more psychologically and physically intense than plant marijuana use. To date, the long-term effects of marijuana concentrate use are not yet fully known; but, the effects of plant marijuana use are known. These effects include paranoia, anxiety, panic attacks, and hallucinations. Additionally, the use of plant marijuana increases one's heart rate and blood pressure. Plant marijuana users may also experience withdrawal and addiction problems.

Source: *Drugs of Abuse: A DEA resource guide* (DEA, 2017)

Cannabis and Children and Youth

On June 21, 2018, the **Cannabis Act**, came into law. Canada was preparing for the legalization of marijuana on October 17, 2018. For healthcare providers, the impact of legalization is going to raise a number of important questions and challenges. One of them being that **one third of youth in Canada have tried cannabis at least once by age 15**. How should we counsel families about the health effects of recreational marijuana, and what is the evidence for its impact on children and youth?

For more information for Cannabis & Children & Youth

- CAMH: Cannabis
- Cannabis and Canada's children and youth – CPS Podcast (transcript included)

- Cannabis and Canada's children and youth (CPS – Canadian Paediatric Society)
- Canadian Students for Sensible Drug Policy – Sensible Cannabis Education Toolkit
- Government of Canada – Cannabis Education Resources
- Government of Canada: Talk about Cannabis – Get the Facts

For More Information:

- CBC – The pros, cons and unknowns of legal cannabis in Canada 3 years later
- Weedmaps – Laws and regulations – Laws and Regulations for Marijuana in Canada

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5.10 STEROIDS

What are Steroids?

Many kinds of steroids occur naturally in various hormones and vitamins. Drugs known as "anabolic steroids" are made in laboratories and have the same chemical structure as the steroids found in the male sex hormone testosterone. The muscle-building (anabolic) and masculinizing (androgenic) effects of these drugs make them appealing to athletes and bodybuilders.

The primary use of anabolic steroids is to promote growth in farm animals. In humans, they are sometimes prescribed to treat delayed puberty, some types of impotence and wasting of the body caused by AIDS and other diseases.

Steroidal "supplements," such as dehydroepiandrosterone (DHEA), are converted into testosterone or a similar compound in the body. Although little research has been done on steroidal supplements, if taken in large quantities, they likely produce the same effects and the same side effects as anabolic steroids.

What is their Origin?

In Canada, you need a prescription for most Anabolic steroids manufactured by pharmaceutical companies. Most steroids used by athletes are smuggled, stolen or made in illegal labs. Veterinary drugs are often used.

Steroids are also illegally diverted from legitimate. sources (theft or inappropriate prescribing). The Internet is the most widely used means of buying and selling anabolic steroids. Steroids are also bought and sold at gyms, bodybuilding competitions, and schools by teammates, coaches, and trainers.

What are common street names?

Common street names include Arnolds, Juice, Pumpers, Roids, Stackers, and Weight Gainers.

Generic and trade names: oxymetholone (Anadrol), methan¬drostenolone (Dianobol), stanozolol (Winstrol), nandrolone decanoate (Deca-Durabolin), testosterone cypionate (Depo-Testosterone), boldenone undecylenate (Equipoise)

What do they look like?

Steroids are available in tablets and capsules, sublingual tablets, liquid drops, gels, creams, transdermal patches,

subdermal implant pellets, and water-based and oil-based injectable solutions. The appearance of these products varies depending on the type and manufacturer.

Figure 5.10.1 – Testosterone Cypionate Injection, USB

Figure 5.10.2 – Depo-Testosterone

How are they abused?

Steroids are ingested orally, injected intramuscularly, or applied to the skin. The doses abused are often 10 to 100 times higher than the approved therapeutic and medical treatment dosages. Users typically take two or more anabolic steroids at the same time in a cyclic manner, believing that this will improve their effectiveness and minimize the adverse effects.

What is their effect on the mind?

Case studies and scientific research indicate that high doses of anabolic steroids may cause mood and behavioural effects. In some individuals, steroid use can cause dramatic mood swings, increased feelings of hostility, impaired judgment, and increased levels of aggression (often referred to as "roid rage"). When users stop taking steroids, they may experience depression that may be severe enough to lead them to commit suicide. Anabolic steroid use may also cause psychological dependence and addiction.

What is their effect on the body?

Figure 5.10.3 – Photo by Sam Moqadam on Unsplash

A wide range of adverse effects is associated with the use or abuse of anabolic steroids. These effects depend on several factors including age, sex, the anabolic steroid used, amount used, and duration of use. In adolescents, anabolic steroid use can stunt the ultimate height that an individual achieves. In boys, steroid use can cause early sexual development, acne, and stunted growth. In adolescent girls and women, anabolic steroid use can induce permanent physical changes, such as deepening of the voice, increased facial and body hair growth, menstrual irregularities, male pattern baldness, and lengthening of the clitoris. In men, anabolic steroid use can cause shrinkage of the testicles, reduced sperm count, enlargement of the male breast tissue, sterility, and an increased risk of prostate cancer.

In both men and women, anabolic steroid use can cause high cholesterol levels, which may increase the risk of coronary artery disease, strokes, and heart attacks. Anabolic steroid use can also cause acne and fluid retention. Oral preparations of anabolic steroids, in particular, can damage the liver. Users who inject steroids run the risk of contracting various infections due to non-sterile injection techniques, sharing of contaminated needles, and the use of steroid preparations manufactured in non-sterile environments. All these factors put users at risk for contracting viral infections such as HIV/AIDS or hepatitis B or C, and bacterial infections at the site of injection. Users may also develop endocarditis, a bacterial infection that causes a potentially fatal inflammation of the heart lining.

What are their overdose effects?

Anabolic steroids are not associated with overdoses. The adverse effects a user would experience develop from the use of steroids over time.

Which drugs cause similar effects?

There are several substances that produce effects similar to those of anabolic steroids. These include human growth hormone (HGH), clenbuterol, gonadotropins, and erythropoietin.

What is their legal status in Canada?

Anabolic steroids and their derivatives are controlled substances in Canada under Schedule IV of the **Controlled Drugs and Substances Act**[(2)]

These products are available illegally over the Internet. Small amounts of Anabolic Xtreme Superdrol, Nitro T3 Extreme Anabolic and Anabolic Xtreme Phera Plex being imported for personal use were recently intercepted at the Canada-U.S. border. Steroids may be prescribed by a licensed physician for the treatment of testosterone deficiency, delayed puberty, low red blood cell count, breast cancer, and tissue wasting resulting from AIDS.

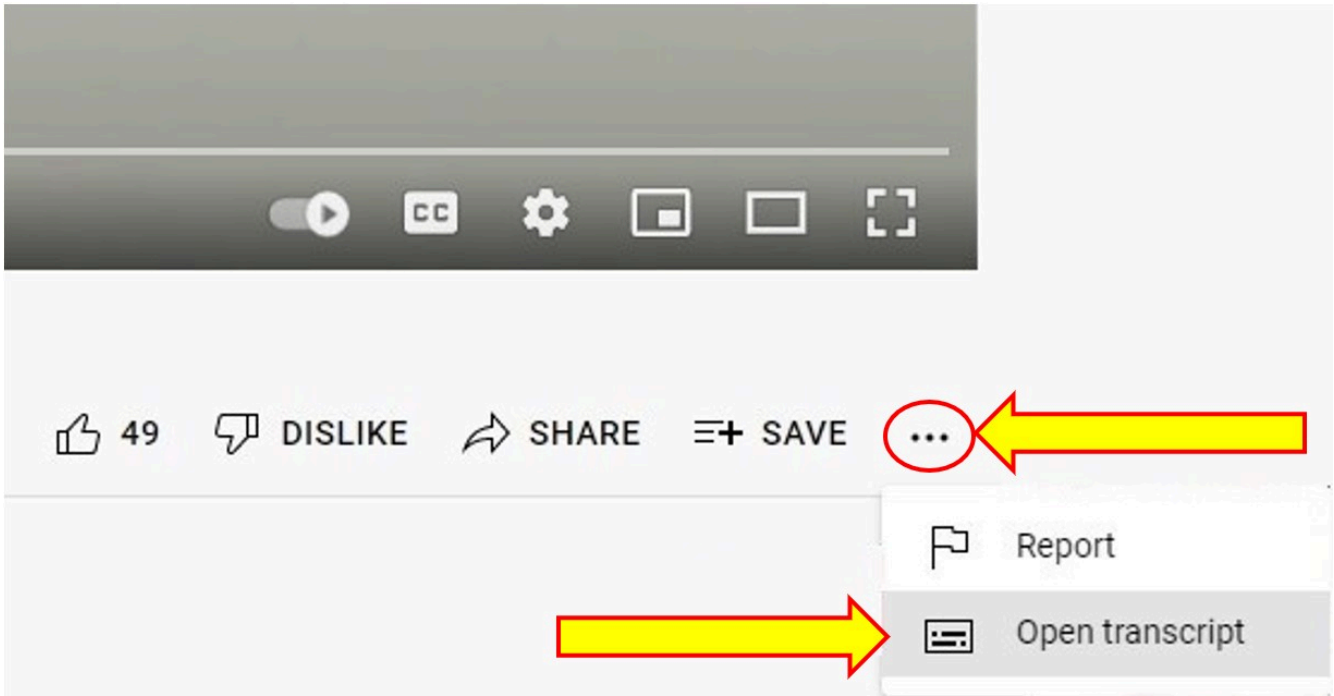
Source: *CAMH – Health Information / Mental Illness and Addiction / Steroids* [(3)]

Film for Assignment (National Geographic science of steroids):

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=113#oembed-1

Uncovering The Secret Behind Steroid Superpowers! by Documentary Today Program from nat geo on steriods and their impact on human body Excellent video that describes anabolic steroids and how/why they do what they do to the body (4).

Transcript



For more Information on Steroids:

- Health Canada advises consumers not to use unauthorized products containing anabolic steroids
- Canadian National Defence – PERFORMANCE ENHANCERS FACTS AND BOTTOM LINE ANABOLIC STEROIDS
- Canadian Centre for Ethics in sports – Anabolic Steroids
- Steroids – Big in Canada
- CAMH – Steroids
- The Steroid Man[5]

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5.11 INHALANTS

What are Inhalants?

Figure 5.11.1 – Photo by Dan Meyers on Unsplash

Inhalants are invisible, volatile substances found in common household products that produce chemical vapours or gases that are inhaled to induce psychoactive or mind-altering effects. Most of the substances used as inhalants have legitimate everyday uses, but they were not meant for human consumption. They have a high potential for abuse due to inhalants are cheap, legal and easy to obtain – especially by children and young adults.

Figure 5.11.2 – Photo by Jules D. on Unsplash

There are hundreds of different kinds of inhalants, roughly divided into four different types[1] :

- Volatile solvents: These are the most commonly abused type of inhalants. "Volatile" means they evaporate when exposed to air, and "solvent" means they dissolve many other substances. Examples of solvents used as inhalants include benzene, toluene, xylene, acetone, naptha and hexane. Products such as gasoline, cleaning fluids, paint thinners, hobby glue, correction fluid and felt-tip markers contain a mixture of different types of solvents.

Figure 5.11.3 – Photo by Markus Spiske on Unsplash

- Aerosol or spray cans: Hair spray, spray paint, cooking spray and other aerosol products contain pressurized liquids or gases such as fluorocarbon and butane. Some aerosol products also contain solvents.
- Gases: This includes some medical anesthetics, such as nitrous oxide ("laughing gas"), chloroform, halothane and ether, as well as gases found in commercially available products, such as butane lighters and propane tanks.

- Nitrites: Amyl nitrite, butyl nitrite and cyclohexyl nitrite (also known as "poppers") are different from other inhalants in effect and availability.

WHAT IS THEIR ORIGIN?

There are more than 1,000 products that are very dangerous when inhaled — things like typewriter correction fluid, air conditioning refrigerant, felt tip markers, spray paint, air freshener, butane, and even cooking spray. See products abused as inhalants at National Inhalant Prevention Coalition (1)

What are common street names?

Common street names include: Gluey, Huff, Rush, Whippets (nitrous oxide), glue, gas, sniff (solvents), poppers, snappers, room odorizers, aromas – some sold under "brand" names such as Rush, Bolt, Jungle Juice (nitrites)

What do they look like?

Common household products such as glue, lighter fluid, cleaning fluids, and paint all produce chemical vapours that can be inhaled

Figure 5.11.4 – Photo by Keiron Crasktellanos on Unsplash

How are they abused?

Although other abused substances can be inhaled, the term "inhalants" is used to describe a variety of substances whose main common characteristic is that they are rarely, if ever, taken by any route other than inhalation.

Inhalants are breathed in through the nose or the mouth in a variety of ways, such as:

- "Sniffing" or "snorting"
- " Bagging" — sniffing or inhaling fumes from substances sprayed or deposited inside a plastic or paper bag
- " Huffing" from an inhalant-soaked rag stuffed in the mouth or inhaling from balloons filled with nitrous oxide

Inhalants are often among the first drugs that young children use. About 1 in 5 kids report having used inhalants by the eighth grade. Inhalants are also one of the few substances abused more by younger children than by older ones.

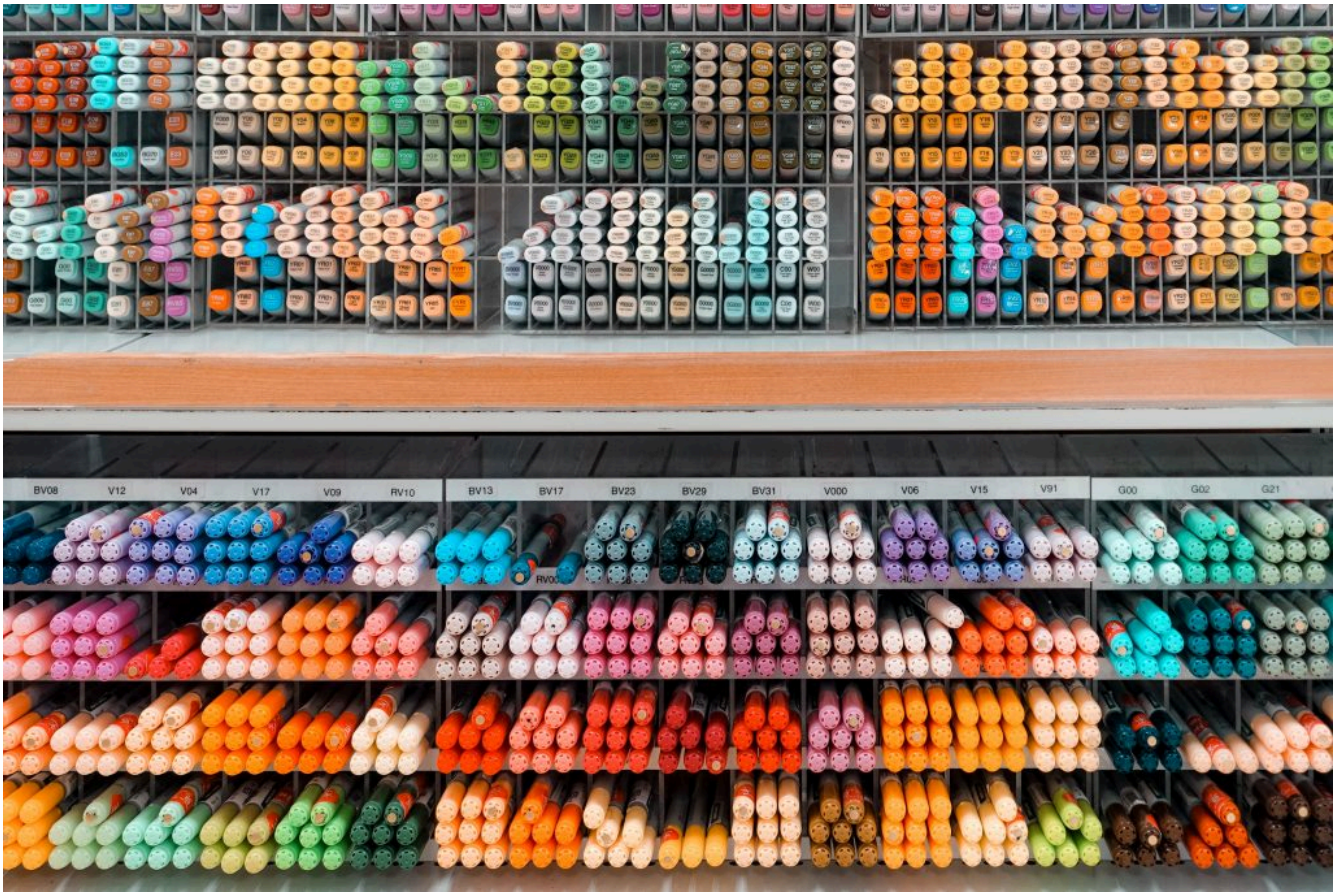


Figure 5.11.5 – Photo by Camille San Vicente on Unsplash

What is their effect on the mind?

Inhalant abuse can cause damage to the parts of the brain that control thinking, moving, seeing, and hearing. Cognitive abnormalities can range from mild impairment to severe dementia.

What is their effect on the body?

Inhaled chemicals are rapidly absorbed through the lungs into the bloodstream and quickly distributed to the brain and other organs. Nearly all inhalants produce effects similar to anesthetics, which slow down the body's function. Depending on the degree of abuse, the user can experience slight stimulation, feeling of less inhibition, or loss of consciousness. Within minutes of inhalation, the user experiences intoxication along with other effects similar to those produced by alcohol.

These effects may include slurred speech, an inability to coordinate movements, euphoria, and dizziness. After heavy use of inhalants, users may feel drowsy for several hours and experience a lingering headache.

Additional symptoms exhibited by long-term inhalant users include:

• Weight loss, muscle weakness, disorientation, inattentiveness, lack of coordination, irritability, depression, and damage to the nervous system and other organs.

Figure 5.11.6 – Photo by Jacob Campbell on Unsplash

Some of the damaging effects on the body may be at least partially reversible when inhalant abuse is stopped; however, many of the effects of prolonged abuse are irreversible.

Prolonged sniffing of the highly concentrated chemicals in solvents or aerosol sprays can induce irregular and rapid heart rhythms and lead to heart failure and death within minutes. There is a common link between inhalant use and problems in school — failing grades, chronic absences, and general apathy.

Other signs include:

- Paint or stains on body or clothing; spots or sores around the mouth; red or runny eyes or nose; chemical breath odour; drunk, dazed, or dizzy appearance; nausea; loss of appetite; anxiety; excitability; and irritability.

What are their overdose effects?

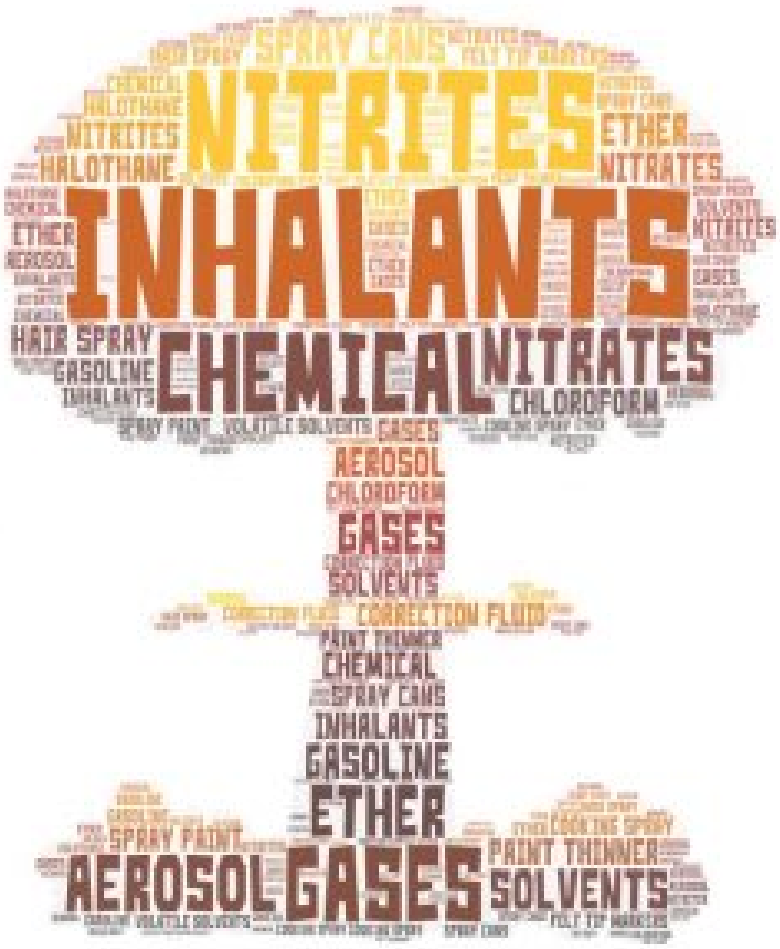


Figure 5.11.7 – WordArt created by Denise Halsey

Because intoxication lasts only a few minutes, users try to prolong the high by continuing to inhale repeatedly over the course of several hours, which is a very dangerous practice. With successive inhalations, users may suffer the loss of consciousness and/or death.

"Sudden sniffing death" can result from a single session of inhalant use by an otherwise healthy young person. Sudden sniffing death is particularly associated with the abuse of butane, propane, and chemicals in aerosols.

Inhalant abuse can also cause death by asphyxiation from repeated inhalations, which lead to high concentrations of inhaled fumes displacing the available oxygen in the lungs, suffocation by blocking air from entering the lungs when inhaling fumes from a plastic bag placed over the head, and choking from swallowing vomit after inhaling substances.

Which drugs cause similar effects?

Most inhalants produce a rapid high that is similar to the effects of alcohol intoxication.

What is their legal status in Canada?

The common household products that are misused as inhalants are legally available for their intended and legitimate uses. Many provinces have attempted to deter youth who buy legal products to get high by placing accessibility / restrictions on the sale of these products to minors. Even though some substances are not currently controlled by the Controlled Drugs Substances Act (CDSA), they pose risks to individuals who abuse them.

Laws

In Canada, the common household products that are misused as inhalants are legal to purchase, mainly because the inhalants being used are actually in household products such as hairspray. However, purchasing or selling them for the purpose of getting high is illegal. Many provinces have created education and awareness around the harm of misusing inhalants, especially to youth who buy legal products to get high by placing a restriction on the sale of these products to minors.

More Information on Inhalant Abuse:

- Inhalants – Royal Canadian Mounted Police
- Canadian Paediatric society – Inhalant Abuse: What Parents should know
- Canadian Medical Association Journal – Inhalant use and addiction in Canada
- 10 Most Common Household Products Used as Inhalants
- CCSA – Youth Volatile Solvent Abuse FAQs
- Education Key to Preventing Teen Inhalant Abuse

Where can I find help, treatment and support?

- Treatment at CAMH: Access CAMH
- Help for families from CAMH
- ConnexOntario
- Kids Help Phone at 1-800-668-6868

Where can I find more information?

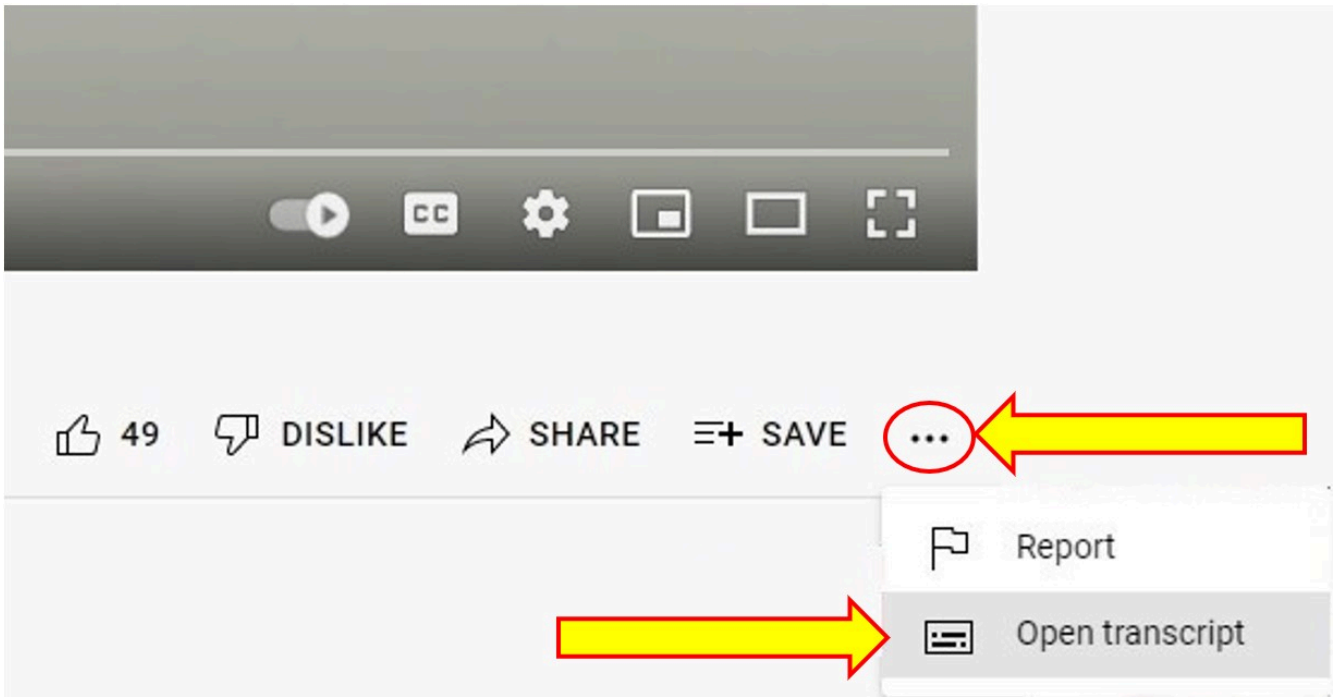
- A free tutorial on addictions is available on the Mental Health 101 page.
- Addiction: An Information Guide (PDF) [2]

Additional information

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=117#oembed-1

13 ABC Action News – Teens and Inhalant Abuse, by Jeff Williams. This is an in-depth report by Ronnie Dahl from 13 ABC Action News in Toledo, Ohio, regarding teens and the dangers of inhalant abuse. [3]

Transcript



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5.12 DRUGS OF CONCERN

Even though some substances are not currently controlled by the Controlled Substances Act (US) or Controlled Drugs and Substances Act (CDSA – Canada), they pose risks to individuals who abuse them. The following section describes these drugs of concern and their associated risks.

What is DXM?

Figure 5.12.1 – Photo by Towfiqu barbhuiya on Unsplash

DXM is a cough suppressor found in more than 120 over-the-counter (OTC) cold medications, either alone or in combination with other drugs such as analgesics
(e.g., acetaminophen), antihistamines (e.g., chlorpheniramine), decongestants (e.g., pseudoephedrine), and/or expectorants (e.g., guaifenesin). The typical adult dose

for cough is 15 or 30 mg taken three to four times daily. The cough-suppressing effects of DXM persist for 5 to 6 hours after ingestion. When taken as directed, side effects are rarely observed.

What is its origin?

DXM users can obtain the drug at almost any pharmacy or supermarket, seeking out the products with the highest concentration of the drug from among all the OTC
cough and cold remedies that contain it. DXM products and powder can also be purchased on the Internet.

What are common street names?

Common street names include CCC, Dex, DXM, Poor Man's PCP, Robo, Rojo, Skittles, Triple C, and Velvet.

What does it look like?

DXM can come in the form of cough syrup, tablets, capsules, or powder.

How is it abused?

DXM is abused in high doses to experience euphoria and visual and auditory hallucinations. Users take various amounts depending on their body weight and the effect they are attempting to achieve. Some users ingest 250 to 1,500 milligrams in a single dosage, far more than the recommended therapeutic dosages described above.

Illicit use of DXM is referred to on the street as "Robotripping", "skittling", or "dexing". The first two terms are derived from the products that are most commonly abused, Robitussin and Coricidin HBP. DXM abuse has traditionally involved drinking large volumes of OTC liquid cough preparations. More recently, however, abuse of tablet and gel capsule preparations has increased.

These newer, high-dose DXM products have particular appeal to users. They are much easier to consume, eliminate the need to drink large volumes of unpleasant-tasting syrup, and are easily portable and concealed, allowing an abuser to continue to abuse DXM throughout the day, whether at school or work.

DXM powder, sold over the Internet, is also a source of DXM for abuse. (The powdered form of DXM poses additional risks to the user due to the uncertainty of composition and dose.) DXM is also distributed in illicitly manufactured tablets containing only DXM or mixed with other drugs such as pseudoephedrine and/or methamphetamine. DXM is abused by individuals of all ages, but its abuse by teenagers and young adults is of particular concern. This abuse is fueled by DXM's OTC availability and extensive "how-to" abuse information on various websites.

What is its effect on the mind?

Some of the many psychoactive effects associated with high-dose DXM include Confusion, inappropriate laughter, agitation, paranoia, and hallucinations. Other sensory changes include the feeling of floating and changes in hearing and touch. Long-term abuse of DXM is associated with severe psychological dependence. Abusers of DXM describe the following four dose-dependent "plateaus":

PLATEAU	DOSE (MG)	BEHAVIORAL EFFECTS
1st	100 – 200	Mild stimulation
2nd	200 – 400	Euphoria and hallucinations
3rd	300-600	Distorted visual perceptions Loss of motor coordination
4th	500 – 1500	Out-of-body sensations

What is its effect on the body?

DXM intoxication involves:
Over-excitability, lethargy, loss of coordination, slurred speech, sweating, hypertension, and involuntary spasmodic movement of the eyeballs. The use of high doses of DXM in combination with alcohol or other drugs is particularly dangerous, and deaths have been reported. Approximately 5-10 percent of Caucasians are poor DXM metabolizers and at increased risk for overdoses and deaths. DXM taken with antidepressants can be life-threatening. OTC products that contain DXM often contain other ingredients such as acetaminophen, chlorpheniramine, and guaifenesin that have their own effects, such as liver damage, rapid heart rate, lack of coordination, vomiting, seizures, and coma. To circumvent the many side effects associated with these other ingredients, a simple chemical extraction procedure has been developed and published on the Internet that removes most of these other ingredients in cough syrup.

What are its overdose effects?

DXM overdose can be treated in an emergency room setting and generally does not result in severe medical consequences or death. Most DXM-related deaths are caused by ingesting the drug in combination with other drugs. DXM-related deaths also occur from impairment of the senses, which can lead to accidents. In 2003, a 14-year-old boy in Colorado who abused DXM died when he was hit by two cars as he attempted to cross a highway. State law enforcement investigators suspect that the drug affected the boy's depth perception and caused him to misjudge the distance and speed of the oncoming vehicles.

Interesting Article on DXM vs Placebo

- Effect of Sublingual Dexmedetomidine vs Placebo on Acute Agitation Associated With Bipolar Disorder [1]

Which drugs cause similar effects?

Depending on the dose, DXM can have effects similar to marijuana or ecstasy. In high doses, its out-of-body effects are similar to those of ketamine or PCP.

What is DXM legal status in Canada?

DXM is a legally marketed cough suppressant that is neither a controlled substance nor a regulated chemical under the Controlled Drugs and Substances Act.

Kratom

What is Kratom?

Kratom is a tropical tree native to Southeast Asia. Consumption of its leaves produces both stimulant effects (in low doses) and sedative effects (in high doses), and can lead to psychotic symptoms, and psychological and physiological dependence. The psychoactive ingredient is found in the leaves of the kratom tree. These leaves are subsequently crushed and then smoked, brewed with tea, or placed into gel capsules. Kratom has a long history of use in Southeast Asia, where it is commonly known as thang, kakuam, thom, ketum, and biak. In the Canada, the abuse of kratom has increased markedly in recent years.

How is it abused?

Mostly abused by oral ingestion in the form of a tablet, capsule, or extract. Kratom leaves may also be dried or powdered and ingested as a tea, or the kratom leaf may be chewed.

What are the effects?

Figure 5.12.2 – Photo by Sarah Dorweiler on Unsplash

At low doses, kratom produces stimulant effects with users reporting increased alertness, physical energy, and talkativeness. At high doses, users experience sedative effects. Kratom consumption can lead to addiction.

Several cases of psychosis resulting from the use of kratom have been reported, where individuals addicted to kratom exhibited psychotic symptoms, including hallucinations, delusion, and confusion.

What does it do to your body?

Kratom's effects on the body include nausea, itching, sweating, dry mouth, constipation, increased urination,

tachycardia, vomiting, drowsiness, and loss of appetite. Users of kratom have also experienced anorexia, weight loss, insomnia, hepatotoxicity, seizure, and hallucinations.

What is its legal status in Canada?

Kratom is legal in Canada provided that it is not used for human consumption, however, many vendors are still selling kratom that appears to be intended for consumption, while stating that the product is for "education and research purposes" or for aromatherapy.Mar 19, 2021

Assessing the quality of the information provided on websites selling Kratom (Mitragyna speciosa) to consumers in Canada [2]

What is Salvia Divinorum?

Figure 5.12.3 – Photo by Jana Ohajdova on Unsplash

Salvia divinorum is a perennial herb in the mint family that is abused for its hallucinogenic effects.

What is its origin?

Salvia is native to certain areas of the Sierra Mazaleca region of Oaxaca, Mexico. It is one of several plants that are used by Mazatec Indians for ritual divination. Salvia divinorum plants can be grown successfully outside of this region. They can be grown indoors and outdoors, especially in humid semitropical climates.

What are common street names?

Common street names include:

- Maria Pastora, Sally-D, and Salvia.

What does it look like?

The plant has spade-shaped variegated green leaves that look similar to mint. The plants themselves grow to more than three feet high, have large green leaves, hollow square stems, and white flowers with purple calyces.

How is it abused?

Salvia can be chewed, smoked, or vaporized.

What is its effect on the mind?

Psychic effects include perceptions of bright lights, vivid colours, shapes, and body movement, as well as body or object distortions. Salvia divinorum may also cause fear and panic, uncontrollable laughter, a sense of overlapping realities, and hallucinations. Salvinorin A is believed to be the ingredient responsible for the psychoactive effects of Salvia divinorum.

What is its effect on the body?

Adverse physical effects may include:

- Loss of coordination, dizziness, and slurred speech

Which drugs cause similar effects?

When Salvia divinorum is chewed or smoked, the hallucinogenic effects elicited are similar to those induced by other Scheduled hallucinogenic substances.

What is Salvia divinorum's legal status in Canada?

Salvia is controlled under Schedule IV of the *Controlled Drugs and Substances Act*. Activities such as sale, possession and production of salvia are illegal unless authorized for medical, scientific or industrial purposes.

There are no industrial or commercial uses for *salvia divinorum* in Canada.

Government of Canada[3]

In the United States, neither Salvia divinorum nor its active constituent Salvinorin A has an approved medical use in the United States. Salvia is not controlled under the Controlled Substances Act. Salvia divinorum is, however, controlled by a number of states. Since Salvia is not controlled by the CSA, some online botanical companies and drug promotional sites have advertised Salvia as a legal alternative to other plant hallucinogens like mescaline.

Explore It Further

Drug-Free Kids (DFK) is a national organization dedicated to prevent and decrease the use of illicit substances by the youth in Canada. DFK also provides parents with information and resources to help them start a discussion about substance usage with their children. DFK has a large network of family support, and a group of parents, caregivers and families.

Telephone number: 416-479-6972

Email: info@drugfreekidscanada.org

Website: https://www.drugfreekidscanada.org[4]

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5.13 DESIGNER DRUGS

Recently, the abuse of clandestinely synthesized drugs has re-emerged as a major worldwide problem. These drugs are illicitly produced with the intent of developing substances that differ slightly from controlled substances in their chemical structure while retaining their pharmacological effects. These substances are commonly known as designer drugs and fall under several drug categories. The following section describes these drugs of concern and their associated risks.

Bath Salts or Designer Cathinones

(Synthetic Stimulants)
What are "Bath Salts"?

Synthetic stimulants often referred to as "bath salts" are from the synthetic cathinone class of drugs. Synthetic cathinones are central nervous stimulants and are designed to mimic effects similar to those produced by cocaine, methamphetamine, and MDMA (ecstasy). These substances are often marketed as "bath salts," "research chemicals," "plant food," "glass cleaner," and labelled "not for human consumption," in order to circumvent the application of the Controlled Substance Analogue Enforcement Act. Marketing in this manner attempts to hide the true reason for the products' existence—the distribution of a psychoactive/stimulant substance for abuse.

What is their origin?

Synthetic cathinones are manufactured in East Asia and have been distributed at wholesale levels throughout Europe, North America, Australia, and other parts of the world.

What are common street names?

Bliss, Blue Silk, Cloud Nine, Drone, Energy-1, Ivory Wave, Lunar Wave, Meow Meow, Ocean Burst, Pure

Ivory, Purple Wave, Red Dove, Snow Leopard, Stardust, Vanilla Sky, White Dove, White Knight, White Lightning.

What does it look like?

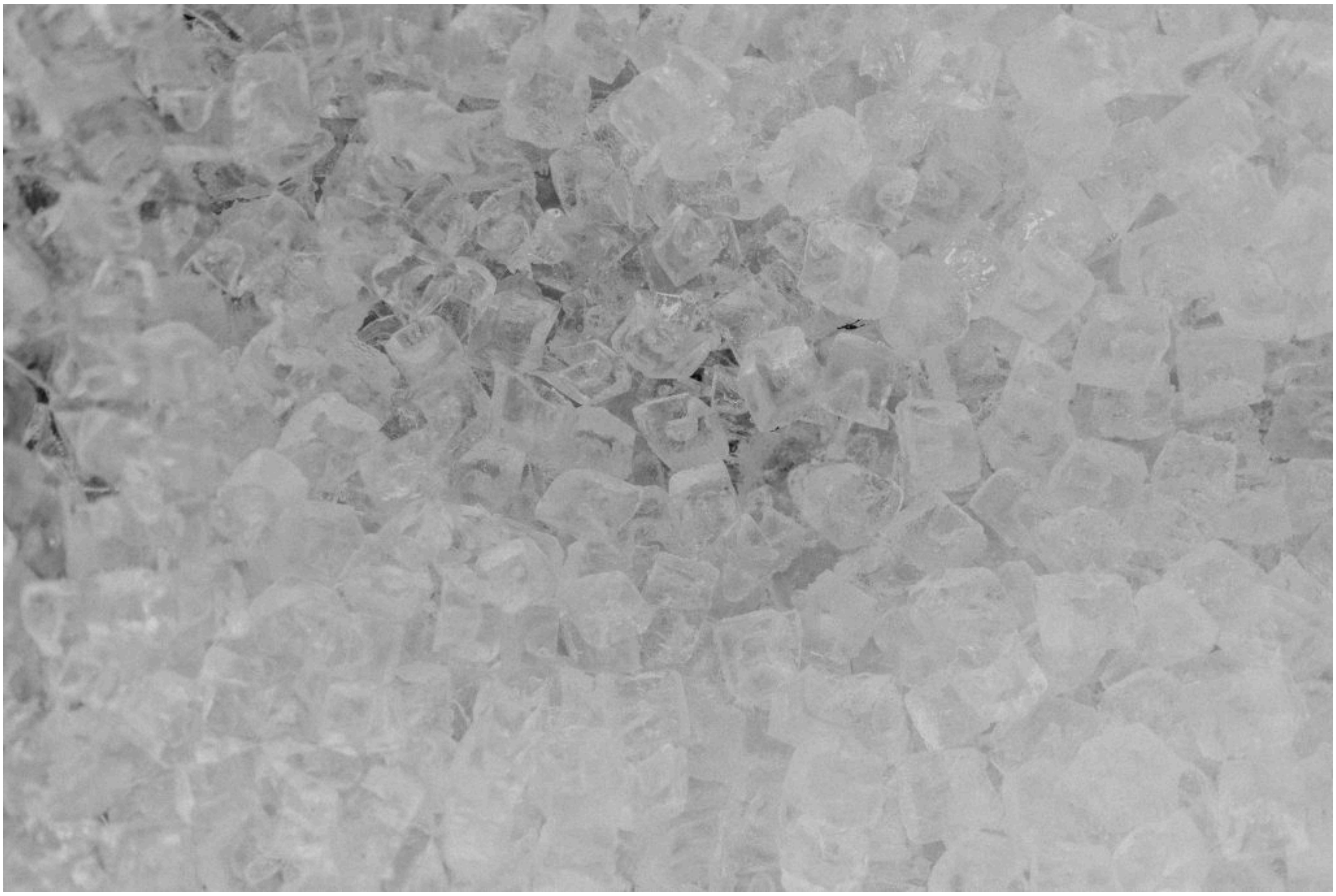

Figure 5.13.1 – Photo by Vidit Goswami on Unsplash

Websites have listed products containing these synthetic stimulants as "plant food" or "bath salts," however, the powdered form is also compressed in gelatin capsules. The synthetic stimulants are sold in smoke shops, head shops, convenience stores, adult bookstores, gas stations, and on Internet sites and are often labelled "not for human consumption."

How are they abused?

"Bath salts" are usually ingested by sniffing/snorting. They can also be taken orally, smoked, or put into a solution and injected into veins.

What is their effect on the mind?

These synthetic substances are abused for their desired effects, such as euphoria and alertness. Other effects that have been reported from the use of these drugs include psychological effects such as confusion, acute psychosis, agitation, combativeness, aggressive, violent, and self-destructive behaviour.

What is their effect on the body?

Adverse or toxic effects associated with the abuse of cathinones, including synthetic cathinones, include rapid heartbeat; hypertension; hyperthermia; prolonged dilation of the pupil of the eye; breakdown of muscle fibers that leads to release of muscle fiber contents into the bloodstream; teeth grinding; sweating; headaches; palpitations; seizures; as well as paranoia, hallucinations, and delusions.

What are their overdose effects?

In addition to the effects above, reports of death from individuals abusing drugs in this class indicate the seriousness of the risk users is taking when ingesting these products.

Which drugs cause similar effects?

They cause effects similar to those of other stimulants such as methamphetamine, MDMA, and cocaine.

What are Bath Salts legal status in Canada?

Mephedrone and methylone are **regulated as controlled substances** in Canada because they are deemed to be similar to amphetamine, which is listed as Item I in Schedule III of the **Controlled Drugs and Substances Act** (CDSA) (1)

For more Information on Bath Salts:

- Government of Canada – Bath Salts
- CCSA / CCLAT – Bath Salts

K2 /Spice

Figure 5.13.2 – Legal order synthetic smoke, Public domain, via Wikimedia Commons [2]

What is K2?

K2 and Spice are just two of the many trade names or brands for synthetic designer drugs that are intended to mimic THC, the main active ingredient of marijuana. These designer synthetic drugs are from the synthetic cannabinoid class of drugs that are often marketed and sold under the guise of "herbal incense" or "potpourri".

Synthetic cannabinoids are not organic but are chemical compounds created in a laboratory. Since 2009, law enforcement has encountered numerous different synthetic cannabinoids that are being sold as "legal" alternatives to marijuana. These products are being abused for their psychoactive properties and are packaged without information as to their health and safety risks.

Synthetic cannabinoids are sold as "herbal incense" and "potpourri" under names like K2 and Spice, as well as many other names, at small convenience stores, head shops, gas stations, and via the Internet from both domestic and international sources. These products are labelled "not for human consumption" in an attempt to shield the manufacturers, distributors, and retail sellers from criminal prosecution. This type of marketing is nothing more than a means to make dangerous, psychoactive
substances widely available to the public.

What is its origin?

The vast majority of synthetic cannabinoids are manufactured in Asia without manufacturing requirements or quality control standards. The bulk products are smuggled into the United States typically as misbranded imports and have no legitimate medical or industrial use.

What are common street names?

There are numerous and various street names for synthetic cannabinoids as drug manufacturers try to appeal to and entice youth and young adults by labelling these products with exotic and extravagant names. Some of the many street names of synthetic marijuana are: "Spice, "K2″, Blaze, RedX Dawn, Paradise, Demon, Black Magic, Spike, Mr. Nice Guy, Ninja, Zohai, Dream, Genie, Sence, Smoke, Skunk, Serenity, Yucatan, Fire, and Crazy Clown.

What does it look like?

These chemical compounds are generally found in bulk powder form and then dissolved in solvents, such as acetone, before being applied to dry plant material to make the "herbal incense" products. After local distributors apply the drug to the dry plant material, they package it for retail distribution, again without pharmaceutical-grade chemical purity standards, as these have no accepted medical use, and ignoring any control mechanisms to prevent contamination or to ensure a consistent, uniform concentration of the powerful and dangerous drug in each package.

How is it abused?

Spraying or mixing the synthetic cannabinoids on plant material provides a vehicle for the most common route of administration – smoking (using a pipe, a water pipe, or rolling the drug-laced plant material in cigarette papers). In addition to the cannabinoids laced on plant material and sold as potpourri and incense, liquid cannabinoids have been designed to be vaporized through both disposable and reusable electronic cigarettes.

What are its overdose effects?

Overdose deaths have been attributed to the abuse of synthetic cannabinoids, including death by a heart attack. Acute kidney injury requiring hospitalization and dialysis in several patients reportedly having smoked synthetic cannabinoids has also been reported by the Centers for Disease Control and Prevention.

Which drugs cause similar effects?

THC, is the main psychoactive constituent of marijuana.

What is its effect on the mind?

Acute psychotic episodes, dependence, and withdrawal are associated with the use of these synthetic cannabinoids. Some individuals have suffered from intense hallucinations. Other effects include severe agitation, disorganized thoughts, paranoid delusions, and violence after smoking products laced with these substances.

What is its effect on the body?

State public health and poison centres have issued warnings in response to adverse health effects associated with the abuse of herbal incense products containing these synthetic cannabinoids.

These adverse effects included tachycardia (elevated heart rate), elevated blood pressure, unconsciousness, tremors, seizures, vomiting, hallucinations, agitation, anxiety, pallor, numbness, and tingling. This is in addition to the numerous public health and poison centres that have similarly issued warnings regarding the abuse of these synthetic cannabinoids.

What is k2/spice's legal status in Canada

Health Canada says smoking synthetic cannabinoids can result in symptoms that range from seizures to hallucinations to acute psychosis. Proponents of the product — also known as "spice," or K2 — stress that **it is legal**. But **Health Canada**[3] considers it a controlled substance if it gives the same effect as marijuana.

Synthetic Opioids

What is its origin?

Synthetic opioids are believed to be synthesized abroad and then imported into North America.

What do they look like?

Clandestinely produced synthetic opioids have been encountered in powder form and were identified on bottle caps and spoons, detected within glassine bags, on digital scales, and on sifters which demonstrates the abuse of these substances as replacements for heroin or other opioids. These drugs are also encountered as tablets, mimicking pharmaceutical opioid products. Clandestinely produced synthetic opioids are encountered as a single substance in combination with other opioids (fentanyl, heroin, U-47700) or other substances.

How are they abused?

Abuse of clandestinely produced synthetic opioids parallels that of heroin and prescription opioid analgesics. Many of these illicitly produced synthetic opioids are more potent than morphine and heroin and thus have the potential to result in a fatal overdose.

What are Synthetic Opioids?

Figure 5.13.3 – Photo by Vidit Goswami on Unsplash

Synthetic opioids are substances that are synthesized in a laboratory and that act on the same targets in the brain as natural opioids (e.g., morphine and codeine) to produce analgesic (pain relief) effects. In contrast, natural opioids are naturally occurring substances extracted from the seed pod of certain varieties of poppy plants. Some synthetic opioids, such as fentanyl and methadone, have been approved for medical use.

Clandestinely produced synthetic opioids structurally related to the Schedule II opioid analgesic fentanyl were trafficked and abused on the West Coast in the late 1970s and 1980s. In the 1980s, DEA controlled several of these illicitly produced synthetic opioids such as alpha-methyl fentanyl, 3-methylthiofentanyl, acetyl-alpha-methylfentanyl, beta-hydroxy-3-methylfentanyl, alpha-methylthiofentanyl, thiofentanyl, beta-hydroxyfentanyl, para-fluoro fentanyl, and 3-methylfentanyl.

As of 2013, there has been a re-emergence in the trafficking and abuse of various clandestinely produced synthetic opioids, including several substances related to fentanyl. Some common illicitly produced synthetic opioids that are currently encountered by law enforcement include, but are not limited to, acetyl fentanyl, butyryl fentanyl, beta-hydroxythiofentanyl, furanyl fentanyl, 4-fluoroisobutyrylfentanyl, acryl fentanyl, and

U-47700. Clandestinely produced counterfeit oxycodone tablets that contain fentanyl. Opioid powder U-47700.

What are their effects?

Some effects of clandestinely produced synthetic opioids, similar to other commonly used opioid analgesics (e.g., morphine), may include relaxation, euphoria, pain relief, sedation, confusion, drowsiness, dizziness, nausea, vomiting, urinary retention, pupillary constriction, and respiratory depression.

What are their overdose effects?

The overdose effects of clandestinely produced synthetic opioids are similar to other opioid analgesics. These effects may include stupor, changes in pupillary size, cold and clammy skin, cyanosis, coma, and respiratory failure leading to death. The presence of the triad of symptoms such as coma, pinpoint pupils, and respiratory depression are strongly suggestive of opioid poisoning.

Which drugs cause similar effects?

Some drugs that cause similar effects include other opioids such as morphine, hydrocodone, oxycodone, hydromorphone, methadone, and heroin.

What is Synthetic Opioids in Canada?

A synthetic opioid has never been developed for use as a medicine. In Canada and around the world, U-47700 is being misused as a recreational drug. In Canada, from April to June 2016, 3 non-fatal overdoses were associated with U-47700.

Synthetic Opioid – Health Canada [4]

For more Information on Synthetic Opioids in Canada:

- RCMP – New psychoactive substances Emerging designer drugs pose real risks
- Government of Canada – Steering Committee meeting of the Canada-U.S. Joint Action Plan on Opioids 2021

Attribution:

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5.14 ALTERING CONSCIOUSNESS WITH PSYCHOACTIVE DRUGS

Learning Objectives

- Summarize the major psychoactive drugs and their influences on consciousness and behaviour.
- Review the evidence regarding the dangers of recreational drugs.

A **psychoactive drug** is a chemical that changes our states of consciousness, particularly our perceptions and moods. It is *a chemical that changes our states of consciousness, particularly our perceptions and moods.* These drugs are commonly found in everyday foods and beverages, including chocolate, coffee, and soft drinks, as well as in alcohol and in over-the-counter drugs, such as aspirin, Tylenol, and cold and cough medication. Psychoactive drugs are also frequently prescribed as sleeping pills, tranquillizers, and anti-anxiety medications, and they may be taken, illegally, for recreational purposes. As you can see in the following tables of Psychoactive Drugs by Class, the four primary classes of psychoactive drugs are *stimulants* **Table 5.14.1**, *depressants* **Table 5.14.2**, *opioids* ***Table 5.14.3***, and *hallucinogens* ***Table 5.14.4***.

Psychoactive drugs affect consciousness by influencing how neurotransmitters operate at the synapses of the central nervous system (CNS). Some psychoactive drugs are agonists, which mimic the operation of a neurotransmitter; some are antagonists, which block the action of a neurotransmitter; and some work by blocking the re-uptake of neurotransmitters at the synapse.

Table 5.14.1 Psychoactive Drugs by Class: Stimulants

Stimulants block the re-uptake of dopamine, norepinephrine, and serotonin in the synapses of the CNS. Symptoms: Enhanced mood and increased energy

Drug	Dangers and side effects	Psychological dependence	Physical dependence	Addiction potential
Caffeine	May create dependence	Low	Low	Low
Nicotine	Has major negative health effects if smoked or chewed	High	High	High
Cocaine	Decreased appetite, headache	Low	Low	Moderate
Amphetamines	Possible dependence, accompanied by severe "crash" with depression as drug effects wear off, particularly if smoked or injected	Moderate	Low	Moderate to high

Table 5.14.2 Psychoactive Drugs by Class: Depressants

Depressants change consciousness by increasing the production of the neurotransmitter GABA and decreasing the production of the neurotransmitter acetylcholine, usually at the level of the thalamus and the reticular formation.
Symptoms: Calming effects, sleep, pain relief, slowed heart rate and respiration

Drug	Dangers and side effects	Psychological dependence	Physical dependence	Addiction potential
Alcohol	Impaired judgment, loss of coordination, dizziness, nausea, and eventually a loss of consciousness	Moderate	Moderate	Moderate
Barbiturates and benzodiazepines	Sluggishness, slowed speech, drowsiness, in severe cases, coma or death	Moderate	Moderate	Moderate
Toxic inhalants	Brain damage and death	High	High	High

Table 5.14.3 Psychoactive Drugs by Class: Opioids

The chemical makeup of opioids is similar to the endorphins, the neurotransmitters that serve as the body's "natural pain reducers."
Symptoms: Slowing of many body functions, constipation, respiratory and cardiac depression, and the rapid development of tolerance

Drug	Dangers and side effects	Psychological dependence	Physical dependence	Addiction potential
Opium	Side effects include nausea, vomiting, tolerance, and addiction.	Moderate	Moderate	Moderate
Morphine	Restlessness, irritability, headache and body aches, tremors, nausea, vomiting, and severe abdominal pain	High	Moderate	Moderate
Heroin	All side effects of morphine but about twice as addictive as morphine	High	Moderate	High

Table 5.14.4 Psychoactive Drugs by Class: Hallucinogens

The chemical compositions of the hallucinogens are similar to the neurotransmitters serotonin and epinephrine, and they act primarily by mimicking them. Symptoms: Altered consciousness; hallucinations

Drug	Dangers and side effects	Psychological dependence	Physical dependence	Addiction potential
Marijuana	Mild intoxication; enhanced perception	Low	Low	Low
LSD, mescaline, PCP, and peyote	Hallucinations; enhanced perception	Low	Low	Low

In some cases, the effects of psychoactive drugs mimic other naturally occurring states of consciousness. For instance, sleeping pills are prescribed to create drowsiness, and benzodiazepines are prescribed to create a state of relaxation. In other cases, psychoactive drugs are taken for recreational purposes with the goal of creating states of consciousness that are pleasurable or that help us escape our normal consciousness.

The use of psychoactive drugs, and especially those that are used illegally, has the potential to create very negative side effects, as you see in the "Psychoactive Drugs by Class" Tables. This does not mean that all drugs are dangerous, but rather that all drugs can be dangerous, particularly if they are used regularly over long periods of time. Psychoactive drugs create negative effects not so much through their initial use but through their continued use, accompanied by increasing doses, that ultimately may lead to drug abuse.

The problem is that many drugs create **tolerance**: *an increase in the dose required to produce the same effect*, which makes it necessary for the user to increase the dosage or the number of times per day that the drug is taken. As the use of the drug increases, the user may develop a **dependence**, defined as a *need to use a drug or other substance regularly*. Dependence can be psychological, in which case the drug is desired and has become part of the everyday life of the user, but no serious physical effects result if the drug is not obtained; or physical, in which case serious physical and mental effects appear when the drug is withdrawn. Cigarette smokers who try to quit, for example, experience physical withdrawal symptoms, such as becoming tired and irritable, as well as extreme psychological cravings to enjoy a cigarette in particular situations, such as after a meal or when they are with friends.

Users may wish to stop using the drug, but when they reduce their dosage they experience **withdrawal** — *negative experiences that accompany reducing or stopping drug use, including physical pain and other symptoms*. *When the user powerfully craves the drug and is driven to seek it out, over and over again, no matter what the physical, social, financial, and legal cost,* we say that he or she has developed an **addiction** to the drug.

This does not mean that using recreational drugs is not dangerous. For people who do become addicted to drugs, the success rate of recovery is low. These drugs are generally illegal and carry with them potential criminal consequences if one is caught and arrested. Drugs that are smoked may produce throat and lung cancers and other problems. Snorting ("sniffing") drugs can lead to a loss of the sense of smell, nosebleeds, difficulty in swallowing, hoarseness, and chronic runny nose. Injecting drugs intravenously carries with it the risk of contracting infections such as hepatitis and HIV. Furthermore, the quality and contents of illegal drugs are generally unknown, and the doses can vary substantially from purchase to purchase. The drugs may also contain toxic chemicals.

Another challenge is the unintended consequences of combining drugs, which can produce serious side effects. Combining drugs is dangerous because their combined effects on the CNS can increase dramatically

and can lead to accidental or even deliberate overdoses. For instance, ingesting alcohol or benzodiazepines along with the usual dose of heroin is a frequent cause of overdose deaths in opiate addicts, and combining alcohol and cocaine can have a dangerous impact on the cardiovascular system. Although all recreational drugs are dangerous, some can be more deadly than others. One way to determine how dangerous recreational drugs are is to calculate a **safety ratio**, *based on the dose that is likely to be fatally divided by the normal dose needed to feel the effects of the drug*. Drugs with lower ratios are more dangerous because the difference between the normal and the lethal dose is small. For instance, heroin has a safety ratio of 6 because the average fatal dose is only six times greater than the average effective dose. On the other hand, marijuana has a safety ratio of 1,000. This is not to say that smoking marijuana cannot be deadly, but it is much less likely to be deadly than heroin. The safety ratios of common recreational drugs are shown in Table 5.14.5, "Popular Recreational Drugs and Their Safety Ratios."

5.14.5 Popular Recreational Drugs and Their Safety Ratios

The safety ratios of common recreational drugs are shown. Drugs with lower safety ratios have a greater risk of brain damage and death.

Drugs with lower safety ratios have a greater risk of brain damage and death.
Adapted from Gable (2004).

Drug	Description	Street or brand names	Safety ratio
Heroin	Strong depressant	Smack, junk, H	6
GHB (Gamma hydroxybutyrate)	\'93Rave\'94 drug (not Ecstacy), also used as a \'93date rape\'94 drug.	Georgia home boy, liquid ecstasy, liquid X, liquid G, fantasy	8
Isobutyl nitrite	Depressant and toxic inhalant	Poppers, rush, locker room	8
Alcohol	The active compound is ethanol		10
DXM (Dextromethorphan)	The active ingredient in over-the-counter cold and cough medicines		10
Methamphetamine	May be injected or smoked	Meth, crank	10
Cocaine	May be inhaled or smoked	Crack, coke, rock, blue	15
MDMA (methylene\'addioxymetham\'adphetamine)	Very powerful stimulant	Ecstasy	16
Codeine	Depressant		20
Methadone	Opioid		20
Mescaline	Hallucinogen		24
Benzodiazepine	Prescription tranquillizer	Centrax, Dalmane, Doral, Halcion, Librium, ProSom, Restoril, Xanax, Valium	30
Ketamine	Prescription anesthetic	Ketanest, Ketaset, Ketalar	40
DMT (Dimethyl\'adtryptamine)	Hallucinogen		50
Phenobarbital	Usually prescribed as a sleeping pill	Luminal (Phenobarbital), Mebaraland, Nembutal, Seconal, Sombulex	50
Prozac	Antidepressant		100
Nitrous oxide	Often inhaled from whipped cream dispensers	Laughing gas	150
Lysergic acid diethylamide (LSD)		Acid	1,000
Marijuana (Cannabis)	The active ingredient is THC	Pot, spliff, weed	1,000

Stimulants

Figure 5.14.1 – Medication Photo by Myriam Zilles on Unsplash

Stimulant is a class of psychoactive drugs that operate by blocking the re-uptake of dopamine, norepinephrine, and serotonin in the synapses of the central nervous system. A stimulant is *a psychoactive drug that operates by blocking the re-uptake of dopamine, norepinephrine, and serotonin in the synapses of the CNS*. Because more of these neurotransmitters remain active in the brain, the result is an increase in the activity of the sympathetic division of the autonomic nervous system (ANS). Effects of stimulants include increased heart and breathing rates, pupil dilation, and increases in blood sugar accompanied by decreases in appetite. For these reasons, stimulants are frequently used to help people stay awake and to control weight.

Used in moderation, some stimulants may increase alertness, but used in an irresponsible fashion they can quickly create dependency. A major problem is the "crash" that results when the drug loses its effectiveness and the activity of the neurotransmitters returns to normal. The withdrawal from stimulants can create profound depression and lead to an intense desire to repeat the high.

Caffeine

Figure 5.14.2 – Photo by Christina Rumpf on Unsplash

Caffeine is *a bitter psychoactive drug found in the beans, leaves, and fruits of plants*, where it acts as a natural pesticide. It is found in a wide variety of products, including coffee, tea, soft drinks, candy, and desserts. In North America, more than 80% of adults consume caffeine daily (Lovett, 2005). Caffeine acts as a mood enhancer and provides energy. Although Health Canada lists caffeine as a safe food substance, it has at least some characteristics of dependence. People who reduce their caffeine intake often report being irritable, restless, and drowsy, as well as experiencing strong headaches, and these withdrawal symptoms may last up to a week. Most experts feel that using small amounts of caffeine during pregnancy is safe, but larger amounts of caffeine can be harmful to the fetus (Health Canada)[(1)].

Nicotine

Figure 5.14.3 – Photo by Irina Iriser on Unsplash

Nicotine is *a psychoactive drug found in tobacco and other members of the nightshade family of plants, where it acts as a natural pesticide*. Nicotine is the main cause for the dependence-forming properties of tobacco use,

and tobacco use is a major health threat. Nicotine creates both psychological and physical addiction, and it is one of the hardest addictions to break. Nicotine content in cigarettes has slowly increased over the years, making quitting smoking more and more difficult. Nicotine is also found in smokeless (chewing) tobacco.

People who want to quit smoking sometimes use other drugs to help them. For instance, the prescription drug Chantix acts as an antagonist, binding to nicotine receptors in the synapse, which prevents users from receiving the normal stimulant effect when they smoke. At the same time, the drug also releases dopamine, the reward neurotransmitter. In this way, Chantix dampens nicotine withdrawal symptoms and cravings. In many cases people are able to get past the physical dependence, allowing them to quit smoking at least temporarily. In the long run, however, the psychological enjoyment of smoking may lead to relapse.

Cocaine.

Figure 5.14.4 – Photo by Colin Davis on unsplash

Cocaine is *an addictive drug obtained from the leaves of the coca plant*. In the late 19th and early 20th centuries, it was a primary constituent in many popular tonics and elixirs and, although it was removed in 1905, was one of the original ingredients in Coca-Cola. Today cocaine is taken illegally as a recreational drug.

Cocaine has a variety of adverse effects on the body. It constricts blood vessels, dilates pupils, and increases

body temperature, heart rate, and blood pressure. It can cause headaches, abdominal pain, and nausea. Since cocaine also tends to decrease appetite, chronic users may also become malnourished. The intensity and duration of cocaine's effects include increased energy and reduced fatigue, depending on how the drug is taken. The faster the drug is absorbed into the bloodstream and delivered to the brain, the more intense the high. Injecting or smoking cocaine produces a faster, stronger high than snorting it. However, the faster the drug is absorbed, the faster the effects subside. The high from snorting cocaine may last 30 minutes, whereas the high from smoking "crack" cocaine may last only 10 minutes. In order to sustain the high, the user must administer the drug again, which may lead to frequent use, often in higher doses, over a short period of time. Cocaine has a safety ratio of 15, making it a very dangerous recreational drug.

Amphetamine

Amphetamine is a stimulant that produces increased wakefulness and focus, along with decreased fatigue and appetite. Types of amphetamines: amphetamine, methamphetamine, dextroamphetamine. Amphetamines are used in prescription medications to treat attention deficit disorder (ADD), narcolepsy, and to control appetite. Some brand names of amphetamines are Adderall, Benzedrine, Dexedrine, and Vyvanse. But amphetamine ("speed") is also used illegally as a recreational drug. The methylated version of amphetamine, *methamphetamine* ("meth" or "crank"), is currently favoured by users, partly because it is available in ampoules ready for use by injection. Meth is a highly dangerous drug with a safety ratio of only 10. In the 1970s, new laws restricted the medical use of these drugs. Today, only dextroamphetamine, lisdexamfetamine, methylphenidate and mixed salts amphetamine are made for medical use. These drugs are used to treat attention-deficit/hyperactivity disorder (ADHD) in children and adults. All other amphetamines are made in illegal laboratories.

Figure 5.14.5 – Photo by Stephen Foster on unsplash

The different types of amphetamines—and related drugs such as methylphenidate (e.g., Ritalin)—are stimulant drugs. Stimulants speed up the central nervous system. They act like adrenaline, a hormone that is one of the body's natural stimulants. Other drugs with similar effects include cocaine, ecstasy, caffeine, and many others. Amphetamines may produce a very high level of tolerance, leading users to increase their intake, often in "jolts" taken every half hour or so. Although the level of physical dependency is small, amphetamines may produce very strong psychological dependence, effectively amounting to addiction. Continued use of stimulants may result in severe psychological depression. The effects of the stimulant methylenedioxymethamphetamine (MDMA), also known as "Ecstasy," provide a good example. MDMA is a very strong stimulant that very successfully prevents the reuptake of serotonin, dopamine, and norepinephrine. It is so effective that when used repeatedly it can seriously deplete the number of neurotransmitters available in the brain, producing a catastrophic mental and physical "crash" resulting in serious, long-lasting depression. MDMA also affects the temperature-regulating mechanisms of the brain, so in high doses, and especially

when combined with vigorous physical activity like dancing, it can cause the body to become so drastically overheated that users can literally "burn up" and die from hyperthermia and dehydration.

Depressants

Slowing Down the Brain With Depressants: Alcohol, Barbiturates and Benzodiazepines, and Toxic Inhalants

In contrast to stimulants, which work to increase neural activity, a *depressant* acts to slow down consciousness. A depressant is a class of psychoactive drugs that reduce the activity of the CNS. is *a psychoactive drug that reduces the activity of the CNS*. Depressants are widely used as prescription medicines to relieve pain, to lower heart rate and respiration, and as anticonvulsants. Depressants change consciousness by increasing the production of the neurotransmitter GABA and decreasing the production of the neurotransmitter acetylcholine, usually at the level of the thalamus and the reticular formation. The outcome of depressant use (similar to the effects of sleep) is a reduction in the transmission of impulses from the lower brain to the cortex

Alcohol

The most commonly used **depressant** is alcohol which is a colourless liquid, produced by the fermentation of sugar or starch, which is the intoxicating agent in fermented drinks. *a colourless liquid, produced by the fermentation of sugar or starch, that is the intoxicating agent in fermented drinks.* Alcohol is the oldest and most widely used drug of abuse in the world. Alcohol is a depressant drug that is legal in Canada. Depressant drugs slow down the parts of your brain that affect your thinking, behaviour, breathing and heart rate. For this reason, it should be consumed moderately. In low to moderate doses, alcohol first acts to remove social inhibitions by slowing activity in the sympathetic nervous system. In higher doses, alcohol acts on the cerebellum to interfere with coordination and balance, producing the staggering gait of drunkenness. At high blood levels, further CNS depression leads to dizziness, nausea, and eventually a loss of consciousness. High enough blood levels such as those produced by "guzzling" large amounts of hard liquor at parties can be fatal. Alcohol is not a "safe" drug by any means—its safety ratio is only 10.

Alcohol use is highly costly to societies because so many people abuse alcohol and because judgment after drinking can be substantially impaired. It is estimated that almost half of the automobile fatalities are caused by alcohol use, and excessive alcohol consumption is involved in a majority of violent crimes, including rape and murder.

Figure 5.14.6 – Picture by Chuttersnap on unsplash

Alcohol and dating increase risk factors for sexual assault among college women. Even people who are not normally aggressive may react with aggression when they are intoxicated. Alcohol use also leads to rioting, unprotected sex, and other negative outcomes.

There is a new trend where "Dry Dating" is becoming a choice due to so many challenges around alcohol and dating in Canada.

No Alcohol and Dating :

- 'Dry dating' is on the rise as more singles ditch alcohol on first dates
- Sober Dating Tips
- Dating Apps for People Who Don't Drink on Dates

- There is a new trend where "Dry Dating" is becoming a choice due to so many challenges around alcohol and dating in Canada. Dating Apps that are specifically aimed at those who wish to have no alcohol and date

When people are intoxicated, they become more self-focused and less aware of the social situation. As a result, they become less likely to notice the social constraints that normally prevent them from engaging aggressively, and are less likely to use those social constraints to guide them. For instance, we might normally notice the presence of a police officer or other people around us, which would remind us that being aggressive is not appropriate. But when we are under the influence of alcohol, we are less likely to be so aware of any negative outcomes

Barbiturates

Barbiturates are a family of depressants that are commonly prescribed as sleeping pills and painkillers. are *depressants that are commonly prescribed as sleeping pills and painkillers*. Brand names include Luminal (Phenobarbital), Mebaraland, Nembutal, Seconal, and Sombulex. In small to moderate doses, barbiturates produce relaxation and sleepiness, but in higher doses symptoms may include sluggishness, difficulty in thinking, slowness of speech, drowsiness, faulty judgment, and eventually coma or even death (Medline Plus, 2008).Medline Plus. (2008). *Barbiturate intoxication and overdose.*
Retrieved from http://www.nlm.nih.gov/medlineplus/ency/article/000951.htm

Figure 5.14.7 – Photo by @danilo.alvesd on Unsplash

Related to barbiturates, benzodiazepines are a family of depressants used to treat anxiety, insomnia, seizures, and muscle spasms. are *a family of depressants used to treat anxiety, insomnia, seizures, and muscle spasms*. In low doses, they produce mild sedation and relieve anxiety; in high doses, they induce sleep. In the United States, benzodiazepines are among the most widely prescribed medications that affect the CNS. Brand names include Centrax, Dalmane, Doral, Halcion, Librium, ProSom, Restoril, Xanax, and Valium.

Toxic Inhalants

Figure 5.14.8 – Photo by Keiron Crasktellanos on Unsplash

Toxic Inhalants are also frequently abused as depressants. These drugs are easily accessible as the vapours of glue, gasoline, propane, hairspray, and spray paint, and are inhaled to create a change in consciousness. Related drugs are the nitrites (amyl and butyl nitrite; "poppers," "rush," "locker room") and anesthetics such as nitrous oxide (laughing gas) and ether. Inhalants are some of the most dangerous recreational drugs, with a safety index below 10, and their continued use may lead to permanent brain damage.

Opioids

Opioids: Opium, Morphine, Heroin, and Codeine

Figure 5.14.9 – Photo by Towfiqu Barbhuiya On Undersplash

Opioids are a family of chemicals that increase activity in opioid receptor neurons in the brain and in the digestive system, producing euphoria, analgesia, slower breathing, and constipation. are *chemicals that increase activity in opioid receptor neurons in the brain and in the digestive system, producing euphoria, analgesia, slower breathing, and constipation*. Their chemical makeup is similar to the endorphins, the neurotransmitters that serve as the body's "natural pain reducers." Natural opioids are derived from the opium poppy, which is widespread in Eurasia, but they can also be created synthetically.Opium The dried juice of the unripe seed capsule of the opium poppy. is *the dried juice of the unripe seed capsule of the opium poppy*. It may be the oldest drug on record, known to the Sumerians before 4000 BC. Morphine, a powerful and addictive drug derived from opium and heroin, a powerful and addictive drug derived from opium are *stronger, more addictive drugs derived from opium*, while codeine, a powerful and addictive drug derived from opium is a *weaker analgesic and less addictive member of the opiate family*. When morphine was first refined from opium in the early 19th century, it was touted as a cure for opium addiction, but it didn't take long to discover that it was actually more addicting than raw opium. When heroin was produced a few decades later, it was also initially thought to be a more potent, less addictive painkiller but was soon found to be much more addictive than morphine. Heroin is about twice as addictive as morphine and creates severe tolerance, moderate physical dependence, and severe psychological dependence. The danger of heroin is demonstrated in the fact that it has the lowest safety ratio (6) of all the drugs listed in **Table 5.14 Popular Recreation Drugs and Their Safety Ratios.**

Figure 5.14.10 – Photo by PhotoLiz M on Pixabay

The opioids activate the sympathetic division of the ANS, causing blood pressure and heart rate to increase, often to dangerous levels that can lead to a heart attack or stroke. At the same time, the drugs also influence the parasympathetic division, leading to constipation and other negative side effects. Symptoms of opioid withdrawal include diarrhea, insomnia, restlessness, irritability, and vomiting, all accompanied by a strong craving for the drug. The powerful psychological dependence on opioids and the severe effects of withdrawal make it very difficult for morphine and heroin abusers to quit using. In addition, because many users take these drugs intravenously and share contaminated needles, they run a very high risk of being infected with diseases. Opioid addicts suffer a high rate of infections such as HIV, pericarditis (an infection of the membrane around the heart), and hepatitis B, any of which can be fatal.

Hallucinogens: Cannabis, Mescaline, and LSD

The drugs that produce the most extreme alteration of consciousness are the hallucinogens, a family of psychoactive drugs that alter sensation and perception, and *psychoactive drugs that alter sensation and perception and that may create hallucinations*. The hallucinogens are frequently known as "psychedelics." Drugs in this class include lysergic acid diethylamide (LSD, or "Acid"), mescaline, and phencyclidine (PCP), as well as a number of natural plants including cannabis (marijuana), peyote, and psilocybin. The chemical compositions of the hallucinogens are similar to the neurotransmitters serotonin and epinephrine, and they act primarily as agonists by mimicking the action of serotonin at the synapses. The hallucinogens may produce

striking changes in perception through one or more of the senses. The precise effects a user experiences are a function not only of the drug itself but also of the user's preexisting mental state and expectations of the drug experience. In large part, the user tends to get out of the experience that he or she brings to it. The hallucinations that may be experienced when taking these drugs are strikingly different from everyday experience and frequently are more similar to dreams than to everyday consciousness. Cannabis (marijuana) is the most widely used hallucinogen. Marijuana also acts as a stimulant, producing giggling, laughing, and mild intoxication. It acts to enhance the perception of sights, sounds, and smells, and may produce a sensation of time slowing down. It is much less likely to lead to antisocial acts than that other popular intoxicant, alcohol, and it is also the one psychedelic drug whose use has not declined in recent years (National Institute on Drug Abuse, 2009b).

Figure 5.14.11 – Photo by Add Weed on unsplash

In recent years, cannabis has again been frequently prescribed for the treatment of pain and nausea, particularly in cancer sufferers, as well as for a wide variety of other physical and psychological disorders (Ben Amar, 2006). The recreational and medicinal use of cannabis has been legal in Canada since October 17, 2018. **The *Cannabis Act***[2] outlines the legal framework for controlling production, distribution, sale, and possession (for personal use) across the country, with regulation and sanctions for violations determined by

each province and territory. For instance, access to legal cannabis for personal use is restricted to persons over the age of 19 in most provinces and territories, but that has been lowered to 18 in Alberta and Manitoba, to coincide with provincial liquor and tobacco laws[3]. Although hallucinogens are powerful drugs that produce striking "mind-altering" effects, they do not produce physiological or psychological tolerance or dependence. While they are not addictive and pose little physical threat to the body, their use is not advisable in any situation in which the user needs to be alert and attentive, exercise focused awareness or good judgment, or demonstrate normal mental functioning, such as driving a car, studying, or operating machinery.

Why We Use Psychoactive Drugs

People have used, and often abused, psychoactive drugs for thousands of years. Perhaps this should not be surprising, because many people find using drugs to be fun and enjoyable. Even when we know the potential costs of using drugs, we may engage in them anyway because the pleasures of using the drugs are occurring right now, whereas the potential costs are abstract and occur in the future.

Risk-Taking Behaviour in Adolescents

Because drug and alcohol abuse is a behaviour that has such important negative consequences for so many people, researchers have tried to understand what leads people to use drugs. Drug use is in part the result of socialization. Children try drugs when their friends convince them to do it, and these decisions are based on social norms about the risks and benefits of various drugs. Adolescents that try cigarette smoking have a higher desire to take risks. Risk-taking behaviour in adolescents who reported having tried a cigarette at least once against those who reported that they had never tried smoking had a higher desire to try other substances.

For more information about Drug Use Among Ontario Students

Type your examples here.

- Drug Use Among Ontario Students 1977 – 2019
- Cross Canada Report 2011 – Student Alcohol & Drug Use – CCSA – CCLAT
- Statistica – Percentage of Canadian students in grades 7 to 12 who used select illicit drugs in the past year as of 2018-2019, by grade

Key Takeaways

- Psychoactive drugs are chemicals that change our state of consciousness. They work by influencing neurotransmitters in the CNS.
- Using psychoactive drugs may create tolerance and, when they are no longer used, withdrawal. Addiction may result from tolerance and the difficulty of withdrawal.
- Stimulants, including caffeine, nicotine, and amphetamine, increase neural activity by blocking the re-uptake of dopamine, norepinephrine, and serotonin in the CNS.
- Depressants, including, alcohol, barbiturates, and benzodiazepines, decrease consciousness by increasing the production of the neurotransmitter GABA and decreasing the production of the neurotransmitter acetylcholine.
- Opioids, including codeine, opium, morphine, and heroin, produce euphoria and analgesia by increasing activity in opioid receptor neurons.
- Hallucinogens, including cannabis, mescaline, and LSD, create an extreme alteration of consciousness as well as the possibility of hallucinations.
- Recreational drug use is influenced by social norms as well as by individual differences. People who are more likely to take risks are also more likely to use drugs.

Attribution:

References

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1. https://www.canada.ca/en/health-canada/services/food-nutrition/food-safety/food-additives/caffeine-foods.html
2. Legislative Services Branch. (20231, April 27). *Consolidated federal laws of Canada, Cannabis Act*. https://laws.justice.gc.ca/eng/acts/C-24.5/page-1.html
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5.15 KEY TERMS STUDY GUIDE

Photo by Raimond Klavins on Unsplash

The material in this chapter assists us in having a look at the types of drugs that are commonly misused. Once you understand the important topics we discussed in this chapter you will have a better understanding of the historically abused drugs as well as new drugs and to examine how the industry and user preferences shape the experiences of users and abusers of various drugs.

You may be familiar with these terms, but If you are not familiar with the terms below, I recommend you download this study sheet, add more spaces to write in definitions and relevant information (or make flashcards) as you read the chapter and watch videos.

1. addiction
2. Alcohol
3. Alcohol Use Disorder (AUD)
4. Amphetamines
5. Barbiturates
6. Benzodiazepnes
7. Cocaine

8. Controlled Drugs and Substances Act (CDSA)
9. dependence
10. Depressants
11. Designer Drugs
12. drug abuse
13. drug categories
14. Electronic Cigarettes
15. effects on the mind & body of each drug
16. Ecstasy/MDMA
17. GHB
18. Fentanyl
19. Hallucinogens
20. Heroin
21. Hydromorphone
22. Inhalants
23. Ketamine
24. legal status of each drug
25. LSD
26. Marijuana/Cannabis
27. Methadone
28. Methamphetamine
29. meth epidemic
30. Morphine
31. Nicotine
32. Opioids (Narcotics)
33. Opium
34. overdose effects
35. Oxycodone
36. performance-enhancing drugs
37. physical dependence
38. psychological dependence
39. Psychotherapeutic Agents
40. Peyote & Mescaline
41. Psilocybin
42. Psychoactive Drugs
43. Steroids
44. Stimulants

45. Vaping

ATTRIBUTION: This chapter is not covered by the adaptation statement, it is an original work.

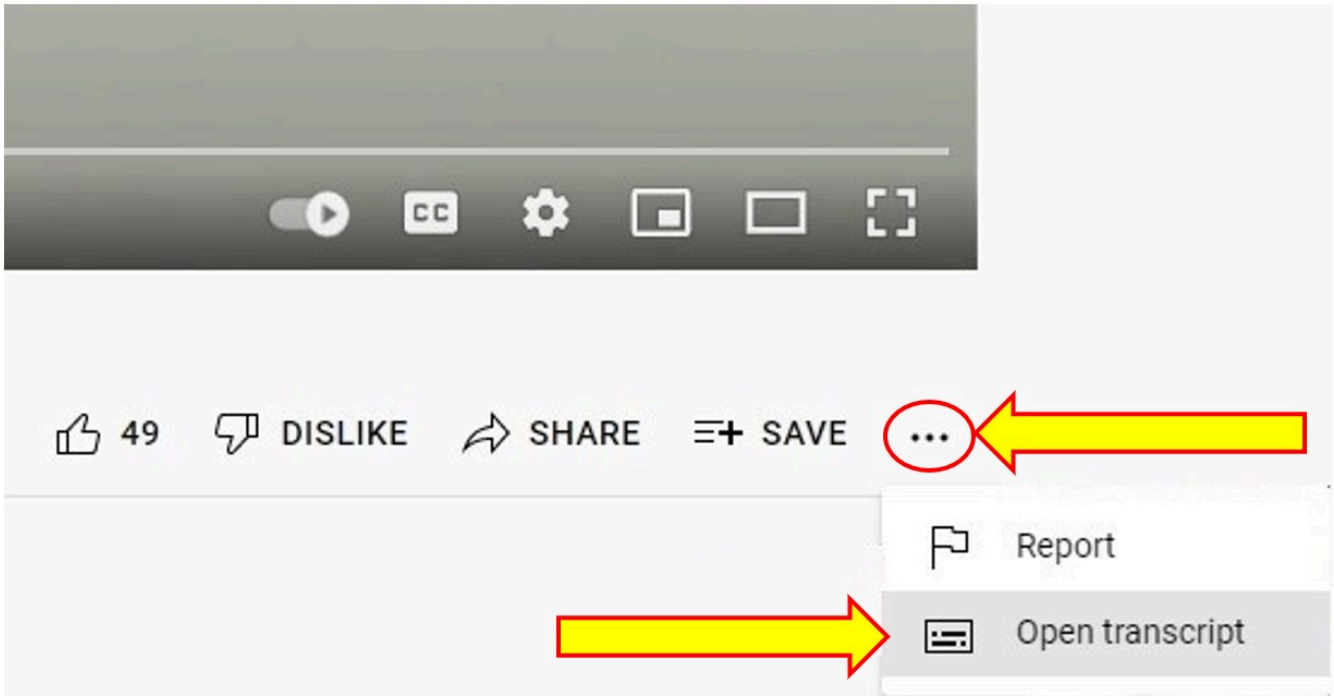
5.16 SELF-CARE

Self care in this module will focus on a variety of self-care strategies that may help when you are feeling poorly. What does self-care look like to you? What makes you feel good? Please watch the following video[1] to explore various self care ideas.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=4326#oembed-1

Small Ways to Practice Self-Care in Difficult Times | Andy Crisis Wisdom, by Headspace. Practicing self-care and self-love. In these difficult times, maintaining our habits can feel indulgent, all but impossible, but showing up for yourself is that much more important. Try to eat healthy, get some sleep, and find a little joy in the circumstances. Remember, taking care of yourself isn't selfish.

Transcript



Attribution:

Reference:

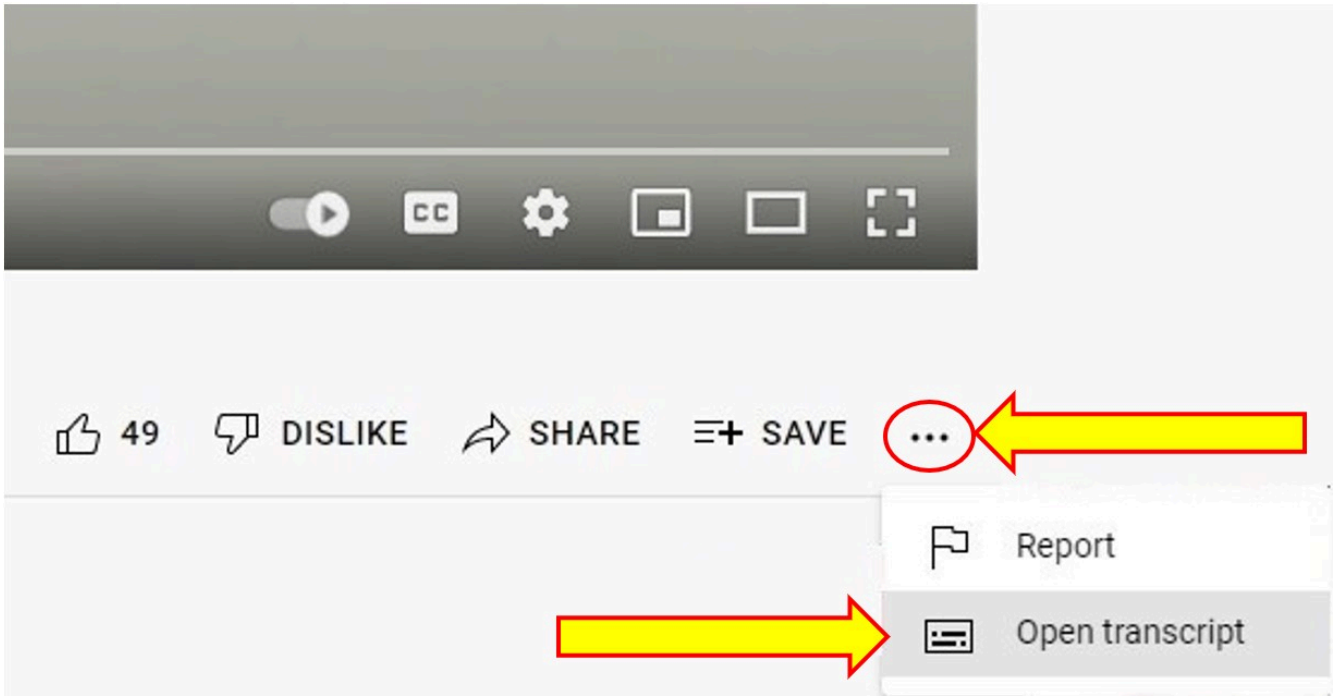
1. Headspace. (2020). *Small ways to practice self-care in difficult times: Andy Crisis Wisdom.* [Video]. Youtube. https://www.youtube.com/watch?v=Mqqxi8mt4t0

ADDITIONAL RESOURCES

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1712#oembed-3

Overview of psychoactive drugs | Processing the Environment | MCAT | Khan Academy. By khanacademymedicine.[1]

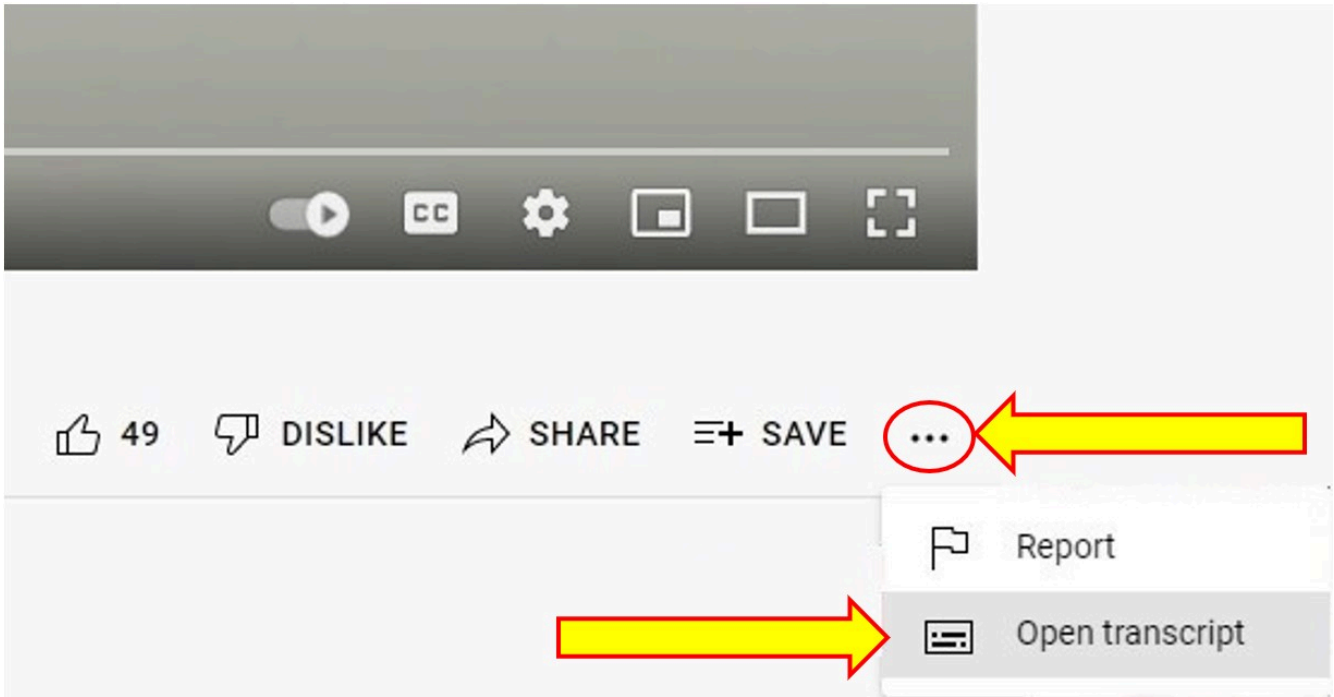
Transcript



One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1712#oembed-1

Treatment of Nicotine Dependence and Tobacco Cessation. By Providence Swedish. Learn about the treatment options for nicotine dependence and how to successfully quit smoking [2]

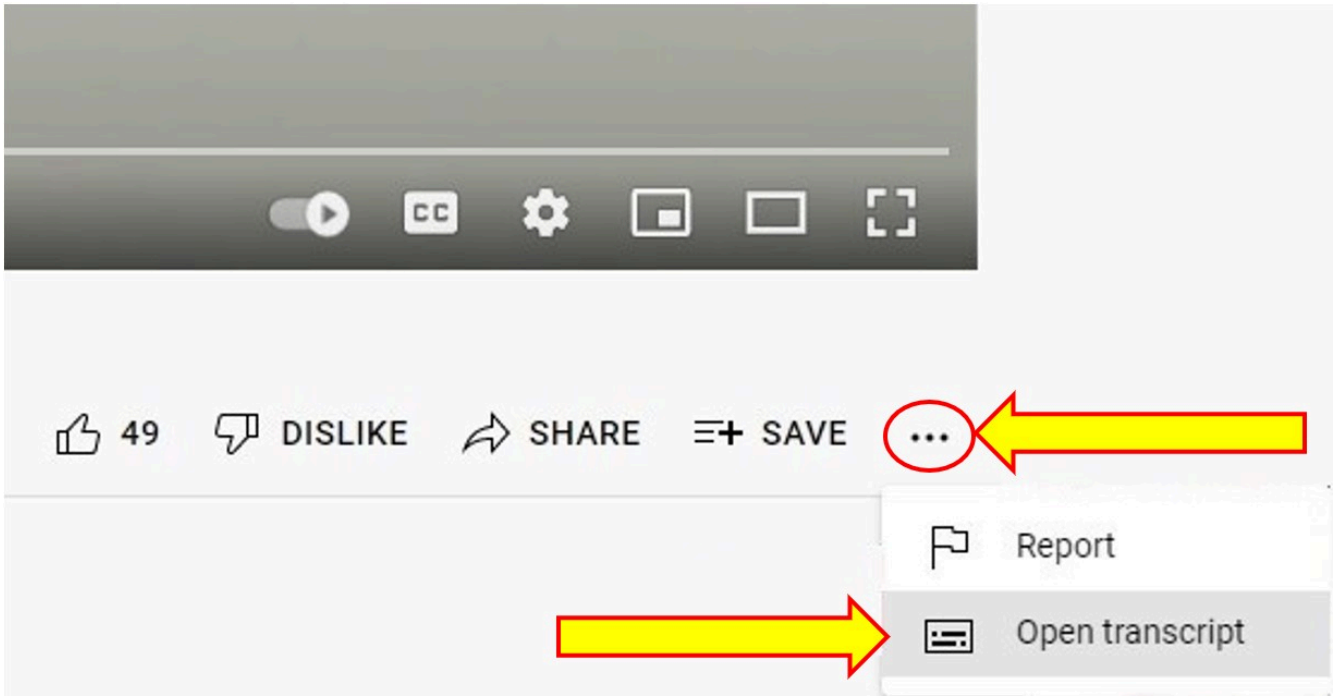
Transcript



One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1712#oembed-2

How do cigarettes affect the body? – Krishna Sudhir details what happens when we smoke — and when we quit. By TED-Ed. Cigarettes aren't good for us. That's hardly news — we've known about the dangers of smoking for decades. But how exactly do cigarettes harm us, and can our bodies recover if we stop? Krishna Sudhir details what happens when we smoke — and when we quit. [3]

Transcript



ATTRIBUTION: This chapter is not covered by the adaptation statement, it is original work.

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1. KHAN ACADEMY. (2015, July 15). *Overview of psychoactive drugs | Processing the Environment* [Video]. Youtube. https://www.youtube.com/watch?v=icD3l5bhhKY
2. Krishna, S. (2018, September 13). *How do cigarettes affect the body? – Krishna Sudhir* [Video]. Youtube – Ted Ex. https://www.youtube.com/watch?v=Y18Vz51Nkos
3. Swedish. (2015, February 24). *Treatment of Nicotine Dependence and Tobacco Cessation* [Video]. Youtube. https://www.youtube.com/watch?v=g43M–o4mXQ

CHAPTER 6: PRESCRIPTIONS, OVER THE COUNTER (OTC), AND SUPPLEMENTS (MEDICATIONS & SUPPLEMENTS)

CHAPTER 6: INTRODUCTION

Figure 6.1 – Photo by Volodymyr Hryschenko on unsplash

In this chapter, we explore a variety of medications and supplements to help us understand their impact on physical and mental well-being. We will review what type of medications are used for psychological disorders, which over-the-counter medicines may be appropriate for health concerns, and which supplements people are using for health and well-being. In addition, we will examine the drug development process and the phases of clinical trials to learn how medications and supplements are tested and approved for human consumption.

LEARNING OBJECTIVES

Learning Objectives

By the end of this chapter you should be able to:

1. Classify commonly used medications for psychological well-being.
2. Explain the process and stages of the drug approval process.
3. Recognize the possible side effects of psychoactive medications.
4. Distinguish over-the-counter medications from prescriptions.
5. List over-the-counter medications which tend to be abused.
6. Assess the benefits and side effects of OTC painkillers.
7. Define types of dietary supplements.
8. Appraise supplements effectiveness, safety concerns and interactions with medications.
9. Select vitamins, minerals, herbs, and plants useful for personal health and well-being.

6.1 PRESCRIPTION DRUGS: MEDICATIONS FOR PSYCHOLOGICAL DISORDERS

Mental Health Medications

Figure 6.1.1 – Photo by Olga DeLawrence on Unsplash

Overview

Medications can play a role in treating several mental disorders and conditions. Treatment may also include Psychotherapy (also called "talk therapy") and brain stimulation therapies or Electroconvulsive therapy. In some cases, psychotherapy alone may be the best treatment option. Choosing the right treatment plan should be based on a person's individual needs and medical situation and under a mental health professional's care. In Canada there are many resources that may help you find treatment services in your area. Help for

Mental Illnesses https://www.canada.ca/en/public-health/services/mental-health-services/mental-health-get-help.html#a1

CAMH does not endorse or recommend any particular drug, herb, or supplements. The Therapeutic Products Directorate (TPD) is Canada's regulator of prescription drugs for human use. Before authorizing a drug for sale in Canada, we verify that it meets the safety, efficacy and quality requirements of the *Food and Drugs Act* and its Regulations.

Understanding Your Medications

Figure 6.1.2 – Photo by Madison Agardi on unsplash

If you are prescribed a medication, be sure that you:

- Tell the doctor about all **medications** and **vitamin supplements** you are already taking.
- Remind your doctor about any allergies and any problems you have had with medicines.
- Understand how to take the medicine before you start using it and take your medicine as instructed.
- Don't take medicines prescribed for another person or give yours to someone else.

- Call your doctor right away if you have any problems with your medicine or if you are worried that it might be doing more harm than good. Your doctor may be able to adjust the dose or change your prescription to a different one that may work better for you.
- Report serious side effects to the Health Canada Adverse Event Reporting program online at Health Canada. You or your doctor may send a report.

Antidepressants

Figure 6.1.3 – Photo by Towfiqu barbhuiya on Unsplash

What are antidepressants?

Antidepressants medications are most commonly used to help relieve the distress of depression or anxiety. They are also used to help with other conditions such as bulimia and chronic pain. Antidepressants are also used for other health conditions, such as anxiety, pain, and insomnia. The most popular types of antidepressants are called selective serotonin re-uptake inhibitors (SSRIs). Explore the information on these SSRI examples:

- Fluoxetine (ex. Prozac)
- Citalopram (ex. Celexa)
- Sertraline (ex. Zoloft)
- Paroxetine (ex. Paxil)
- Escitalopram (ex. Lexapro)

Other types of antidepressants are serotonin and norepinephrine re-uptake inhibitors (SNRIs). SNRIs are similar to SSRIs and include venlafaxine (ex. Effexor) and duloxetine (ex. Cymbalta). Another antidepressant that is commonly used is bupropion. Bupropion is a third type of antidepressant that works differently than either SSRIs or SNRIs. Bupropion is also used to treat the seasonal affective disorder and to help people stop smoking. SSRIs, SNRIs, and bupropion are popular because they do not cause as many side effects as older classes of antidepressants, and seem to help a broader group of depressive and anxiety disorders. Older antidepressant medications include tricyclics, tetracyclic, and monoamine oxidase inhibitors (MAOIs). For some people, tricyclics, tetracyclic, or MAOIs may be the best medications.

How do people respond to antidepressants?

According to a research review by the Agency for Healthcare Research and Quality, all antidepressant medications work about as well as each other to improve symptoms of depression and to keep depression symptoms from coming back. For reasons not yet well understood, some people respond better to some antidepressant medications than to others. Therefore, it is important to know that some people may not feel better with the first medicine they try and may need to try several medicines to find the one that works for them. Others may find that a medicine helped for a while, but their symptoms came back. It is important to carefully follow your doctor's directions for taking your medicine at an adequate dose and over an extended period of time (often 4 to 6 weeks) for it to work. Once a person begins taking antidepressants, it is important to not stop taking them without the help of a doctor. Sometimes people take antidepressants to feel better and stop taking the medication too soon, and the depression may return. When it is time to stop the medication, the doctor will help the person slowly and safely decrease the dose. It's important to give the body time to adjust to the change. People don't get addicted (or "hooked") on these medications, but stopping them abruptly may also cause withdrawal symptoms.

What are the possible side effects of antidepressants?

Some antidepressants may cause more side effects than others. You may need to try several different antidepressant medications before finding the one that improves your symptoms and that causes side effects that you can manage. The most common side effects include:

- Nausea and vomiting
- Weight gain
- Diarrhea
- Sleepiness
- Sexual problems

Call your doctor right away if you have any of the following symptoms, especially if they are new, worsening, or worry you:

- Thoughts about suicide or dying
- Attempts to commit suicide
- New or worsening depression
- New or worsening anxiety
- Feeling very agitated or restless
- Panic attacks
- Trouble sleeping (insomnia)
- New or worsening irritability
- Acting aggressively, being angry, or violent
- Acting on dangerous impulses
- An extreme increase in activity and talking (mania)
- Other unusual changes in behaviour or mood

Combining the newer SSRI or SNRI antidepressants with one of the commonly-used "triptan" medications used to treat migraine headaches could cause a life-threatening illness called "serotonin syndrome." A person with serotonin syndrome may be agitated, have hallucinations (see or hear things that are not real), have a high temperature, or have unusual blood pressure changes. Serotonin syndrome is usually associated with the older antidepressants called MAOIs, but it can happen with the newer antidepressants as well if they are mixed with the wrong medications. Antidepressants may cause other side effects that were not included in this list. To report any serious adverse effects associated with the use of antidepressant medicines, please contact: Drugs and health products – Canada.ca

For More Information on Antidepressants:

- Antidepressant drugs – Government of Canada
- Antidepressant Medication – CAMH.
- Huffington Post – Antidepressant Use In Canada Among Highest In World: OECD
- Who can prescribe antidepressants in Canada?

Anti-Anxiety Medications

What are anti-anxiety medications?

Anti-anxiety medications help reduce the symptoms of anxiety, such as panic attacks, or extreme fear and worry. The most common anti-anxiety medications are called benzodiazepines. Benzodiazepines can treat generalized anxiety disorder. In the case of panic disorder or social phobia (social anxiety disorder), benzodiazepines are usually second-line treatments, behind SSRIs or other antidepressants. Benzodiazepines used to treat anxiety disorders include:

- Clonazepam
- Alprazolam
- Lorazepam

Short half-life (or short-acting) benzodiazepines (such as Lorazepam) and beta-blockers are used to treat the short-term symptoms of anxiety. Beta-blockers help manage physical symptoms of anxiety, such as trembling, rapid heartbeat, and sweating that people with phobias (an overwhelming and unreasonable fear of an object or situation, such as public speaking) experience in difficult situations. Taking these medications for a short period of time can help the person keep physical symptoms under control and can be used "as needed" to reduce acute anxiety. Buspirone (which is unrelated to benzodiazepines) is sometimes used for the long-term treatment of chronic anxiety. In contrast to benzodiazepines, buspirone must be taken every day for a few weeks to reach its full effect. It is not useful on an "as-needed" basis.

How do people respond to anti-anxiety medications?

Anti-anxiety medications such as benzodiazepines are effective in relieving anxiety and take effect more quickly than the antidepressant medications (or buspirone) often prescribed for anxiety. However, people can build up a tolerance to benzodiazepines if they are taken over a long period of time and may need higher and higher doses to get the same effect. Some people may even become dependent on them. To avoid these

problems, doctors usually prescribe benzodiazepines for short periods, a practice that is especially helpful for older adults (read the CCSMH article Benzodiazepine Use Disorder Among Older Adults or people who have substance abuse problems and people who become dependent on medication easily. If people suddenly stop taking benzodiazepines, they may have withdrawal symptoms or their anxiety may return. Therefore, benzodiazepines should be tapered off slowly. Whenever possible these medications should be avoided in older adults, these medications continue to be frequently prescribed. Recent Canadian data suggest that 18.7% of older adult females report using this medication. (Statistics Canada, 2016).

What are the possible side effects of anti-anxiety medications?

Figure 6.1.4 – Photo by pawel szvmanski on Unsplash

Like other medications, anti-anxiety medications may cause side effects. Some of these side effects and risks are serious. The most common side effects of benzodiazepines are drowsiness and dizziness. Other possible side effects include:

- Nausea
- Blurred vision

- Headache
- Confusion
- Tiredness
- Nightmares

Tell your doctor if any of these symptoms are severe or do not go away:

- Drowsiness
- Dizziness
- Unsteadiness
- Problems with coordination
- Difficulty thinking or remembering
- Increased saliva
- Muscle or joint pain
- Frequent urination
- Blurred vision
- Changes in sex drive or ability

If you experience any of the symptoms below, call your doctor immediately:

- Rash
- Hives
- Swelling of the eyes, face, lips, tongue, or throat
- Difficulty breathing or swallowing
- Hoarseness
- Seizures
- Yellowing of the skin or eyes
- Depression
- Difficulty speaking
- Yellowing of the skin or eyes
- Thoughts of suicide or harming yourself
- Difficulty breathing

Common side effects of beta-blockers include:

- Fatigue
- Cold hands

- Dizziness or light-headedness
- Weakness

Beta-blockers generally are not recommended for people with asthma or diabetes because they may worsen symptoms related to both. Possible side effects from buspirone include:

- Dizziness
- Headaches
- Nausea
- Nervousness
- Lightheadedness
- Excitement
- Trouble sleeping

Anti-anxiety medications may cause other side effects that are not included in the lists above. To report any serious adverse effects associated with the use of these medicines, please contact Adverse Side Effects to medication – Health Canada

Stimulants

Figure 6.1.5 – Photo by Christina Victoria Craft on Unsplash

What are Stimulants?

As the name suggests, stimulants are drugs that stimulate, excite or speed up the brain and other parts of the body. These can increase energy, attention, alertness, and wakefulness. They are generally used to treat particular medical conditions, such as:

- attention-deficit hyperactivity disorder (ADHD)
- sleeping disorders like narcolepsy (an uncontrollable need to sleep)

Prescription stimulants include:

- amphetamine
- methylphenidate

Stimulants used to treat ADHD include:

- Methylphenidate
- Amphetamine
- Dextroamphetamine
- Lisdexamfetamine dimesylate

Stimulants are also prescribed to treat other health conditions, including narcolepsy, and occasionally depression (especially in older or chronically medically ill people and in those who have not responded to other treatments).

How do people respond to stimulants?

Prescription stimulants have a calming and "focusing" effect on individuals with ADHD. Stimulant medications are safe when given under a doctor's supervision. Some children taking them may feel slightly different or "funny". Some parents worry that stimulant medications may lead to drug abuse or dependence, but there is little evidence of this when they are used properly as prescribed. Additionally, research shows that teens with ADHD who took stimulant medications were less likely to abuse drugs than those who did not take stimulant medications.

What are the possible side effects of stimulants?

Stimulants may cause side effects. Most side effects are minor and disappear when dosage levels are lowered. The most common side effects include:

- Difficulty falling asleep or staying asleep
- Loss of appetite
- Stomach pain
- Headache

Less common side effects include:

- Taking high doses of a prescription stimulant may result in:
  - high blood pressure (hypertension)
  - increased risk of seizures
  - psychotic episodes
  - dangerously high body temperature

- overdose
- increased potential for heart attack and stroke

Call your doctor right away if you have any of these symptoms, especially if they are new, become worse, or worry you.

Stimulants may cause other side effects that are not included in the list above. To report any serious adverse effects associated with the use of stimulants, please contact the Adverse Side Effect to medication – Health Canada

Antipsychotics

Figure 6.1.6 – Photo by Towfiqu Barbhuiyaon Unsplash

What are antipsychotics?

Antipsychotic medicines are primarily used to manage psychosis. The word "psychosis" is used to describe

conditions that affect the mind, and in which there has been some loss of contact with reality, often including delusions (false, fixed beliefs) or hallucinations (hearing or seeing things that are not really there). It can be a symptom of a physical condition such as drug abuse or a mental disorder such as schizophrenia, bipolar disorder, or very severe depression (also known as "psychotic depression"). Antipsychotic medications are often used in combination with other medications to treat delirium, dementia, and mental health conditions, including:

- Attention-Deficit Hyperactivity Disorder (ADHD)
- Severe Depression
- Eating Disorders
- Post-traumatic Stress Disorder (PTSD)
- Obsessive-Compulsive Disorder (OCD)
- Generalized Anxiety Disorder

Antipsychotic medicines do not cure these conditions. They are used to help relieve symptoms and improve quality of life. Older or first-generation antipsychotic medications are also called conventional "typical" antipsychotics or "neuroleptics". Some of the common typical antipsychotics include:

- Chlorpromazine
- Haloperidol
- Perphenazine
- Fluphenazine

Newer or second-generation medications are also called "atypical" antipsychotics. Some of the common atypical antipsychotics include:

- Risperidone
- Olanzapine
- Quetiapine
- Ziprasidone
- Aripiprazole
- Paliperidone
- Lurasidone

Typical and atypical antipsychotics both work to treat symptoms of schizophrenia and the manic phase of bipolar disorder. Several atypical antipsychotics have a "broader spectrum" of action than the older

medications and are used for treating bipolar depression or depression that has not responded to antidepressant medication alone. To find additional information:

- Canadian Institute for Health Information

How do people respond to antipsychotics?

Certain symptoms, such as feeling agitated and having hallucinations, usually go away within days of starting antipsychotic medication. Symptoms like delusions usually go away within a few weeks, but the full effects of the medication may not be seen for up to six weeks. Every patient responds differently, so it may take several trials of different antipsychotic medications to find the one that works best. Some people may have a relapse—meaning their symptoms come back or get worse. Usually, relapses happen when people stop taking their medication, or when they only take it sometimes. Some people stop taking the medication because they feel better or they may feel that they don't need it anymore, but no one should stop taking an antipsychotic medication without talking to his or her doctor. When a doctor says it is okay to stop taking a medication, it should be *gradually tapered off— never stopped suddenly*. Many people must stay on an antipsychotic continuously for months or years in order to stay well; treatment should be personalized for each individual.

What are the possible side effects of antipsychotics?

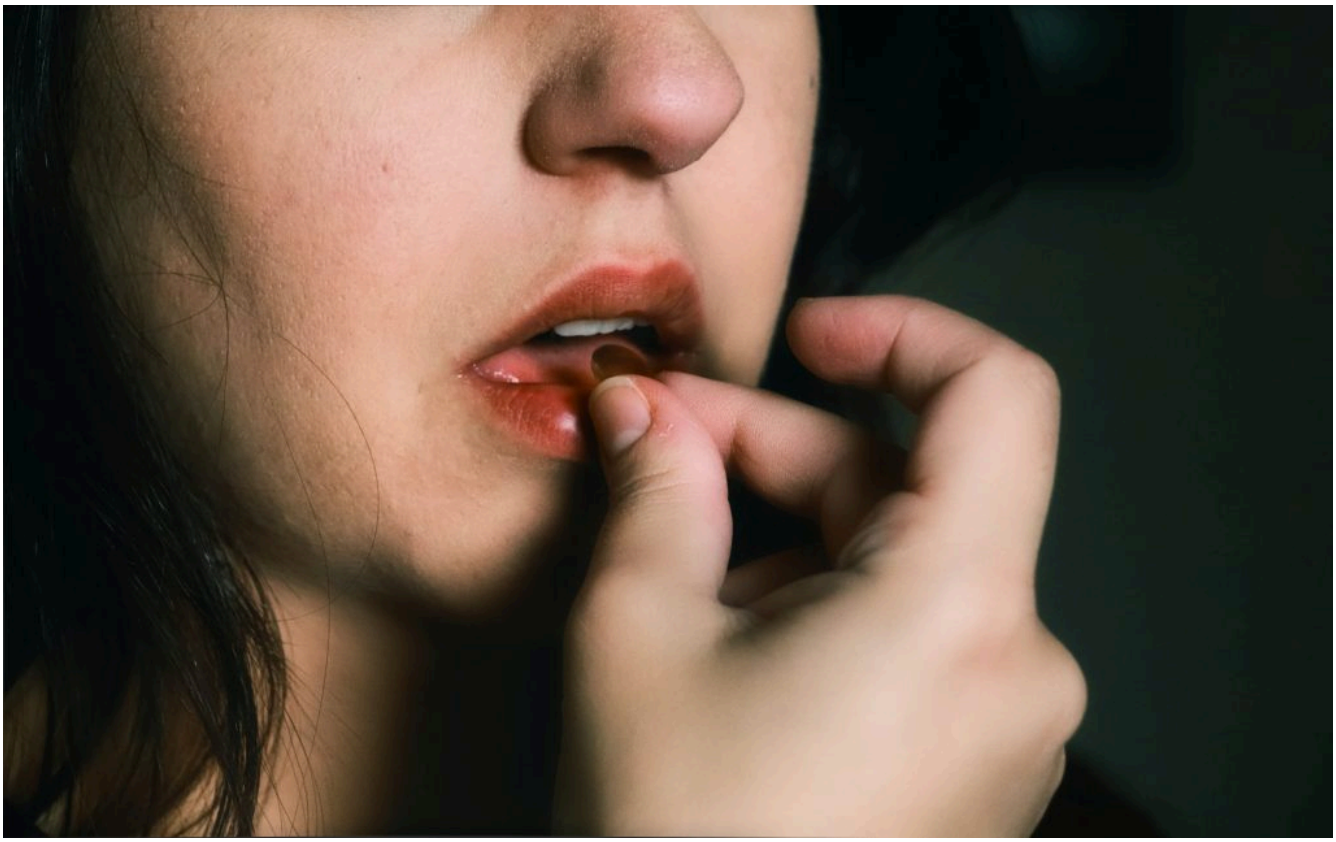


Figure 6.1.7 – Photo by by Elsa Olofsson on Unsplash

Antipsychotics have many side effects (or adverse events) and risks. These include:

- Drowsiness
- Dizziness
- Restlessness
- Weight gain (the risk is higher with some atypical antipsychotic medicines)
- Dry mouth
- Constipation
- Nausea
- Vomiting
- Blurred vision
- Low blood pressure
- Uncontrollable movements, such as tics and tremors (the risk is higher with typical antipsychotic medicines)
- Seizures

- A low number of white blood cells, which fight infections

A person taking an atypical antipsychotic medication should have his or her weight, glucose levels, and lipid levels monitored regularly by a doctor. Typical antipsychotic medications can also cause additional side effects related to physical movements, such as:

- Rigidity
- Persistent muscle spasms
- Tremors
- Restlessness

Long-term use of typical antipsychotic medications may lead to a condition called tardive dyskinesia (TD). TD causes muscle movements, commonly around the mouth, that a person can't control. TD can range from mild to severe, and in some people, the problem cannot be cured. Sometimes people with TD recover partially or fully after they stop taking typical antipsychotic medication. People who think that they might have TD should check with their doctor before stopping their medication. TD rarely occurs while taking atypical antipsychotics. Antipsychotics may cause other side effects that are not included in this list above. To report any serious adverse effects associated with the use of these medicines, please contact the Adverse Side Effect to medication – Health Canada. For more information about the risks and side effects for antipsychotic medications, please visit Health Canada – Antipsychotics

Mood Stabilizers

Figure 6.1.8 – Photo by Roberto Sorin on Unsplash

What are mood stabilizers?

Mood stabilizers are used primarily to treat bipolar disorder, mood swings associated with other mental disorders, and in some cases, to augment the effect of other medications used to treat depression. Lithium, which is an effective mood stabilizer, is approved for the treatment of mania and the maintenance treatment of a bipolar disorder. A number of cohort studies describe the anti-suicide benefits of lithium for individuals on long-term maintenance. Mood stabilizers work by decreasing abnormal activity in the brain and are also sometimes used to treat:

- Depression (usually along with an antidepressant)
- Schizoaffective Disorder
- Disorders of impulse control
- Certain mental illnesses in children

Anticonvulsant medications are also used as mood stabilizers. They were originally developed to treat seizures, but they were found to help control unstable moods as well. One anticonvulsant commonly used as a mood stabilizer is valproic acid (also called divalproex sodium). For some people, especially those with "mixed" symptoms of mania and depression or those with a rapid-cycling bipolar disorder, valproic acid may work better than lithium. Other anticonvulsants used as mood stabilizers include:

- Carbamazepine
- Lamotrigine
- Oxcarbazepine

What are the possible side effects of mood stabilizers?

Mood stabilizers can cause several side effects, and some of them may become serious, especially at excessively high blood levels. These side effects include:

- Itching, rash
- Excessive thirst
- Frequent urination
- Tremor (shakiness) of the hands
- Nausea and vomiting
- Slurred speech
- Fast, slow, irregular, or pounding heartbeat
- Blackouts
- Changes in vision
- Seizures
- Hallucinations (seeing things or hearing voices that do not exist)
- Loss of coordination
- Swelling of the eyes, face, lips, tongue, throat, hands, feet, ankles, or lower legs

If a person with bipolar disorder is being treated with lithium, he or she should visit the doctor regularly to check the lithium levels in his or her blood and make sure the kidneys and the thyroid are working normally.

Figure 6.1.9 – Photo by National Cancer Institute on Unsplash

Lithium is eliminated from the body through the kidney, so the dose may need to be lowered in older people with reduced kidney function. Also, loss of water from the body, such as through sweating or diarrhea, can cause the lithium level to rise, requiring a temporary lowering of the daily dose. Although kidney functions are checked periodically during lithium treatment, actual damage to the kidney is uncommon in people whose blood levels of lithium have stayed within the therapeutic range. Mood stabilizers may cause other side effects that are not included in this list. To report any serious adverse effects associated with the use of these medicines, please contact the FDA MedWatch program using the contact information at the bottom of this page. For more information about the risks and side effects of each individual medication, please see Adverse Side Effects to medication – Health Canada For more information on the side effects of Carbamazepine, Lamotrigine, and Oxcarbazepine, please visit MedlinePlus Drugs, Herbs and Supplements. Some possible side effects linked to anticonvulsants (such as valproic acid) include:

- Drowsiness
- Dizziness
- Headache

- Diarrhea
- Constipation
- Changes in appetite
- Weight changes
- Back pain
- Agitation
- Mood swings
- Abnormal thinking
- Uncontrollable shaking of a part of the body
- Loss of coordination
- Uncontrollable movements of the eyes
- Blurred or double vision
- Ringing in the ears
- Hair loss

These medications may also:

- Cause damage to the liver or pancreas, so people taking it should see their doctors regularly
- An increase in testosterone (a male hormone) levels in teenage girls leads to a condition called polycystic ovarian syndrome (a disease that can affect fertility and make the menstrual cycle become irregular)

Medications for common adult health problems, such as diabetes, high blood pressure, anxiety, and depression may interact badly with anticonvulsants. In this case, a doctor can offer other medication options. For more information about the risks and side effects of each medication, please see Mood Stabilizers – CAMH.

Special Groups: Children, Older Adults, Pregnant Women

All types of people take psychiatric medications, but some groups have special needs, including:

- Children and adolescents
- Older adults
- Women who are pregnant or who may become pregnant

Children and Adolescents

Figure 6.1.10 – Photo by Artem Kniaz on Unsplash

Many medications used to treat children and adolescents with mental illness are safe and effective. However, some medications have not been studied or approved for use with children or adolescents. Still, a doctor can give a young person a Health Product and Food Branch, approved medication on an "off-label" basis. This means that the doctor prescribes the medication to help the patient even though the medicine is not approved for the specific mental disorder that is being treated or for use by patients under a certain age. Remember:

- It is important to watch children and adolescents who take these medications on an "off-label: basis.
- Children may have different reactions and side effects than adults.
- Some medications have current warnings about potentially dangerous side effects for younger patients.

In addition to medications, other treatments for children and adolescents should be considered, either to be tried first, with medication added later if necessary or to be provided along with medication. Psychotherapy, family therapy, educational courses, and behaviour management techniques can help everyone involved cope with disorders that affect a child's mental health. Read more about child and adolescent mental health research.

Older Adults

Figure 6.1.11 – Photo by Denise Halsey

People over 65 have to be careful when taking medications, especially when they're taking many different drugs. Older adults have a higher risk of experiencing bad drug interactions, missing doses or overdosing. Older adults also tend to be more sensitive to medications. Even healthy older people react to medications differently than younger people because older people's bodies process and eliminate medications more slowly. Therefore, lower or less frequent doses may be needed for older adults. Before starting a medication, older people and their family members should talk carefully with a physician about whether a medication can affect alertness, memory, or coordination, and how to help ensure that prescribed medications do not increase the risk of falls. Sometimes memory problems affect older people who take medications for mental disorders. An older adult may forget his or her regular dose and take too much or not enough. A good way to keep track of medicine is to use a seven-day pillbox, which can be bought at any pharmacy. At the beginning of each week, older adults and their caregivers fill the box so that it is easy to remember what medicine to take. Many pharmacies also have

pillboxes with sections for medications that must be taken more than once a day. For more information and practical tips to help older people take their medicines safely, please see The Safe Living Guide – A Guide to Home Safety for Seniors – Keeping track of your medicine.

Women who are pregnant or who may become pregnant

Figure 6.1.12 – Photo by Alicia Petresc on Unsplash

The research on the use of psychiatric medications during pregnancy is limited. The risks are different depending on which medication is taken, and at what point during the pregnancy the medication is taken. Decisions on treatments for all conditions during pregnancy should be based on each woman's needs and circumstances and based on a careful weighing of the likely benefits and risks of all available options, including psychotherapy (or "watchful waiting" during part or all of the pregnancy), medication, or a combination of the two. While no medication is considered perfectly safe for all women at all stages of pregnancy, this must be balanced for each woman against the fact that untreated serious mental disorders themselves can pose a risk to a pregnant woman and her developing fetus. Medications should be selected based on available

scientific research, and they should be taken at the lowest possible dose. Pregnant women should have a medical professional who will watch them closely throughout their pregnancy and after delivery. Most women should avoid certain medications during pregnancy. For example:

- Mood stabilizers are known to cause birth defects. Benzodiazepines and lithium have been shown to cause "floppy baby syndrome," in which a baby is drowsy and limp, and cannot breathe or feed well. Benzodiazepines may cause birth defects or other infant problems, especially if taken during the first trimester.
- According to research, taking antipsychotic medications during pregnancy can lead to birth defects, especially if they are taken during the first trimester and in combination with other drugs, but the risks vary widely and depend on the type of antipsychotic taken. The conventional antipsychotic haloperidol has been studied more than others and has been found not to cause birth defects. Research on the newer atypical antipsychotics is ongoing.

Antidepressants, especially SSRIs, are considered to be safe during pregnancy. However, antidepressant medications do cross the placental barrier and may reach the fetus. Birth defects or other problems are possible, but they are very rare. The effects of antidepressants on childhood development remain under study. Studies have also found that fetuses exposed to SSRIs during the third trimester may be born with "withdrawal" symptoms such as breathing problems, jitteriness, irritability, trouble feeding, or hypoglycemia (low blood sugar). Most studies have found that these symptoms in babies are generally mild and short-lived, and no deaths have been reported. Risks from the use of antidepressants need to be balanced with the risks of stopping medication; if a mother is too depressed to care for herself and her child, both may be at risk for problems. Selective serotonin reuptake inhibitors or serotonin-norepinephrine reuptake inhibitors in pregnancy: Infant and childhood outcomes – Canadian Paediatrician Society

After the baby is born, women and their doctors should watch for postpartum depression, especially if a mother stopped taking her medication during pregnancy. In addition, women who nurse while taking psychiatric medications should know that a small amount of the medication passes into breast milk. However, the medication may or may not affect the baby depending s on the medication and when it is taken. Women taking psychiatric medications and who intend to breastfeed should discuss the potential risks and benefits with their doctors. When caring for women of childbearing age, particularly those with a current or past significant psychiatric disorder, you can help them to plan ahead by discussing and prescribing contraception, if necessary, and by planning for pregnancy at an optimal time. In your discussions, explain how pregnancy and becoming a parent may affect mental health and the risks of relapse. Also explain the consequences of mental illness and its treatment on a woman, her fetus and her child, and on parenting.

With effective planning and strong support in place, women with mental health problems can have a healthy and positive pregnancy and postpartum experience. When prescribing medication for women of childbearing age, consider the safety profile of the medication because many pregnancies are unplanned, and

altering medications can thus be avoided to improve patient well-being. Generally, avoid valproic acid and carbamazepine with this population because these medications are largely contraindicated in pregnancy. Most other psychotropic medications can likely be used during pregnancy. For women who are stable and at low risk of psychiatric relapse, slow tapering off of psychotropic medication before pregnancy may be acceptable and desirable well before they intend to try to get pregnant. Offer these women non-pharmacological therapies and regularly monitor symptoms. Recent evidence indicates that cognitive-behavioural therapy (CBT) and interpersonal therapy can help to prevent perinatal illness in some women at risk.

Attribution:

References

Figure 6.1.11 – Halsey, D. (2022, March 30). Bubblepack[Photograph].

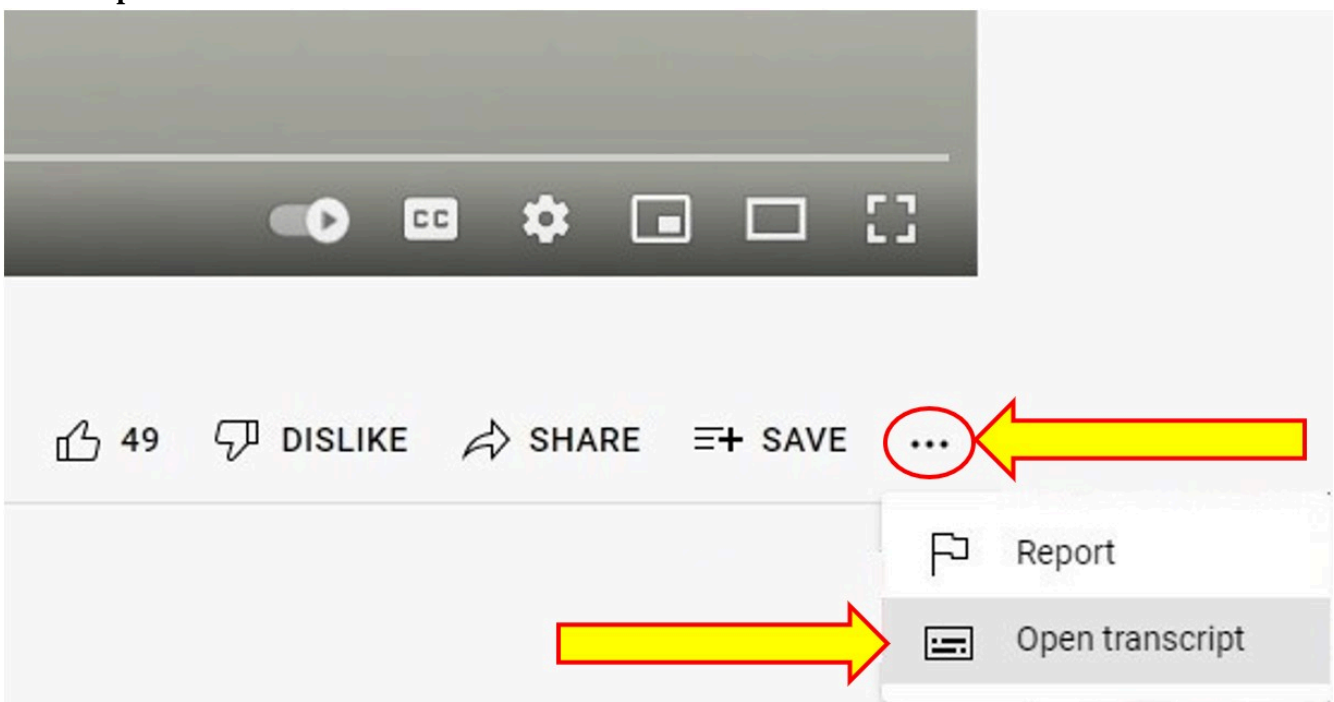
6.2 PRESCRIPTION DRUGS: THE DRUG APPROVAL PROCESS

Please watch this video on the Canadian Drug Approval Process

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=140#oembed-1

Canadian Drug Approval Process. by Drug Access. How drugs become approved for use in Canada. [1]

Transcript



Canadian Drug Approval Process

1. Health Canada (approved for a Drug Identification Number) – can take 6 months to 2 years

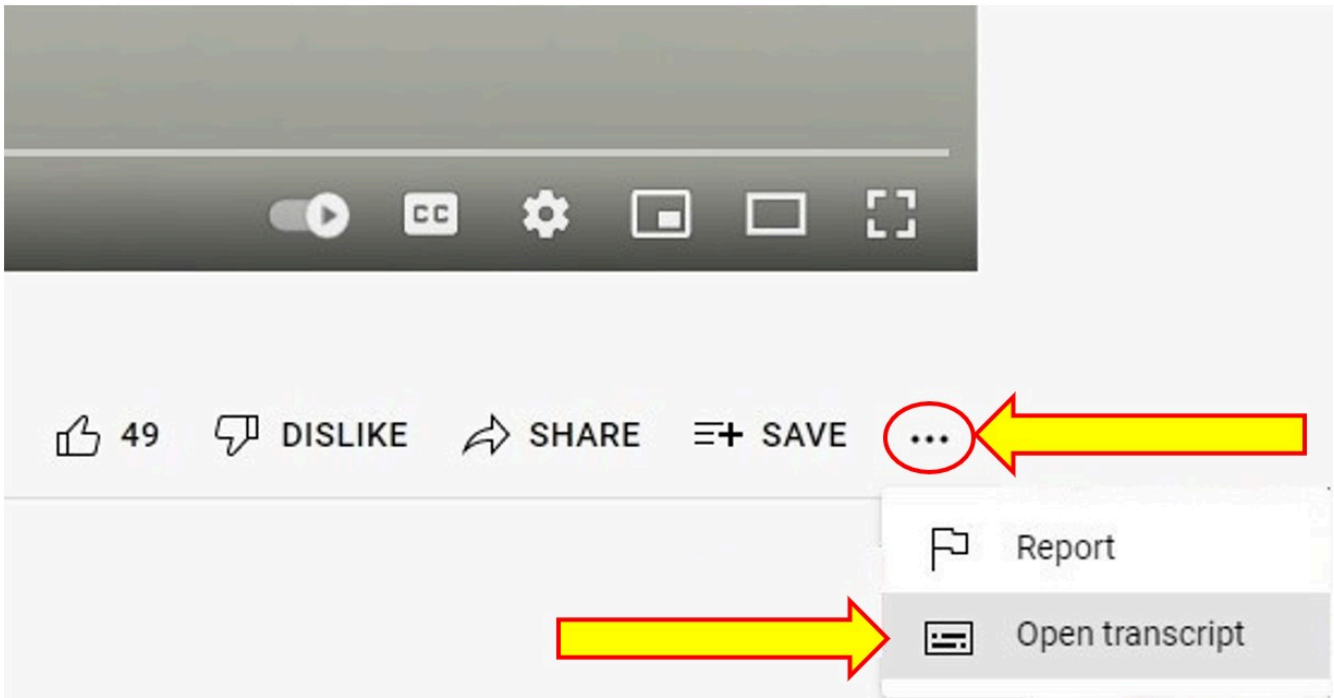
2. Canadian Agency for Drugs and Technologies in Health (CADTH) & pan-Canadian Oncology Drug Review (pCODR) – takes several months
3. The pan-Canadian Pharmaceutical Alliance (pCPA) – several months for approval
4. Provinces & Territories – takes a few months – 1+ years

Please watch this movie on Approval and Public Listing of Drugs in Canada – The Common Drug Review

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=140#oembed-2

Approval and Public Listing of Drugs in Canada – The Common Drug Review. By CTAC TALKS. This short yet detailed account of how drugs become available in the Canadian Market place is a helpful crash course in understanding Canada's very complex drug approvals mechanisms.[2]

Transcript



For more information:

- Drugs and health products – Health Canada
- Food and Drugs Act Liaison Office
- The Safety of Vitamin E Supplements
- Classification of products under the Food and Drugs Act (F&DA)

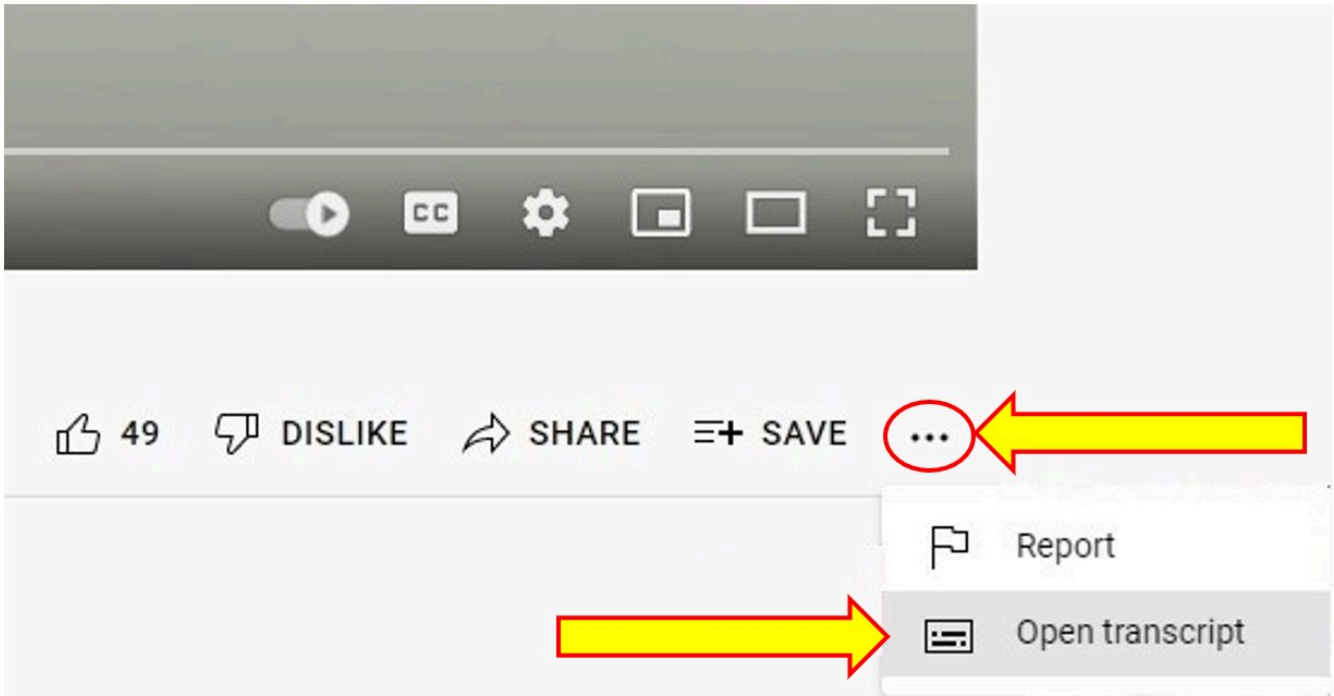
To report an adverse reaction or side effect from a drug or health product, go to the MedEffect Canada Web site.

Please watch the following video to learn more about complications with clinical trials

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=140#oembed-3

W5: The Forgotten Thalidomide Children. By Official W5. While the Canadian government compensated most victims of an approved drug in the 60's called Thalidomide, those who cannot prove their mothers took it are being left out. The deformities the drug caused are now making life even more difficult as the victim's age[3]

Transcript



ATTRIBUTION: This chapter is not covered by the adaptation statement, it is an original work.

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1. Drug Access. (2021, March 20). *Canadian Drug Approval Process* [Video]. YouTube. https://www.youtube.com/watch?v=ySsmR1KjzTQ
2. CTAC TALKS. (2015, April 17). *Approval and Public Listing of Drugs in Canada – The Common Drug Review* [Video]. YouTube. https://www.youtube.com/watch?v=fXsC-gfhuKM
3. Official W5. (2017, March 6). *W5: The Forgotten Thalidomide Children* [Video]. YouTube. https://www.youtube.com/watch?v=D9ajgn47Xxg

6.3 OVER-THE-COUNTER DRUGS

Prescription Drugs and Over-the-Counter (OTC) Drugs: Questions and Answers

What is the difference between prescription drugs and OTC drugs? A drug is a substance intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease. Here are the main differences between OTC drugs and prescription drugs.

Prescription Drugs

Figure 6.3.1 – Photo by Christina Victoria Craft on Unsplash

- Prescribed by a doctor
- Bought at a pharmacy
- Prescribed for and intended to be used by one person
- Regulated by Health Canada through the Drug Scheduling in Canada process. This is the formal step a drug sponsor takes to ask that Health Canada consider approving a new drug for marketing in Canada.

Over-the-Counter (OTC) Drugs

Figure 6.3.2 – Photo by Franki Chamaki on Unsplash

- Drugs that do NOT require a doctor's prescription
- Bought off-the-shelf in stores
- Regulated by Health Canada through OTC
  - investigate
  - take corrective actionNon-prescription drugs require a valid Drug Identification Number (DIN)

to be sold in Canada. On a product label, this number indicates the drug has met our requirements for:

- safety
- quality
- effectiveness

The label lists the drug's ingredients, so Canadians can avoid those that may cause concern. Canadian companies that manufacture, package, label and import non-prescription drugs must:

- be licensed for these activities
- provide the necessary documents and evidence

A licence is provided after a satisfactory inspection. If a health and safety problem is reported after a drug is on the market, we will:

Over-the-Counter Medicines

In Canada, we have Guidance Document: Drug Facts Table for Non-prescription Drugs – Health Canada

Important tips for using over-the-counter medicines:

- Always follow the printed directions and warnings. Talk to your healthcare provider before starting a new medicine.
- Know what you are taking. Look at the list of ingredients and choose products that have fewer items listed.
- All medicines become less effective over time and should be replaced. Check the expiration date before using any product.
- Store medicines in a cool, dry area. Keep all medicines out of the reach of children.
- Women who are pregnant or breastfeeding should talk to their provider before taking any new medicine.
- Medicines affect children and older adults differently. People in these age groups should take special care when taking over-the-counter medicines.

Check with your provider before taking an over-the-counter medicine if:

- Your symptoms are very bad.
- You are not sure what is wrong with you.
- You have a long-term medical problem or you are taking prescription medicines.

Aches, Pains, and Headaches

Figure 6.3.3 – Photo by Usman Yousaf on Unsplash

Over-the-counter pain medicines can help with a headache, arthritis pain, sprains, and other minor joint and muscle problems.

- Acetaminophen — Try this medicine first for your pain. DO NOT take more than 3 grams (3,000 mg) on any one day. Large amounts can harm your liver. Remember that 3 grams are about the same as 6 extra-strength pills or 9 regular pills.
- Nonsteroidal anti-inflammatory drugs (NSAIDs) — You can buy some NSAIDs, such as ibuprofen and naproxen, without a prescription.

Both of these medicines can have serious side effects if you take them in high doses or for a long time. *Tell your provider if you are taking these medicines many times a week. You may need to be checked for side effects.*

Fever

Acetaminophen (Tylenol) and ibuprofen (Advil, Motrin) help reduce fever in children and adults.

- Take acetaminophen every 4 to 6 hours.
- Take ibuprofen every 6 to 8 hours. DO NOT use ibuprofen in children younger than 6 months.
- Know how much you or your child weighs before giving these medicines.

Aspirin works very well for treating fever in adults. DO NOT give aspirin to a child unless your child's provider tells you it is OK.

Cold, Sore Throat, Cough

Figure 6.3.4 – Photo by Luiz Rogério Nunes on Unsplash

Cold medicines can treat symptoms to make you feel better, but they do not shorten a cold. Taking zinc supplements within 24 hours of the start of a cold may reduce the symptoms and duration of a cold. **NOTE:** Talk to your provider before giving your child any type of over-the-counter cold medicine, even if it is labeled for children.

Cough medicines:

- Guaifenesin — helps break up mucus. Drink lots of fluids if you take this medicine.
- Menthol throat lozenges — Soothe "tickle" in the throat (Halls, Robitussin, and Vicks).
- Liquid cough medicines with dextromethorphan — Suppress the urge to cough (Benylin, Delsym, Robitussin DM, Simply Cough, Vicks 44, and store brands).

Decongestants:

- Decongestants help clear a runny nose and relieve postnasal drip.
- Decongestant nasal sprays may work more quickly, but they can have a rebound effect if you use them for more than 3 to 5 days. Your symptoms may get worse if you keep using these sprays.
- Check with your provider before taking decongestants if you have high blood pressure or prostate problems.
- Oral decongestants: Pseudoephedrine (Contac Non-Drowsy, Sudafed, and store brands); phenylephrine (Sudafed PE and store brands).
- Decongestant nasal sprays: Oxymetazoline (Afrin, Neo-Synephrine Nighttime, Sinex Spray); phenylephrine (Neo-Synephrine, Sinex Capsules).

Sore throat medicines:

- Sprays to numb pain — Dyclonine (Cepacol); phenol (Chloraseptic)
- Painkillers — Acetaminophen (Tylenol), ibuprofen (Advil, Motrin), naproxen (Aleve)
- Hard candies that coat throat — Sucking on candy or throat lozenges can be soothing. Be careful in young children because of the choking risk

Allergies

Figure 6.3.5 – Photo by freestocks on Unsplash

Antihistamine pills and liquids work well for treating allergy symptoms.

- Antihistamines that may cause sleepiness — Diphenhydramine (Benadryl); chlorpheniramine (Chlor-Trimeton); brompheniramine (Dimetapp), or clemastine (Tavist)
- Antihistamines that cause little or no sleepiness — Loratadine (Alavert, Claritin, Dimetapp ND); fexofenadine (Allegra); cetirizine (Zyrtec)

Talk to your provider before giving medicines that cause sleepiness in a child, because they can affect learning. They can also affect alertness in adults. You can also try:

- Eye drops — Soothe or moisten the eyes
- Preventive nasal spray — Cromolyn sodium (Nasalcrom), fluticasone (Flonase)

Stomach Upset

Medicines for diarrhea:

- Antidiarrhea medicines such as loperamide (Imodium) — These medicines slow down the action of the intestine and reduce the number of bowel movements. Talk to your provider before taking them because they can worsen diarrhea caused by infection.
- Medicines that contain bismuth — May be taken for mild diarrhea (Kaopectate, Pepto-Bismol)
- Rehydration fluids — May be used for moderate and severe diarrhea (Analytes or Pedialyte)

Medicines for nausea and vomiting:

- Liquids and pills for stomach upset — May help with mild nausea and vomiting (Emetrol; Pepto-Bismol)
- Rehydration fluids — May be used to replace fluids from vomiting (Enfalyte or Pedialyte)
- Medicines for motion sickness — Dimenhydrinate (Dramamine); meclizine (Bonine, Antivert, Postafen, and Sea Legs)

Skin Rashes and Itching


Benadryl®
ALLERGY·ALLERGIES
Diphenhydramine Hydrochloride
Chlorhydrate de diphénhydramine • 25 mg
Fast, effective relief of:
• Skin itch • Hives • Sneezing • Itchy throat
• Itchy, runny nose • Itchy, watery eyes
Soulage rapidement et efficacement:
• Démangeaisons cutanées • Urticaire
• Éternuements • Picotements de la gorge
• Picotements et écoulements nasaux
• Picotements oculaires
et larmoiement
60
CAPLETS

Figure 6.3.6 – Photo by Denise Halsey

- Antihistamines are taken by mouth — May help with itching or if you have allergies
- Hydrocortisone cream — May help with mild rashes (Cortaid, Cortizone 10)
- Antifungal creams and ointments — May help with diaper rashes and rashes caused by yeast (nystatin, miconazole, clotrimazole, and ketoconazole)

Explore the OTC pain relievers

Pocket Pills – Canadian

List of Certain Non-prescription Drugs for Distribution as Samples- Health Canada

Best and Safest Strategies for Pain Relief

The Difference Between Tylenol, Aspirin, Advil, and Aleve

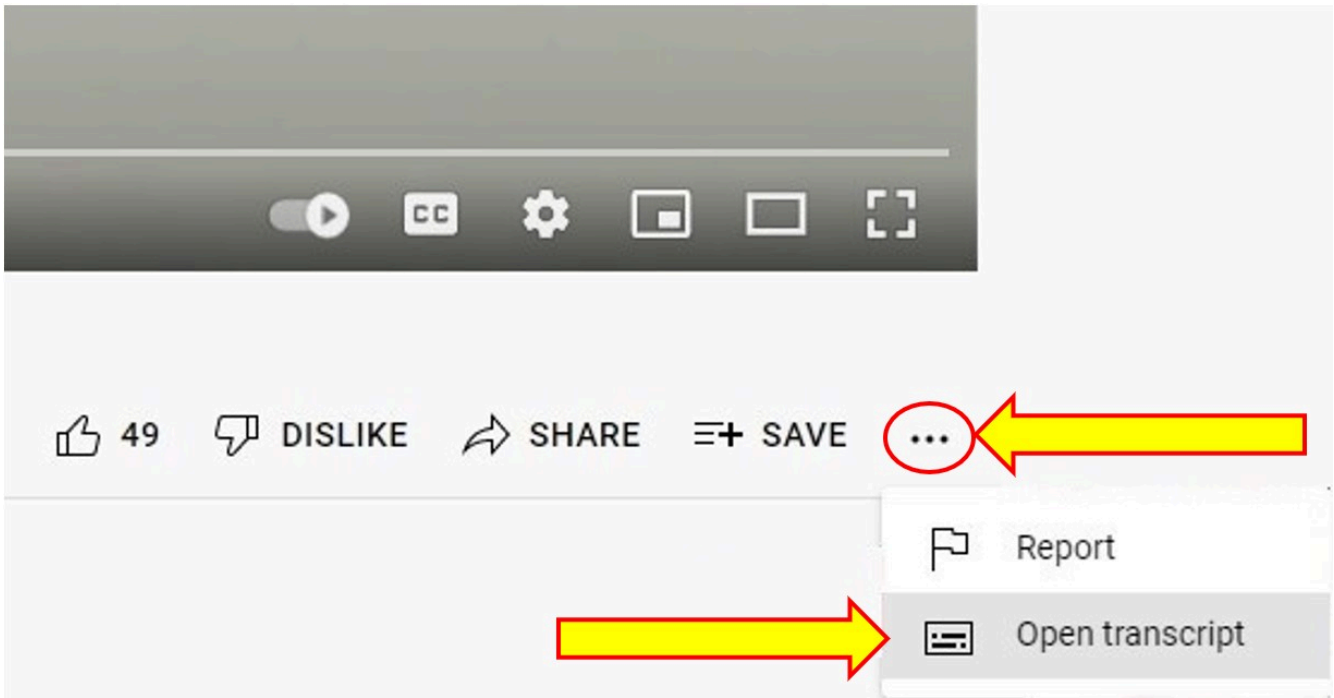
Home Your Health Resources Drugs, Procedures & Devices Over-the-counter Products Pain Relievers: Understanding Your OTC Options Pain Relievers: Understanding Your OTC Options

What's the Difference Between Pain Relievers? Should I Buy Generic

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=142#oembed-1

Taking Acetaminophen Safely. by U.S. Food and Drug Administration. "Taking Acetaminophen Safely" is the latest installment of the Medicines in My Home series. It provides background about acetaminophen, a common over-the-counter pain reliever and fever reducer, and the many different types of medications that might contain acetaminophen; the danger of taking more acetaminophen than directed; how to learn if acetaminophen is in a medicine by looking at the Drug Facts label; and how to take acetaminophen safely. It also encourages consumers to contact their healthcare professionals if they have questions or concerns.

Transcript



Attributions:

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6.4 SUPPLEMENTS AND FOODS FOR HEALTH AND WELL-BEING

Dietary Supplements

Figure 6.4.1 – Photo by GRANAT on Unsplash

What is a dietary supplement?

Health Canada regulates natural health products (NHPs) so that Canadians can have confidence that the products they use are safe, effective and of high quality. Labels are an important tool to assist Canadians in making informed health choices when selecting and using NHPs
Under the *Natural Health Products Regulations*, which came into effect on January 1, 2004, natural health products (NHPs) are defined as:

- Probiotics
- Herbal remedies
- Vitamins and minerals
- Homeopathic medicines
- Traditional medicines such as traditional Chinese medicines
- Other products like amino acids and essential fatty acids

NHPs must be safe to use as over-the-counter products and do not need a prescription to be sold. Products needing a prescription are regulated as drugs under the *Food and Drug Regulations*.

Are dietary supplements different from foods and drugs?

In the U.S., dietary supplements are regulated as a category of foods, but in Canada, dietary supplements—or what Health Canada calls "Natural Health Products" (NHPs)—**are treated as non-prescription drugs**

What claims can manufacturers make for dietary supplements and drugs?

As a result of this more rigorous regulation, however, dietary supplements sold in Canada may be allowed to make more drug-like marketing claims, such as **claims to the treatment or prevention of particular diseases or conditions** (provided these claims are within the scope of the product's Canadian NHP license).

Why are regulations needed for natural health products?

Figure 6.4.2 – Photo by fallon Michael on Unsplash

Before January 1st, 2004, natural health products (NHPs) were sold as either drugs or food under the *Food and Drugs Act* and Regulations because there was no other category under which to classify them. If classified as a drug, natural health products must follow the drug review process (including proving safety and efficacy through clinical trials) and have a Drug Identification Number (DIN) to be sold. If classified as a food, natural health products can make only very limited health claims and do not have to provide much safety information on their labels. As more and more Canadians began to use NHPs, it became obvious that neither classification (as either a drug or food) was appropriate, and that a new policy that would directly address the unique nature of NHPs was needed. The *Natural Health Products Regulations* were developed to address this need.

Natural health products are regulated as a subset of drugs under the *Food and Drugs Act*. Why doesn't Health Canada regulate NHPs as a distinct category separate from both food and drugs?

Under the *Food and Drugs Act*, NHPs must be classified as either food or drug since there is no other category

in which to classify them. Because NHPs are taken for therapeutic reasons and not for caloric purposes or to address hunger, they are more similar to drugs than food. Under the current *Food and Drug Regulations*, foods can make only limited diet-related or nutritional content claims (and not treatment claims, for example). Also, the current regulations do not include a complete good manufacturing practices framework which is needed to ensure the quality and safety of NHPs. Finally, foods are generally not subject to pre-market review and assessment by Health Canada before they can be sold.

What types of natural health products are affected by the *Natural Health Products Regulations*

Figure 6.4.3 – Photo by Zdeněk Macháček on Unsplash

Natural health products (NHPs) are defined in the Regulations as vitamins and minerals, herbal remedies, homeopathic medicines, traditional medicines (like Traditional Chinese Medicines), probiotics, and other products like amino acids and essential fatty acids. Under the Regulations, a natural health product must be safe to be used as an over-the-counter product. Natural health products are available for self-care and self-selection and do not require a prescription to be sold. Products requiring a prescription will continue to be regulated under the *Food and Drug Regulations*.

Why will homeopathic medicines have a DIN-HM on their label, while other natural health products will have an NPN?

Homeopathic medicines are treated differently under the *NHP Regulations* because they can contain or be manufactured from substances (Schedule F or Schedule D substances) that are not otherwise regulated under the *Natural Health Products Regulations*. The unique designation for homeopathic medicines will help consumers and compliance/enforcement officers identify the product as homeopathic medicine. While similar to the requirements for NHPs, these products also have to meet specific Good Manufacturing Practices and unique standards of evidence.

Why are vitamins and minerals regulated as a sub-set of drugs?

Vitamins and minerals are regulated as a sub-set of drugs because they are considered to be natural health products, which are governed by the *Natural Health Products Regulations*. Previously, vitamins and minerals, in dosage form, were regulated as drugs under the *Food and Drug Regulations*. However, because they are intended to be used for health benefits, they need to have instructions for use on their label. As recommended by the Standing Committee on Health, regulating vitamins and minerals as a sub-set of drugs brings the treatment of these products into line with that of other products that fall within the definition of a natural health product (like homeopathic medicines and herbal remedies).

Botanical Dietary Supplements

Figure 6.4.4 – Photo by Christina Deravedisian on Unsplash

Botanicals are sold in many forms: as fresh or dried products; liquid or solid extracts; tablets, capsules, powders; tea bags; and other forms. For example, fresh ginger root is often found in the produce section of food stores; the dried ginger root is sold packaged in tea bags, capsules, or tablets; and liquid preparations made from the ginger root are also sold. A particular group of chemicals or a single chemical may be isolated from a botanical and sold as a dietary supplement, usually in tablet or capsule form. An example is phytoestrogens from soy products. Common preparations include teas, decoctions, tinctures, and extracts:

- A *tea*, also known as an *infusion*, is made by adding boiling water to fresh or dried botanicals and

steeping them. The tea may be drunk either hot or cold.

- Some roots, bark, and berries require more forceful treatment to extract their desired ingredients. They are simmered in boiling water for longer periods than teas, making a *decoction*, which also may be drunk hot or cold.
- A *tincture* is made by soaking a botanical in a solution of alcohol and water. Tinctures are sold as liquids and are used for concentrating and preserving a botanical. They are made in different strengths that are expressed as botanical-to-extract ratios (i.e., ratios of the weight of the dried botanical to the volume or weight of the finished product).
- An *extract* is made by soaking the botanicals in a liquid that removes specific types of chemicals. The liquid can be used as-is or evaporated to make a dry extract for use in capsules or tablets.

To learn more about a specific dietary supplement try the Dietary Supplements Fact Sheet – Health Canada catalogue.

- Vitamin C Exploration:
  - Vitamin C – Health Canada
  - https://medlineplus.gov/vitaminc.html
  - https://www.healthline.com/nutrition/vitamin-c-benefits
- Websites on the origins of plant-based medicine and a source a collection of articles on "Green Medicine."
  - Plant Parts Used for Medicinal Purposes (USDA Forest Service) – Canadian Coalition for Green Care
  - CTV News – 'Nature therapy' program offered as a new medical prescription to Canadians

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6.5 DRUG INTERACTIONS: WITH OTHER DRUGS AND FOOD

It is important to be aware of **Drug Interactions with other drugs and food.** It is important to be aware of **when you take your medication** (as recommended by Doctor or Pharmacist) as this can affect its effect on us, as well as **what you take with it.**

Figure 6.5.1 – Photo by Denise Halsey

When we are prescribed medications it is done purposefully for a health issue/challenge that we have. It is important to understand that all medications are created to be taken a certain way, for some, it is important that it be taken at a certain time (morning, evening), and specific instructions for that medication. (i.e. take in the morning, don't take with ....).

People often combine foods. For example, chocolate and peanut butter might be considered a tasty combination. But eating chocolate and taking certain drugs might carry risks. When taking monoamine oxidase (MAO) inhibitors, such as Nardil (phenelzine) or Parnate (tranylcypromine) and eating chocolate, it could be dangerous.

Figure 6.5.2 – Photo by Jessica Loaiza

MAO inhibitors treat depression, and if you eat an excessive amount of chocolate after taking an MAO inhibitor may experience a sharp rise in blood pressure.

Other foods that should be avoided when taking MAO inhibitors: are aged cheese, sausage, bologna, pepperoni, and salami. These foods can also cause elevated blood pressure when taken with these medications.

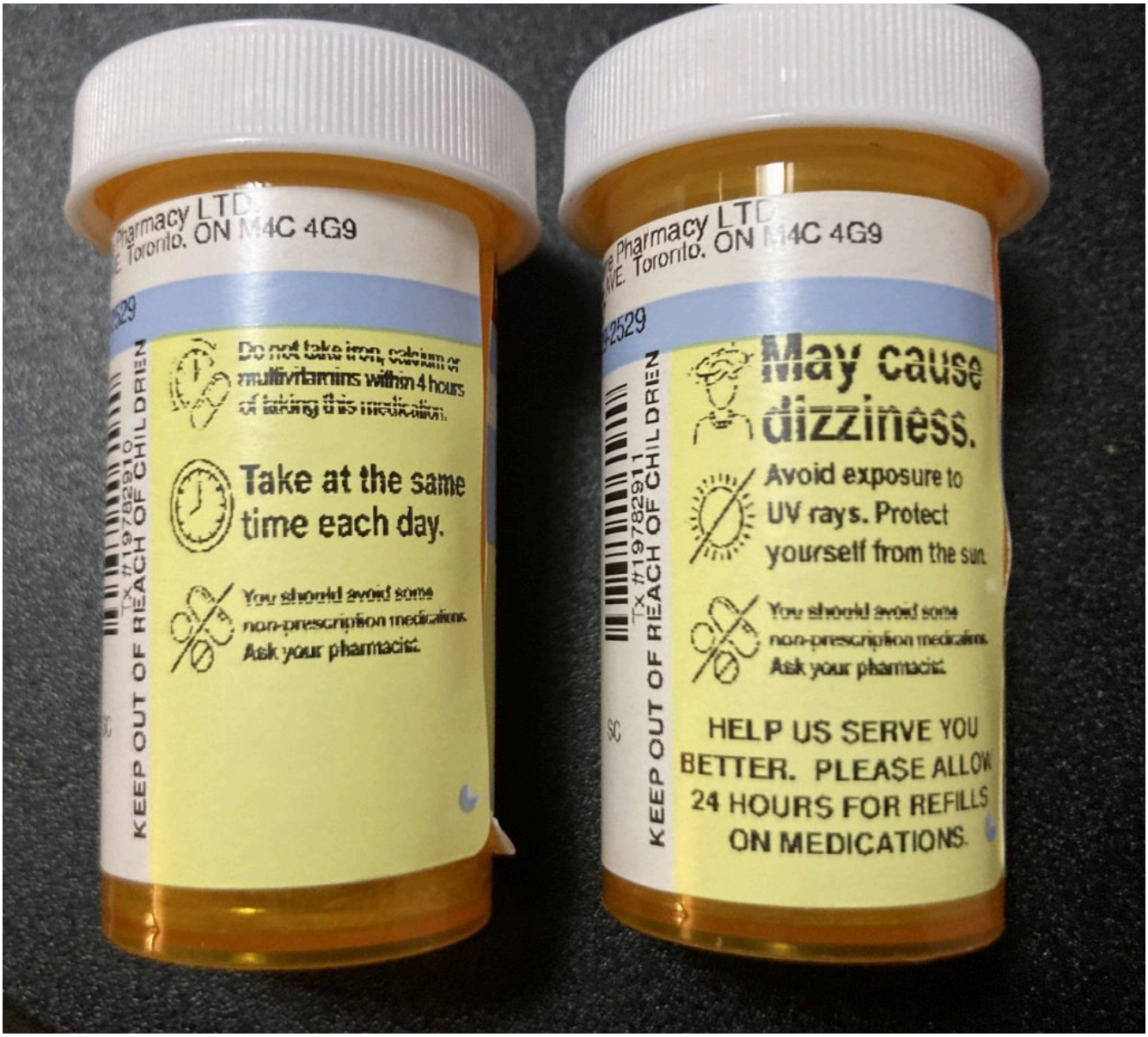

Figure 6.5.3 – Photo by Denise Halsey

Drug Interaction Definition and Types of Drug Interactions

A drug interaction is when one or more of your medications affect how other medications you may be taking work.

Here are 3 types of drug interactions:

Drug-drug interaction is when 2 or more drugs work together to produce a reaction and sometimes have unexpected side effects. Antibiotics can increase or decrease the effects of other medications used to treat cardiovascular disease, birth control or diabetes.

Drug-food interaction is when you take food or a beverage with 1 or more drugs. For example: when you have calcium-rich foods like milk, yogurt, and cheese, this can interfere with certain antibiotics and prevent the antibiotic from being absorbed in your body.

Drug-condition interaction is when you have an existing medical condition and when 1 or more drugs cause a reaction. For example, your blood pressure may spike if you have hypertension and take certain nasal decongestants.

Source: "Drug Interaction and Your Health " by Ontario College of Pharmacists

Drug Use in Seniors

The dangers of polypharmacy (defined as the use of 5 or more medications daily by an individual) for seniors are seen in doctors' offices and hospitals. The more medications they consume, the more likely seniors are to require urgent medical attention or go to emergency departments. Seniors are five times more likely than younger Canadians to be hospitalized as a result of an adverse drug reaction (ADR). In 2011, over 27,000 Canadian seniors — that is, one in 200 — had an ADR-related hospitalization.

Figure 6.5.4 – Photo by Joe Hepburn on Unsplash

Drugs with Food and Beverages

Consequences of drug interactions with food and beverages may include delayed, decreased, or enhanced absorption of a medication. Food can affect the bioavailability (the degree and rate at which a drug is absorbed into someone's system), metabolism, and excretion of certain medications.

Examples of drug interactions with food and beverages

Alcohol: If you are taking any sort of medication, it's recommended that you avoid alcohol, which can increase or decrease the effectiveness of many drugs.

Grapefruit juice: Grapefruit and grapefruit juice is often mentioned as a product that can interact negatively with drugs, but the actual number of drugs the juice can interact with is less well-known. Grapefruit juice shouldn't be taken with certain blood pressure-lowering drugs or cyclosporine for the prevention of organ transplant rejection. That's because grapefruit juice can cause higher levels of those medicines in your body, making it more likely that you will have side effects from the medicine. The juice can also interact to

cause higher blood levels of the anti-anxiety medicine Buspar (buspirone); the anti-malaria drugs Quinerva or Quinite (quinine); and Halcion (triazolam), a medication used to treat insomnia. To learn more, read The Effects of Grapefruit and its Juice on Certain Drugs – Health Canada.

Figure 6.5.5 – Photo by Rinck Content Studio on Unsplash

Licorice: This would appear to be a fairly harmless snack food. However, for someone taking Lanoxin (digoxin), some forms of licorice may increase the risk for Lanoxin toxicity. Lanoxin is used to treat congestive heart failure and abnormal heart rhythms. Licorice may also reduce the effects of blood pressure drugs or diuretic (urine-producing) drugs, including Hydrodiuril (hydrochlorothiazide) and Aldactone (spironolactone).

Chocolate: MAO inhibitors are just one category of drugs that shouldn't be consumed with excessive amounts of chocolate. The caffeine in chocolate can also interact with stimulant drugs such as Ritalin (methylphenidate), increasing their effect, or decreasing the effect of sedative-hypnotics such as Ambien (zolpidem).

Medications can often interact with food – something that many people aren't aware of. "Food can affect the absorption of drugs," says Sean Simpson, a pharmacy owner in Niagara-on-the-Lake, Ontario and chair of

the Ontario Pharmacists Association board of directors. "Certain foods can also affect how well you tolerate them."

Simpson says you should visit your pharmacy to discuss your medications with a pharmacist and to determine if there are any food interactions with the medications you are taking. "Ask: 'Are there any specific foods that I should avoid?'" suggests Simpson.

For more information for seniors

- Seniors 5 times more likely to be hospitalized for adverse drug reactions – CTV News
- Drug Safety for Seniors – Institute on Research for Public Policy
- Drug Use Among Seniors on Public Drug Programs in Canada

Drugs with Dietary Supplements

Research has shown that 50 percent or more of Canadian adults use dietary supplements on a regular basis.

The law defines dietary supplements in part as products taken by mouth that contain a "dietary ingredient." Dietary ingredients include vitamins, minerals, amino acids, and herbs or botanicals, as well as other substances that can be used to supplement the diet.

Examples of drug interactions with dietary supplements

Figure 6.5.6 – Photo by Mika Baumeister on Unsplash

St. John's Wort (Hypericum perforatum): This herb is considered an inducer of liver enzymes, which means it can reduce the concentration of medications in the blood. St. John's Wort can reduce the blood level of medications such as Lanoxin, the cholesterol-lowering drugs Mevacor and Altocor (lovastatin), and the erectile dysfunction drug Viagra (sildenafil).

Vitamin E: Taking vitamin E with a blood-thinning medication such as Coumadin can increase anti-clotting activity and may cause an increased risk of bleeding.

Ginseng: This herb can interfere with the bleeding effects of Coumadin. In addition, ginseng can enhance the bleeding effects of heparin, aspirin, and nonsteroidal anti-inflammatory drugs such as ibuprofen, naproxen, and ketoprofen. Combining ginseng with MAO inhibitors such as Nardil or Parnate may cause a headache, trouble sleeping, nervousness, and hyperactivity.

Ginkgo Biloba: High doses of the herb Ginkgo biloba could decrease the effectiveness of anticonvulsant therapy in patients taking the following medications to control seizures: Tegretol, Equetro or Carbatrol (carbamazepine), and Depakote (valproic acid).

Two out of every three patients who visit a doctor leave with at least one prescription for medication,

according to a 2007 report on medication safety issued by the Institute for Safe Medication Practices. Close to 40 percent receive prescriptions for four or more medications. And the rate of adverse drug reactions increases dramatically after a patient is on four or more medications.

Drug-drug interactions have led to adverse events and withdrawals of drugs from the market, according to an article on drug interactions.

However, market withdrawal of a drug is a fairly drastic measure. More often, an issue with an alert warning the public and health care providers about risks as the result of drug interactions.

Examples of drug interactions with other drugs

Cordarone (amiodarone): taking Cordarone to correct abnormal rhythms of the heart and the cholesterol-lowering drug Zocor (Simvastatin). Patients taking Zocor in doses higher than 20 mg while also taking Cordarone run the risk of developing a rare condition of muscle injury called rhabdomyolysis, which can lead to kidney failure or death. "Cordarone also can inhibit or reduce the effect of the blood thinner Coumadin (warfarin)," said Huang. "So if you're using Cordarone, you may need to reduce the amount of Coumadin you're taking".

Lanoxin (digoxin): "Lanoxin has a narrow therapeutic range. So other drugs, such as Norvir (ritonavir), can elevate the level of Lanoxin," says Huang. "And an increased level of Lanoxin can cause irregular heart rhythms." Norvir is a protease inhibitor used to treat HIV, the virus that causes AIDS.

Antihistamines: Over-the-counter (OTC) antihistamines are drugs that temporarily relieve a runny nose, or reduce sneezing, itching of the nose or throat, and itchy watery eyes. If you are taking sedatives, tranquillizers, or a prescription drug for high blood pressure or depression, you should check with a doctor or pharmacist before you start using antihistamines. Some antihistamines can increase the depressant effects (such as sleepiness) of a sedative or tranquillizer. The sedating effect of some antihistamines combined with a sedating antidepressant could strongly affect your concentration level. Operating a car or any other machinery could be particularly dangerous if your ability to focus is impaired. Antihistamines taken in conjunction with blood pressure medication may cause a person's blood pressure to increase and may also speed up the heart rate.

Tips to Avoid Problems

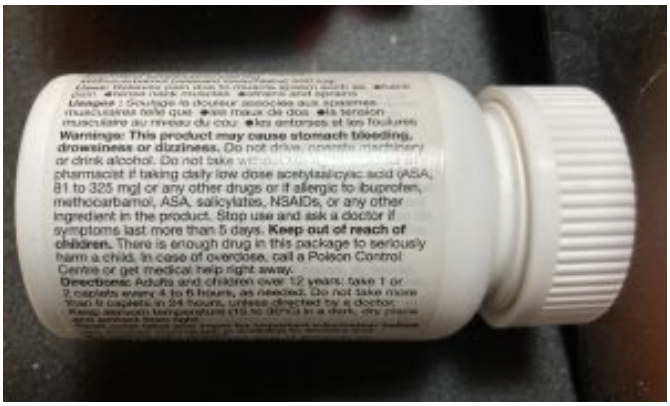

Figure 6.5.7 – Photo by Denise Halsey

Figure 6.5.8 – Photo by Denise Halsey

There are lots of things you can do to take prescription or over-the-counter (OTC) medications in a safe and responsible manner.

- Always read drug labels carefully.
- Learn about the warnings for all the drugs you take.
- Keep medications in their original containers so that you can easily identify them.
- Ask your doctor what you need to avoid when you have prescribed a new medication. Ask about food, beverages, dietary supplements, and other drugs.
- Check with your doctor or pharmacist before taking an OTC drug if you are taking any prescription medications.
- Use one pharmacy for all of your drug needs.
- Keep all of your health care professionals informed about everything that you take.
- Keep a record of all prescription drugs, OTC drugs, and dietary supplements (including herbs) that you

take. Try to keep this list with you at all times, but especially when you go on any medical appointment.

For more information on Drug Interactions:

- **Drug Interactions and Your Health – Ontario College of Pharmacists**
- Licorice– find out information about interactions that occur with this commonly used herb from WebMD.
- Dietary Precautions While Taking MAOIs

Key Takeaways

- **interaction**
- **idiosyncratic reactions**
- **adverse drug reaction**
- **toxicity**

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6.6 KEY TERMS STUDY GUIDE

Photos by Denise Halsey

The material in this chapter assists us in having a better understanding of a variety of medications and supplements to help us understand their impact on physical and mental well-being. We reviewed what type of medications are used for psychological disorders, which over-the-counter medicines may be appropriate for health concerns, and which supplements people are using for health and well-being. We also looked at the drug development process and the phases of clinical trials to learn how medications and supplements are tested and approved for human consumption.

You may be familiar with these terms, but If you are not familiar with the terms below, I recommend you download this study sheet, add more spaces to write in definitions and relevant information (or make flashcards) as you read the chapter and watch videos.

1. Anti-Anxiety Medications
2. Anti-depressants
3. Antipsychotics
4. Dietary Supplements
5. Drug Approval Process
6. Drug Interactions
7. ECT (Electroconvulsive therapy
8. Mood Stabilizers

9. over-the-counter medications
10. Prescription Drugs
11. Psychological Disorders
12. psychological well-being
13. Psychotherapy
14. side effects of psychoactive medications
15. Stimulants
16. Supplements

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6.7 SELF-CARE

This module's self care continues to explore mindfulness. To practice mindfulness this week, please listen to the guided meditation with Tara Brach.[1] This activity takes approximately 20 minutes, please ensure you have the time and space to engage in this activity.

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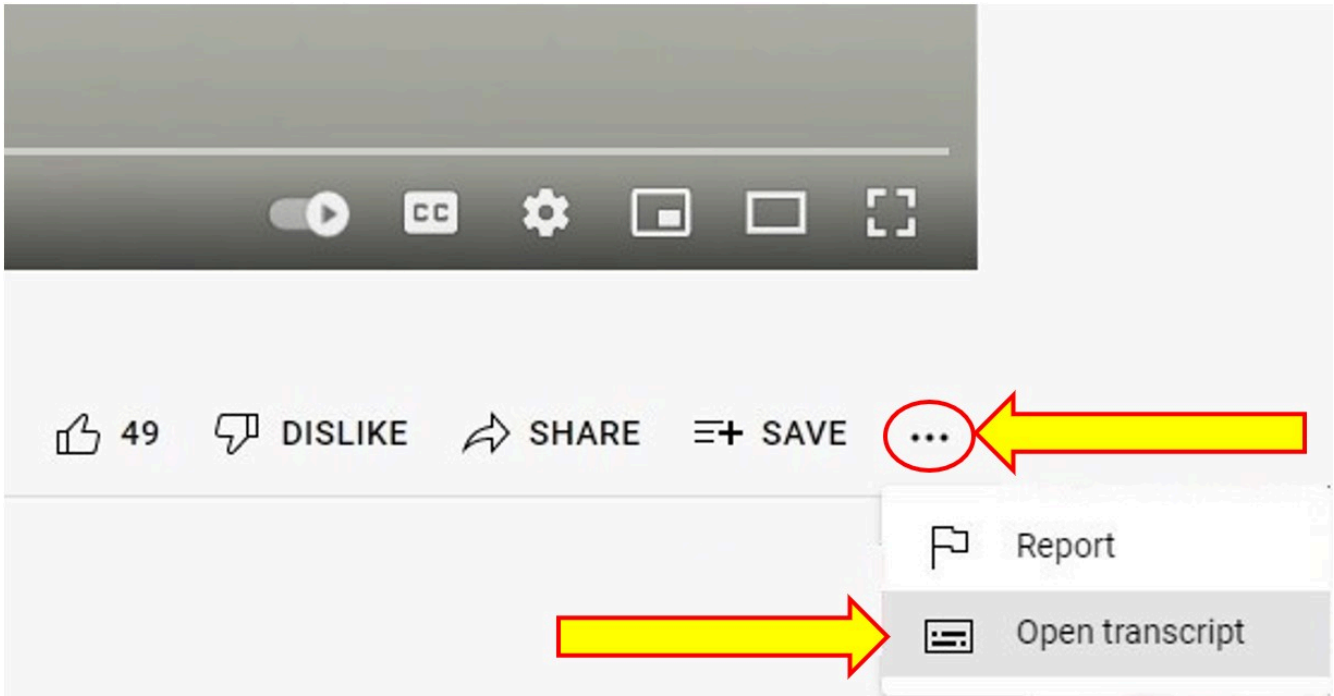
Tara Brach leads a Guided Meditation: The Practice of RAIN by Tara Brach. Tara Brach leads a guided meditation ~ The Practice of RAIN The acronym RAIN – Recognize, Allow, Investigate, Nurture – guides us in bringing mindfulness and compassion to difficult emotions. With practice, we can find our way home to open-hearted presence in the midst of whatever arises

Transcript



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Reference:

1. Brach, T. (2019). *Tara Brach leads a guided meditation: The practice of RAIN.* [Video]. Youtube. https://www.youtube.com/watch?v=W8e_tAEM80k

ADDITIONAL RESOURCES

New patients lead rise in claims for antidepressants

- Insurance claims for SSRIs up 17% in 2020, Canada's largest benefits manager says – CBC News

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CHAPTER 7: LAW, REGULATION AND SOCIAL POLICY

CHAPTER 7 INTRODUCTION

Chances are that you know someone who has been in troublerelated to drug use, whether it is in your family, neighbourhood, work or school. It could be someone who lost a driver's license, lost a job, or went to jail. As a society, we try to protect people from self-harm and harming others. We also want to have safe medication, protect children, and make it easier for people to get help for drug-related problems. All these efforts require laws, regulations and social policy. We decide when something is a crime and when we should send offenders to jail or prison. The use of valuable drugs becomes illegal to curb spreading abuse, while other drugs are reevaluated and made more readily available. We create tobacco-free environments, require drug tests for jobs, and make it possible for people to get help for problem drug use and addiction. In this chapter, we will examine laws and policies and explore some of the debates around incarceration and legalizing drugs.

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LEARNING OBJECTIVES

Learning Objectives

1. Explore the history of substances and substance use policy in Canada
2. Explain the main arguments for and against decriminalization and legalization of substances
3. Recognize the effects of laws and policies on individuals, families, and communities
4. Discuss the Opioid Crisis in Canada
5. Explain the War on Drugs in Canada
6. Explain the importance of Advocating for Change
7. Discuss Drug Screening

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7.1 WAR ON DRUGS & DECRIMINALIZATION

When you purchase a coffee, have you ever wondered why it is accessible to anyone, though we know caffeine has a biological impact on the brain and body? Have you ever thought about why tobacco products, marijuana, alcohol, or even your prescription medicines are less accessible and asked who made these decisions? We will start by exploration of substances and laws.

Activities

1. Research laws on substances in Canada.
2. What laws make sense to you? Which do you think needs work?
3. Who do you think the laws on substances affect?

There is little disagreement that there is an international "war on drugs;" and yet the war on drugs has resulted in the criminalization, stigmatization and increased health harms of people who use substances([1]). A growing number of people in the political world agree; "the global war on drugs has failed, with devastating consequences for individuals and societies around the world...fundamental reforms in national and global drug control policies are urgently needed" [(2)]. While the United Nations General Assembly Special Session (UNGASS) and the United Nations Office on Drugs and Crime (UNODC) released a joint commitment in 2016 to address substance use, it still focused on the reduction of access. There was, however, a recognition that substance use laws must shift to a more human rights and health promotion approach [(3).]

Given this backdrop, the question of whether our current substance use policies in Canada make sense must be asked. Experts in this field in Canada, from Gabor Mate to Donald MacPherson suggest the best approach our society could take is to decriminalize all substances and expand prevention, treatment, and harm reduction approaches that support various theories of use, ridding policy of moral models [(4)].

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What is decriminalisation of drugs? by EMCDDA. Depenalisation, decriminalisation and legalisation. There is no universal agreement on these terms, but it is helpful to explore the different ideas that lie behind them if we are to understand better what they mean when they are used in the debate on different approaches to controlling the supply and use of drugs.[5]

Transcript

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1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
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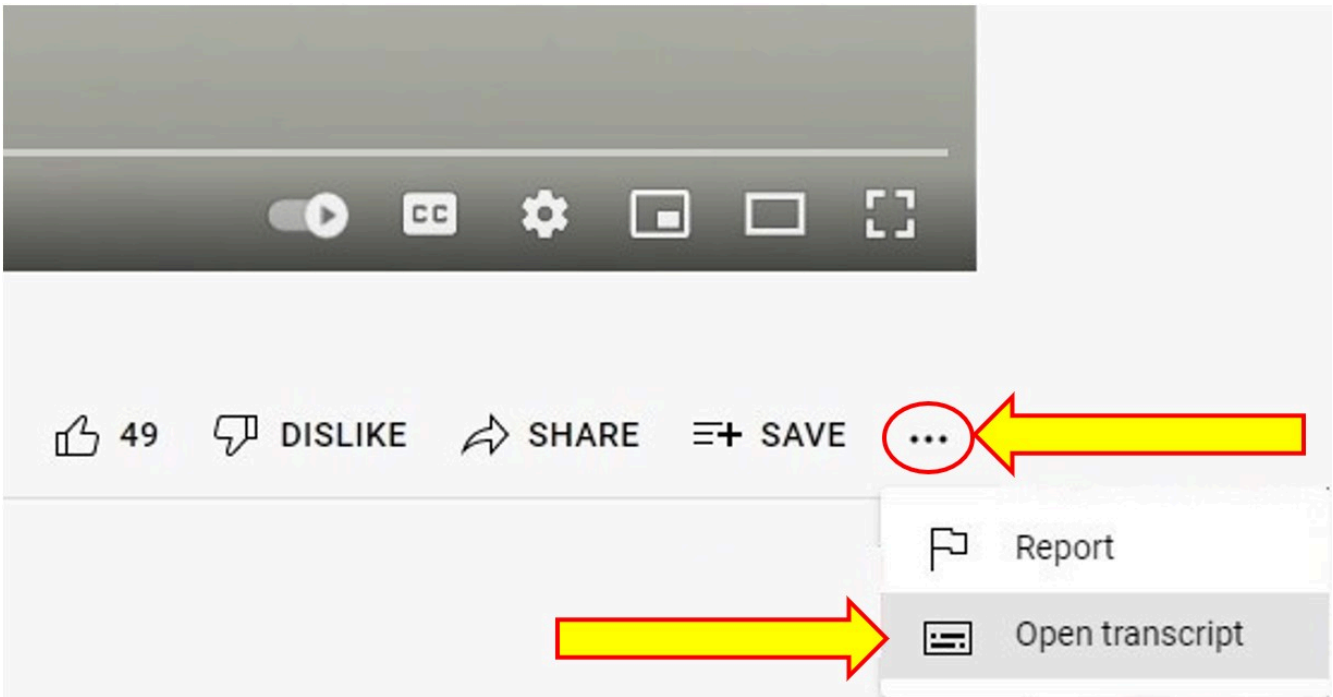

Canada would not be the first country to decriminalize substances; "Czechia, the Netherlands, Portugal and Switzerland are among a handful of countries that have decriminalized drug use and possession for personal use and that have also invested in harm reduction programmes" [6]. How has decriminalization impacted these countries?

THE NETHERLANDS*

The Netherlands decriminalized substances in 1976 [7]. The strategy taken by the Netherlands was a four-pillar approach focusing on (i) preventing substance use and treating and rehabilitating people who use substances; (ii) reducing harm to users; (iii) diminishing public nuisance caused by people who use substances and; (iv) combatting the production and trafficking of drugs [8]. Under the Netherlands' policy, people who use substances are not normally arrested for possession (excluding cocaine and heroin), but they must receive treatment if they are arrested for another reason [9]. Traffickers are not arrested for selling small amounts of substances, but they may be arrested for selling them in large quantities.

The impacts of these changes resulted in marijuana, cocaine and heroin use dropping in the immediate years after it was decriminalized. For example, data from the European Monitoring Centre for Drugs and Drug Addiction[10] estimated approximately 1.4% of people participate in high-risk cannabis use (daily use). In Canada, 7.9% of Canadians aged 15 and older report high-risk cannabis use[11]. In the Netherlands, there has been a decreasing trend in lifetime cannabis use among school-age children over the period 1999 to 2015 [12]. Data from the 2017 Health Behaviour in School-aged Children (HBSC) study showed a decrease in the lifetime prevalence of cannabis use among students aged 12-16 years from 16.5 % in 2003 to 9.2 % in 2017 ([13]. In Canada, however, over 19% of those ages 15-17 used cannabis and nearly 20.0% of Canadians between the ages of 15-64 reported having used cannabis in the past three months [14]. In the Netherlands, while there has been an increase in the number of people who use opioids as experienced throughout Europe and North America, "no increase has been described in the number of opioid-related deaths" [15]. In 2017 in Canada according to the Canadian Tobacco, Alcohol and Drugs Survey, the prevalence of opioid use was 11.8% [16], and the number of opioid-related deaths increased by 2% from 2016 to 2020 with 24,626 apparent opioid toxicity deaths [17]. By offering a variety of supports to people who use substances, the Netherlands is saving lives.

PORTUGAL

In 2001, Portugal decriminalized small amounts of all substances. This means the possession of substances for personal use and usage itself are still legally prohibited, but violations are exclusively administrative violations rather than criminal violations (18).

If someone is using substances, they are not charged with substance-related offences; rather anyone convicted of drug possession is sent for treatment, but the person may refuse treatment without any penalty [19]. Trafficking substances, on the other hand, are still illegal and can be prosecuted ([20]. The Portuguese Government invested in treatment and evidence-based prevention programs [21]. It recognized that treatment costs far less than imprisonment [22].

In Portugal, the number of people struggling with substance use disorders who chose to access treatment increased, there are treatment facilities readily available and there have been reductions in problematic use,

substance use-related harms and overcrowding in correctional facilities [23]. In Canada, access to treatment is provided by various provincial governments but access can be difficult as wait times for treatment are lengthy. For example, in Nova Scotia wait times for treatment, depending on the region, can last between 19-146 days ([24]).

To learn more about Portugal's approach please watch the video below.

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How Portugal Successfully Tackled Its Drug Crisis. by CBC News: The National. Does the answer to B.C.'s overdose crisis lie in Portugal? Click here for the full story: http://cbc.ca/1.3962714 [25]

Transcript

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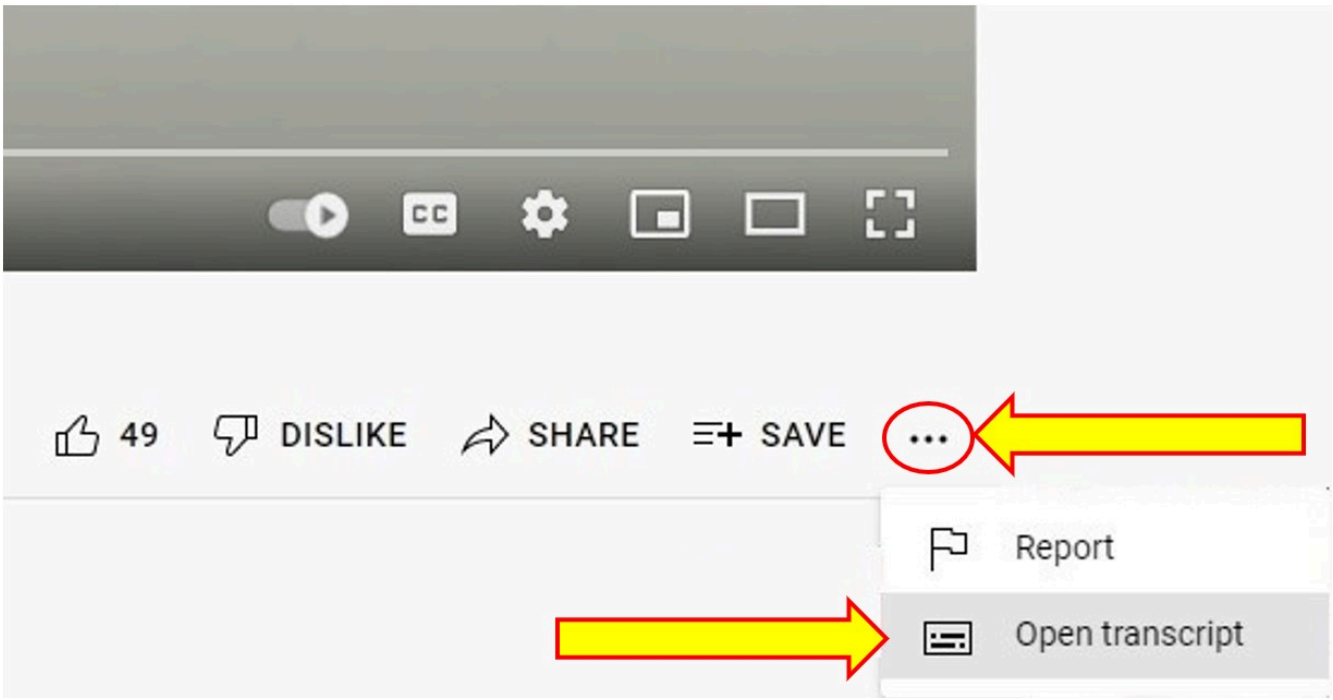

In Portugal, deaths related to substance use have reduced dramatically [26], while in Canada, substance-related deaths have increased, and almost 96% of opioid-related overdose deaths were accidental (27).

Have a look at: Opioid deaths map of Canada [28].

Is Canada ready for decriminalization? Listen to Susan Boyd explore the current "war on drugs" in Canada.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=159#oembed-3

Susan Boyd: Colonial history and racial stereotypes are deeply entrenched in Canadian drug policy. by SFU Public Square. Susan Boyd, PhD — a distinguished professor in the University of Victoria's Faculty of Human and Social Development who sits on the policy committee of the Canadian Drug Policy Coalition — spoke about the history of drug laws in Canada at A Tale of Two Crises: COVID-19 and the Overdose Emergency[29]

Transcript

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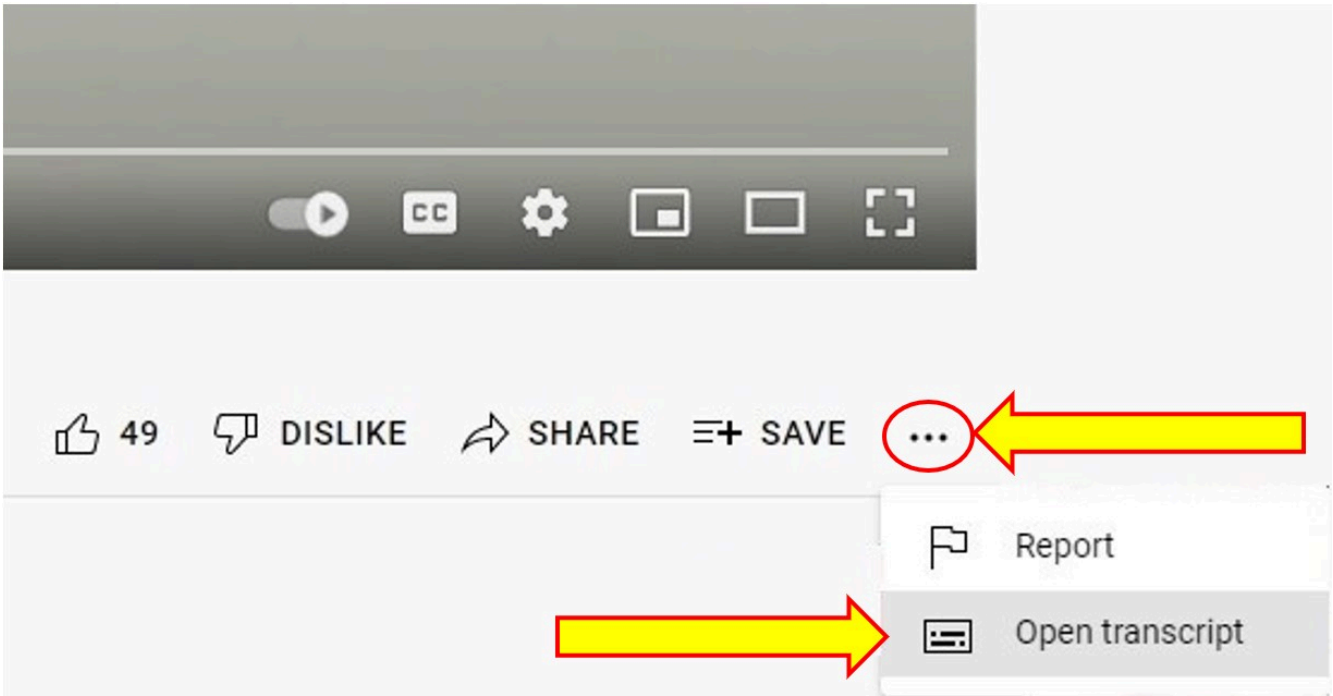

Activities

1. Brainstorm all the reasons people might disagree with decriminalization. Are these reasons evidence-based?
2. Research one agency working on decriminalization in Canada.
3. How can you promote an evidence-based public health approach to laws and substance use in Canada?

The fears of many who saw Portugal as opening the door to an increase in substance use increased infections, and harm have not happened. "Judging by every metric, decriminalization in Portugal has been a resounding success. It has enabled the Portuguese government to manage and control the drug problem far better than virtually every other Western country does" [30].

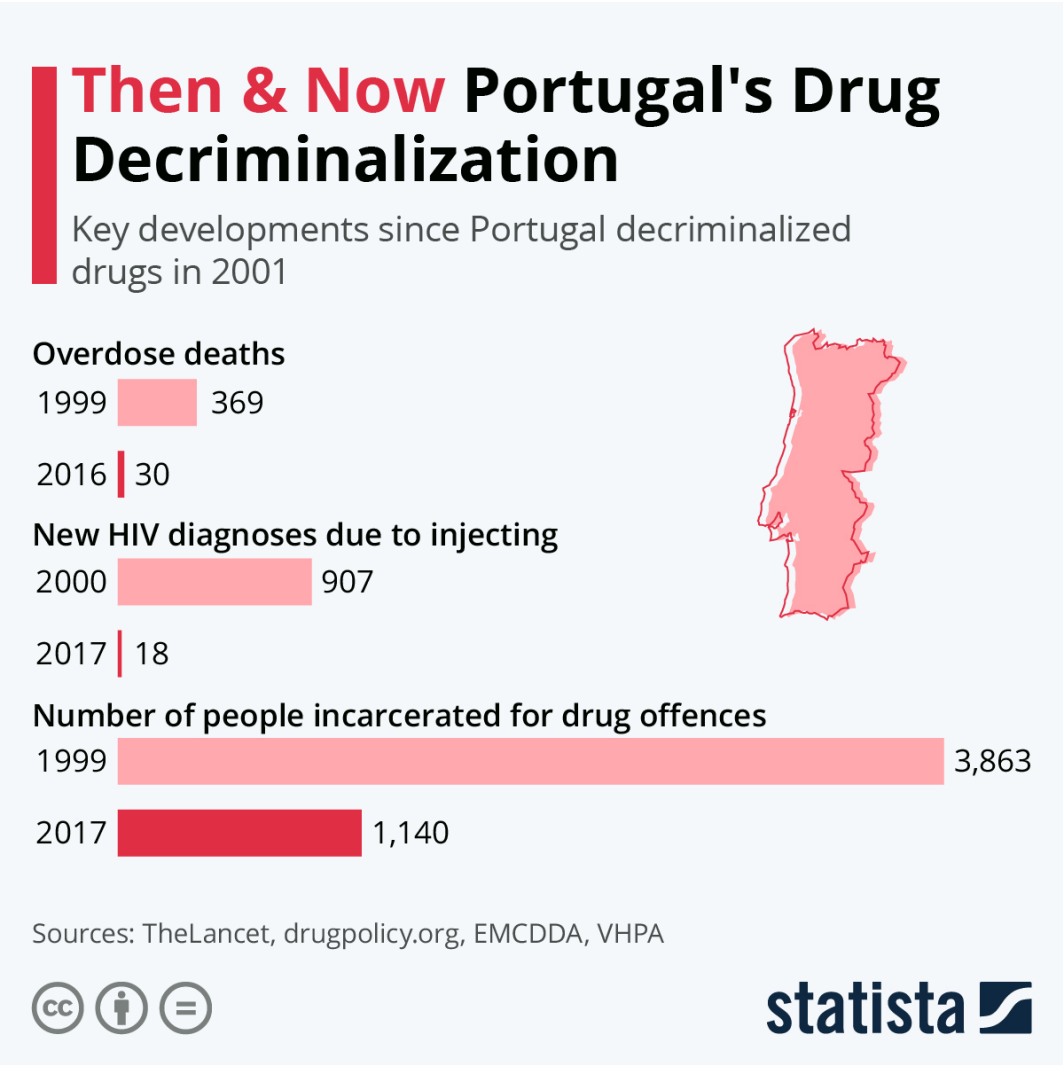

Figure 7.1.1 – Statista, 2020.

Based on the statistics presented in the Netherlands and Portugal, laws and policies are best when they are evidence-based.

Activity

Health Canada is working on updating its low-risk drinking guidelines. Please compare and contrast the proposed 2022 guidelines with the 2011 Guidelines.

2023 News story regarding the new guidelines

https://www.ctvnews.ca/health/what-you-should-know-about-canada-s-new-alcohol-guidelines-1.6239499[1]

2022 Proposed Guidelines

https://ccsa.ca/sites/default/files/2022-08/CCSA-LRDG-Update-of-Canada%27s-LRDG-Final-report-for-public-consultation-en.pdf[32]

2011 Guidelines

- https://www.canada.ca/en/health-canada/services/substance-use/alcohol/low-risk-alcohol-drinking-guidelines.html[33]

Attribution:

CHAPTER CREDIT

* Sections on The Netherlands and Portugal condensed and adapted from Unit 5.1 / Lessons from Other Societies in Drugs, Health & Behavior by Jacqueline Schwab. Content rewritten, references for stats added, chapter updated with Canadian content.

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7.2 SUBSTANCE USE LAWS IN CANADA

Take a moment and reflect on the laws in Canada. Whether you realize it or not, laws in Canada impact citizens on a daily basis, from paying for groceries to driving on the right-hand side of the road, to education and health care.

Activities

1. Research what law is.
2. Research what regulation is.
3. Research what a policy is.
4. How do laws, regulations, and policies impact you? Please provide an example.

Figure 7.2.1 – Photo by Igor Kyryliuk on Unsplash

There are also laws that control the access, use, and distribution of substances. The Controlled Drug and Substances Act (CDSA) is the law responsible for overseeing Schedule I-VIII substances, which include stimulants, opioids, depressants, benzodiazepines, and steroids as well as their derivatives [(1)]. The Director General's Office manages the *CDSA* and its Regulations and the Office of Controlled Substances develops legislation, regulations, policies and operations that support the control of illicit drugs and other substances [(2)].

Who decides what substances belong to illicit or licit categories? Who decides when something is a crime and when people are sent to prison? Who creates and passes these laws? Employees of Health Canada, experts in the field, members of RCMP, and elected officials and their staff form committees to review substances and the laws associated with them. Canada is also a member of the UN Office of Drug and Crime (UNODC), which guides Canadian laws and policies [(3)]. To pass a law, the House of Commons (elected, lower Chamber), the Senate (appointed, upper Chamber), and the Monarch (Head of State, who is represented by the Governor-General in Canada) work together.

Food for Thought

- Have you ever thought about the people who create and pass laws? Do they represent all the diverse groups in Canada?
- Have you ever met your Member of Parliament who is responsible for addressing your concerns? Why or why not?
- Have you ever thought about running for office? Why or why not?

Activities

1. Go to the Government of Canada website and review the Members of Parliament. Do any mention substance use/mental health?
2. Why do you think this is?

Figure 7.2.4 Photo by Hannah Busing on Unsplash

There are advocacy groups across Canada trying to make changes in the laws regarding substance use. From the larger groups like the Canadian Association of People who Use Drugs (CAPUD) and the Vancouver Area Network of Drug Users (VANDU) who have a long history in advocacy for supervised consumption sites and prescription opioid programs to smaller advocacy groups like the Halifax Substance Users Network (HalifaxSUN) and HaliFIX in Nova Scotia who have been working to promote overdose prevention through substance testing campaigns and sharing first-person stories of their substance use. There are grassroots efforts to move towards substance use laws and policies that reflect a harm reduction approach in Canada.

Some groups have had success in pilot projects. Please review the first opioid prescription models in Canada by clicking on the NAOMI and SALOME projects in Vancouver. While the evidence was clear that opioid prescription changed lives, these programs had a limited shelf-life.

Food For Thought

- Are there resources in your community that could support a safer approach to substance use?
- Is there a difference between urban and rural viewpoints when it comes to substance use? Can you find any examples of this?

Activities

1. Research 3 media stories on substance use. What approaches to substances/substance use do these stories suggest?
2. Compare and contrast. What did you learn?
3. What is a focus on one approach to substance use and addiction?

Today, Canada's policies that support a national harm reduction approach are piecemeal, and while there have been positive changes since 2015, including the legalization of cannabis and Health Canada approved supervised consumption sites [4], one of the issues facing people who use substances continues to be a punitive legal system that criminalizes substance use.

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7.3 DRUG POLICY AND THE WAR ON DRUGS

We will start this module with a short video from the Municipal Alcohol Project and the Nova Scotia Community College.

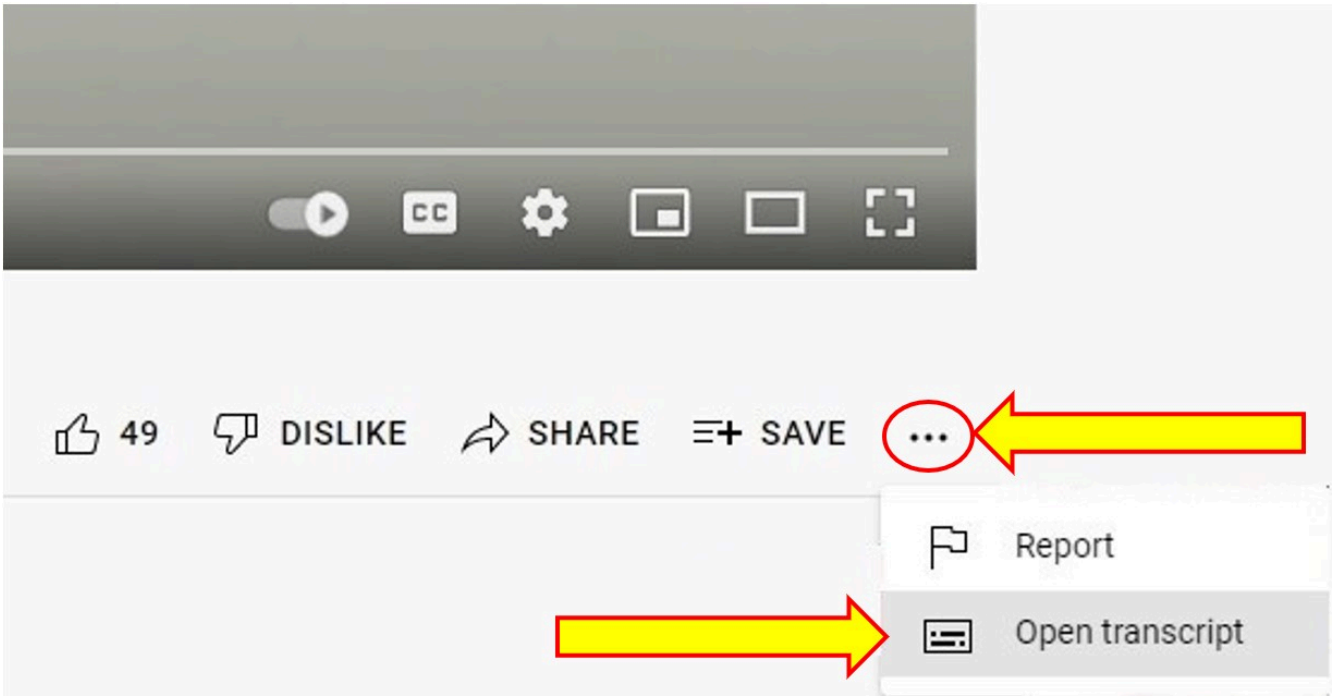
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=155#oembed-1

Municipal Alcohol Project PSA. by Key Studios. An underage drinking awareness public service announcement created in partnership between Nova Scotia Community College Truro Campus and Mental Health and Addiction Services.[1]

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



Videos like this suggest abstinence is best; however, abstinence does not work for everyone. Abstinence-based programs and policies are not evidence-based, and yet are still being used to address substance use and substance use disorders. They are the remnants of the "war on drugs," which began in the Reagan era (1981-1989) of the United States and were generally seen as failed policy [(2)]. The term "war on drugs" began with Ronald Reagan, the President of the United States in 1984. His wife Nancy began a popular, yet ineffective campaign, "Just Say No". This campaign was based on abstinence and spawned other abstinence-based programs like DARE (Drug Abuse Resistance Education)[(3)].

Figure 7.3.1 -Nancy Reagan Speaking at a "Just Say No" Rally in Los Angeles, California. Credit: Series: Reagan White House Photographs, 1/20/1981 – 1/20/1989

Many people believe the war on drugs was an American phenomenon; however, Canada was a willing ally and created laws that targeted marginalized groups[(4)]. In the 1980s, Canadian Prime Minister Brian Mulroney invested in Canada's war on drugs based on the false belief that communities were being ravaged by drugs, though evidence on use suggested otherwise[(5)]. The war on drugs has been a worldwide phenomenon that resulted in the criminalization and incarceration of people who use substances; "historically, the principal response to illegal drug use has been enforcement and incarceration"[(6)].

The war on drugs was not successful, yet it continues to have impacts on Canada's laws, correctional facilities, RCMP and Police, healthcare, and economy. Data from Canada and elsewhere show "this approach fails to meaningfully reduce the supply of – or demand for – drugs and results in many unintended negative consequences"[(7)]; for example, "overdose is a leading cause of premature mortality in North America"[(8)]. Consequences of the war on drugs also include incarceration and the myriad of challenges associated with

having a criminal record. Yet Canada and other countries have continued to engage in a political war on drugs though according to Mallea[9], "it has not reduced the drug trade, eliminated production, or decreased the number of users"[10]. Gordon [11] suggests the criminalization of substances and people who use substances has not occurred in a vacuum; it has been a "state policy that intersects profoundly with the racialized class relations of Canadian capitalist society" [12].

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=155#oembed-2

Robyn Maynard – Policing Black Lives. By Fernwood Publishing. Author Robyn Maynard speaks about her book, Policing Black Lives: State Violence in Canada from Slavery to the Present, available in stores and online: https://fernwoodpublishing.ca/book/po... [13]

The transcript for this event can be found here: https://bit.ly/3d65F7b

This racialized focus in the war on drugs has resulted in an over-representation of incarceration for BIPOC (Black, Indigenous, People of Color) communities. "Racialization strengthens systemic racism and reinforces structural violence" [14]. To understand how racialization has played a role in Canada's war on drugs one must simply look to the correctional system. For example, 80% of people who have been incarcerated have substance use disorders [15] and 54% of offenders were under the influence of alcohol and/or drugs at the time of the offence for which they were currently serving a sentence [16]. If we look at the correctional system we can see in 2016, Indigenous Canadians accounted for 24.4% of the federal prison population, though they make up just 4.3% of the general population [17]. In 2010–2011, Black Canadians accounted for 10% of the federal prison population although Black Canadians only comprised 2.5% of the overall population [18]. We are incarcerating people for their substance use and this racialization of the war on drugs has resulted in blackness associated with criminality [19].

The war on drugs has been a catastrophic failure that has directly impacted BIPOC communities and indirectly impacted all Canadians; "war always destroys lives, produces a maximum of collateral damage, denies basic human and civil rights, and has little to do with justice" [20]. Many advocates who work in the field of substance use disorders believe it is time to end the war on drugs and focus efforts on the intersectionality of the systemic issues that perpetuate substance use disorders [21].

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=155#oembed-3

Angel Gates: Insight from community on the devastating toll of Canada's drug policies. by Canadian Drug Policy Coalition. At the heart of Canada's overdose crisis are people with lived and living experience with substance use who have the clearest understanding of the systemic flaws inherent in our drug policies, along with the devastating human toll wrought by them. Their insight must guide and inform new policies if they are to have any positive impact on the lived realities of communities most deeply affected. They are the "experts to the experts," and their contributions must be privileged for policies to succeed.

Transcript

To Access the Video Transcript:

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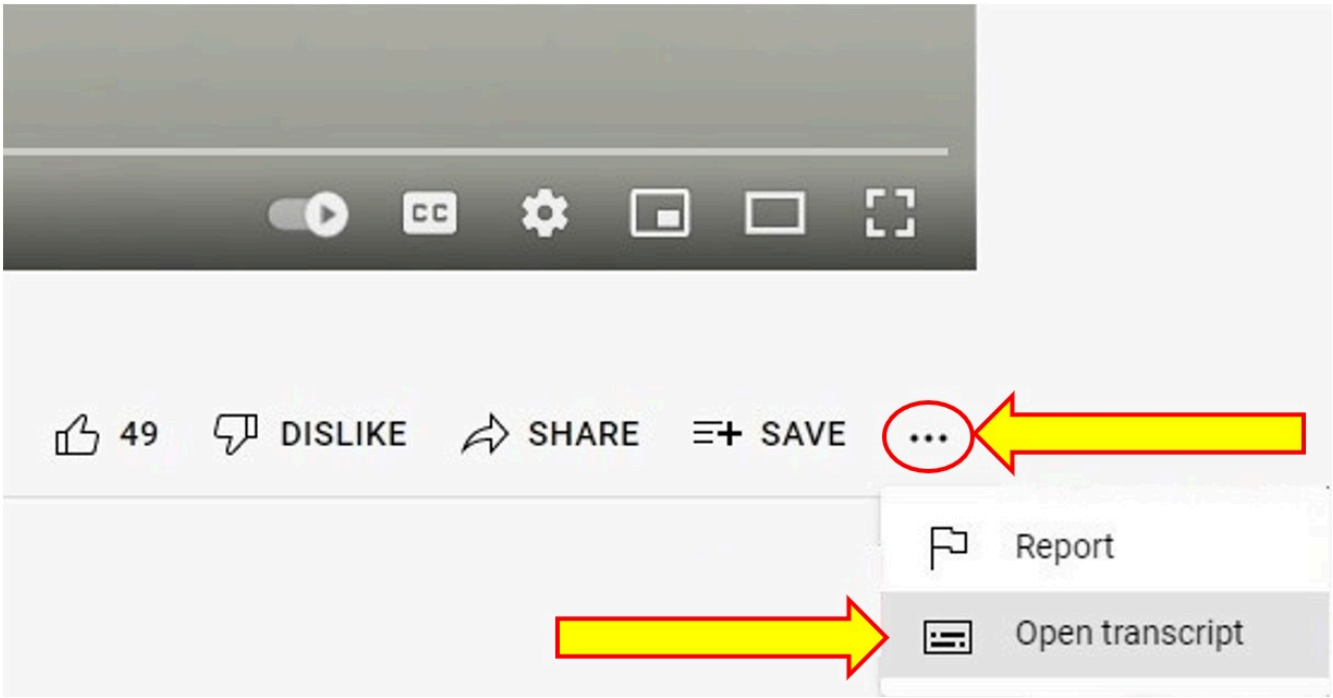

Food for Thought

- How do we determine if a law or policy does more harm than good?
- According to Husak [21], all substance use should be allowed in a free society. Agree or disagree? Why?
- If you think some substances should stay illicit, what are they? Why?
- How might access to all substances change how people use substances? Why? Can you relate this to a theory?

In deepening your understanding of the "war on drugs" please review the infographic below for the impact on Canadians. Drug War in Canada by Canadian Centre for Addictions

Image Credit

Nancy Reagan Speaking at a "Just Say No" Rally in Los Angeles California. Public domain, via Wikimedia Commons.

Attribution:

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7.4 OPIOID CRISIS

What is the opioid crisis?

Figure 7.4.1 – Photo by Olga DeLawrence on Unsplash

The opioid crisis is a complex public health issue. There are many factors that led us to the significant increase in opioid-related overdoses today. Some of these factors include:

- high rates of opioid prescribing
- the emergence of strong synthetic opioids in the illegal drug supply – such as fentanyl and carfentanil

What are opioids exactly?

Opioids such as fentanyl, morphine, oxycodone and hydromorphone are medications that can help relieve pain.

Opioids are drugs that affect your mind, mood, and mental processes and can also cause euphoria, or the feeling of being "high." This creates the potential for them to be used improperly.

Legal vs. illegal opioid

Legal opioids are prescribed by a health care professional most often to treat pain from conditions such as injuries, surgery, dental procedures, or long-term chronic pain.

Illegal opioids are any opioids that are made, shared or sold illegally. Illegal opioids include:

- street drugs from a drug dealer
- opioids are given to you by someone who is not your health care provider
- opioids that are not prescribed to you but are taken from someone else

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=157#oembed-1

The opioid crisis is worsening; where is the political will to solve it? By Global News. A B.C. report released Tuesday found that the first half of 2021 had the most-ever drug-related deaths in the first six months of a year, beating last year's record by over 30 per cent. From January to June, 1,011 people died from an overdose in B.C. Drug toxicity is now the leading cause of death in that province for people aged 19 to 39. Meanwhile, a June report from the Public Health Agency of Canada found that on average, around 17 people died of an opioid overdose per day across Canada in 2020. Jamie Mauracher reports on the worsening health crisis, and takes a closer look at how each party plans to tackle the problem.[1]

Transcript

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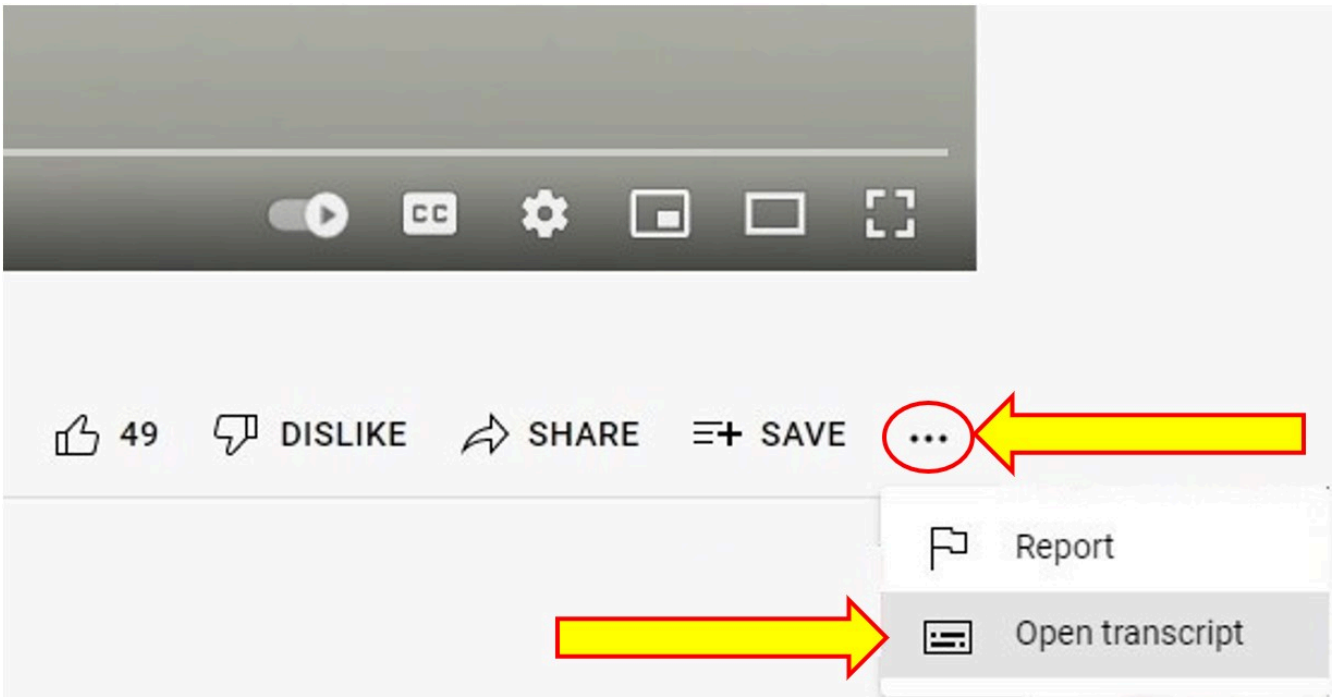

Opioid Crisis during COVID-19

The Opioid Crisis has been strongly affected by COVID-19 across Canada and Globally. Many challenges are appearing in all levels of Government. Recognizing that the opioid crisis is a complex public health issue has had a large impact on agencies and communities which include: paramedics responding to opioid overdoses doubled, fatal deaths are at the highest level experienced, health care system, harm reduction, overdose prevention, those who have been released from incarceration have higher overdose or deaths, and impact on social services, counselling, policing, and communities to name a few.

Figure 7.4.2 – Photo by Papaioannou Kostas on Unsplash

A makeshift memorial was created at Toronto City Hall by demonstrators to mourn those who have died from drug overdoses during the COVID-19 pandemic (CBC)[2]

Food for Thought: Opioid Crisis during COVID-19 throughout Canada

- Edmonton's worsening opioid crisis prompts renewed calls for action
- Yukon dialogue on opioid crisis wraps up with calls for change
- Yukon's coroner describes a "front-row seat" on the opioid crisis
- Spike in deaths causes Yukon to declare overdose emergency – January 2, 2022

- Opioid Crisis in First Nations
- N.W.T. health officials believe tainted drugs killed two people – February 20, 2022
- COVID-19 and the opioid epidemic (BC)

Opioid overdose crisis has dramatically worsened during COVID-19 pandemic, report says[3]

For More Information on Opioid Crisis (everyday implications of the Opioid Crisis):

- Opioids and the opioid crisis – Get the facts – Government of Canada[4]
- Finding Pseudoephedrine at the Pharmacy – Pseudoephedrine Moves Behind the Pharmacy Counter[5]
- Opioid-Makers Cut Back On Marketing Payments To Doctors(6)

ATTRIBUTION: This chapter is not covered by the adaptation statement, it is an original work.

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7.5 ADVOCATING FOR CHANGE

Can we change Substance Use Laws in Canada? The **Canadian Drug Policy Coalition** is advocating revising Canada's Drug Safety Act and focusing on a public health and human rights approach[1]. This means sharing information to help Canadians understand how/when/where policies were created and change policy based on evidence. Watch this short film by the Canadian Drug Policy Coalition[2] to help understand the impacts of the war on drugs and the community agencies that are working towards ending current substance use policies.

Getting to Tomorrow: Ending the Overdose Crisis.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=162#oembed-1

Getting to Tomorrow: Ending the Overdose Crisis. by Canadian Drug Policy Coalition. Realizing solutions to the overdose crisis by bringing communities together to find shared meaning, understanding, and purpose, with the goal of advancing a public health and human rights approach to drug policy. www.gettingtotomorrow.ca[2]

Transcript

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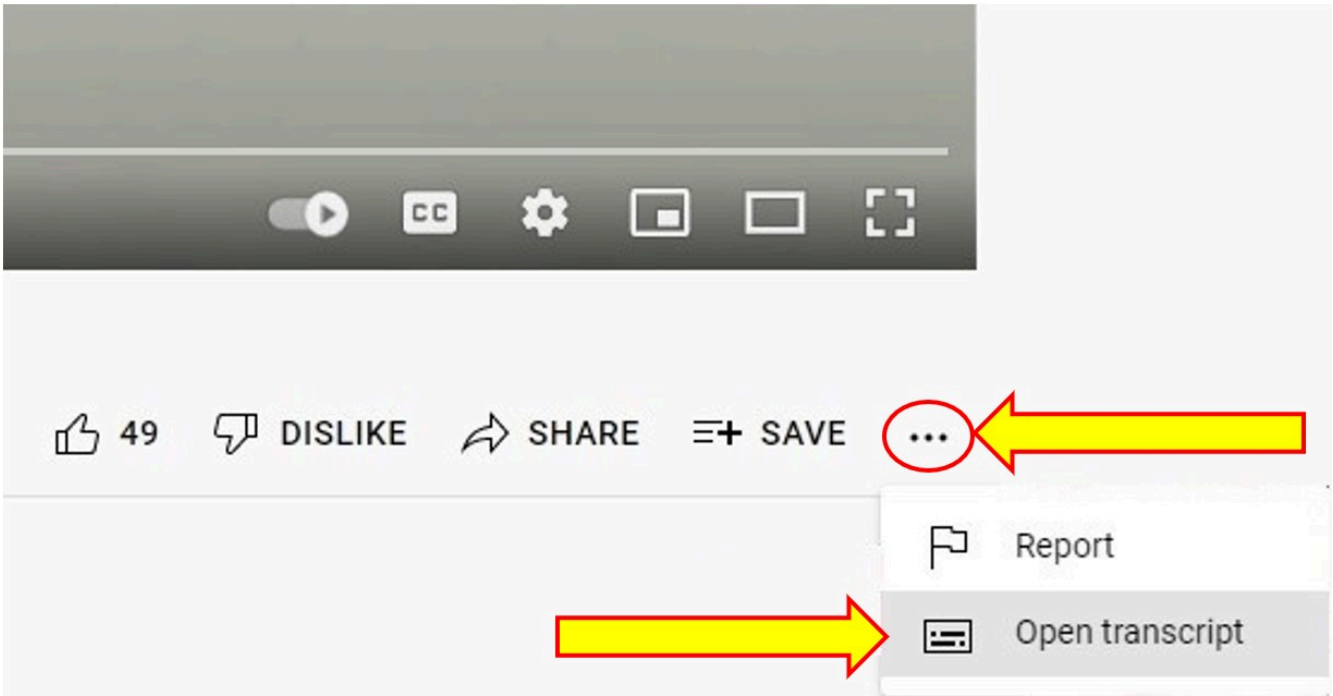

Food For Thought

- Reflect on the concept of prohibition. How could quality control be changed if substance/use policies were built on a public health approach?

There are other advocacy groups across Canada that are speaking up to say the current approach is not working.

Click on the members of the Canadian Drug Policy Coalition members website[3]. (Interactive Map)
https://www.drugpolicy.ca/about/canadian-drug-policy-coalition-members/

Figure 7.5.1 Canadian Drug Policy Coalition [3]

Activities

1. Please click on the "Moms Stop the Harm"[4] website.
2. What was the most significant learning for you? Why?
3. Do you think websites or programs like this are effective? Why or why not?
4. How could someone get involved in supporting policy changes?

Does this mean that Canadian lawmakers and policy makers have not made changes in the last thirty years to reflect a more evidence-based approach? No, there have been significant changes to policies.

Please review the following timeline [5]for CBC/KIDS ... shows history of How Marijuana became legal in Canada.

Food For Thought

- Do you see other changes in policy between the 1990's and today?
- What is the biggest change you see?
- What areas do you think need further policies? Who would be responsible?

As we have explored in this chapter changes are happening. The current challenge, suggested by groups like the Canadian Drug Policy Coalition, is a dichotomy between the funding and support to harm reduction programs and making the legal changes that could make piecemeal harm reduction programs obsolete. What role does a Social Service worker play in this arena?

Please note that as of May, 2022, the British Columbia Government will be implementing a new law that sees small amounts of certain substances decriminalized. This is an exciting step and the rest of the country will

be watching closely to see what the result may be. Read below about the exemption from Health Canada: B.C. receives exemption to decriminalize possession of some illegal drugs for personal use[1]

Attribution:

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Figure 7.5.1. – Canadian Drug Policy Coalition. (n.d.-b). *Coalition Members* [Photo]. Canadian Drug Policy Coalition. https://www.drugpolicy.ca/about/canadian-drug-policy-coalition-members/

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1. [2]
2. [6]

personal-use.html

7.6 DRUG SCREENING

Drug Screening

In this section, you will explore information about Drug Screening for Employment in Canada:

In Canada, **about 10% of Canadian worksites** with 100+ employees have drug testing programs. These programs are much more common in the United States, where legislation in the 1980s made drug testing more widespread in all types of companies.

Drug Screening for pre-employment as well as employment is about health and safety in the work environment. It is not used in all work environments.

Figure 7.6.1 Photo by Girl with red hat on Unsplash

How Pre-Employment Testing Works

- Pre-employment drug testing and alcohol testing are considered post-offer (after the offer of employment is conditionally accepted).
- Any non-negative test results are re-tested and confirmed to ensure court-worthy reliability.

- Because the Canadian Human Rights Act (CHRA)[1] considers an addiction to be a disability, if an applicant tests positive and is determined to have a substance abuse addiction, your company has a duty under CHRA to offer accommodation. This may then involve utilizing return-to-duty services[2] to ensure that as an employer you are following the due diligence required to maintain a safe workplace.
- If an applicant tests positive and is not found to have a substance abuse addiction, he or she is not protected under CHRA legislation.

What Do They Test For Pre Employment Drug Screening?

The Department of Transportation requires drug and optional alcohol testing post-offer of employment. Many other companies do as well. Jobs that require drug testing include transportation (vehicle, motorized, trains, planes etc), healthcare, and hospital, among others.

The Canadian Centre for Occupational Health and Safety[3] defines a safety-sensitive position as one that, if not performed in a safe manner, can cause direct and significant damage to property and injury to the employee, others in the area, the public and the immediate environment. Safety-sensitive roles are often found in the construction, medical, manufacturing, natural resources, transportation and warehousing industries, among others.

There are many different types of drug tests for a variety of needs. Depending on the type of test, donors would be required to provide a urine or saliva sample.

- Urinalysis can be used to test for cannabis, cocaine, amphetamines and opiates.
- Saliva testing is one of the most commonly used because it can be collected on-site. It can identify recent usage and is 100% observed.

Our Human Rights are important to know at any time, but when it is around drug and alcohol testing it is important to have knowledge around drug and alcohol testing. There are many ongoing questions that are needed to be answered so it is not simple and it is important to know your rights.

Ontario Human Rights Commission – Drug and alcohol testing – Frequently asked questions[4]
Ontario Human Rights Commission – Drug and alcohol testing situations[5]

Explore Canadian Drug Screening further:

- Here to Help
- Pre-Employment Drug & Alcohol Testing
- Canada's Lessons Learned from Legalizing Cannabis
- CERTIPHI, DRUG AND ALCOHOL TESTING IN CANADA
- Pre-employment Drug Testing Services
- CANN/AMM Pre-Employment Drug and Alcohol Testing

ATTRIBUTION: This chapter is not covered by the adaptation statement, it is an original work.

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3. Workplace Strategies: Risk of Impairment from Cannabis – CCOHS Canadian Centre for Occupational Health and Safety. https://www.ccohs.ca/products/publications/cannabis_whitepaper.pdf
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7.7 KEY TERMS STUDY GUIDE

Photo by Tingey Injury Law Firm on Unsplash

The material in this chapter assists us in having a better understanding of those who have had trouble due to drug use, whether it is family, neighbour, work or school. We want to understand how to make it easier for people to gethelp for drug-related problems. All these efforts require laws, regulations and social policy. In this chapter, we will examined laws and policies and explore some of the debates around incarceration and legalizing drugs.

You may be familiar with these terms, but If you are not familiar with the terms below, I recommend

you download this study sheet, add more spaces to write in definitions and relevant information (or make flashcards) as you read the chapter and watch videos.

1. Advocating for Change
2. Canadian Drug Policy Coalition
3. Decriminalization
4. Drug Policy
5. Drug Screening
6. laws
7. legalization
8. Opioid Crisis in Canada
9. policies
10. Substances and Substance Use Policies in Canada
11. Substance Use Laws in Canada
12. War on Drugs

ATTRIBUTION: This chapter is not covered by the adaptation statement, it is an original work.

7.8 SELF-CARE

Photo by Pedro Sanz on Unsplash

This module's self-care focuses on resilience. Please review the Self-Care Resilience Guide by the Mental Health Commission of Canada, which will take you through a number of reflective activities. These activities are not meant to diagnose, simply to explore and develop a self-care plan to improve your mental health.

Attribution:

References

Mental Health Commission of Canada. (n.d.). *The working mind: COVID–19 Self–care & resilience guide.* https://theworkingmind.ca/sites/default/files/twm_self-care-resilience-guide.pdf

ADDITIONAL RESOURCES

Additional Resources

- Drugs: What's race got to do with it?
  A 2017 article by CBC Radio. [1]
- Drug laws and interacting with police Santini, T and Stella, l'amie de Maimie. (2021). Read between the lines – Part I: Drug laws; Part II: Interacting with police. http://librarypdf.catie.ca/ATI-30000s/30102.pdf

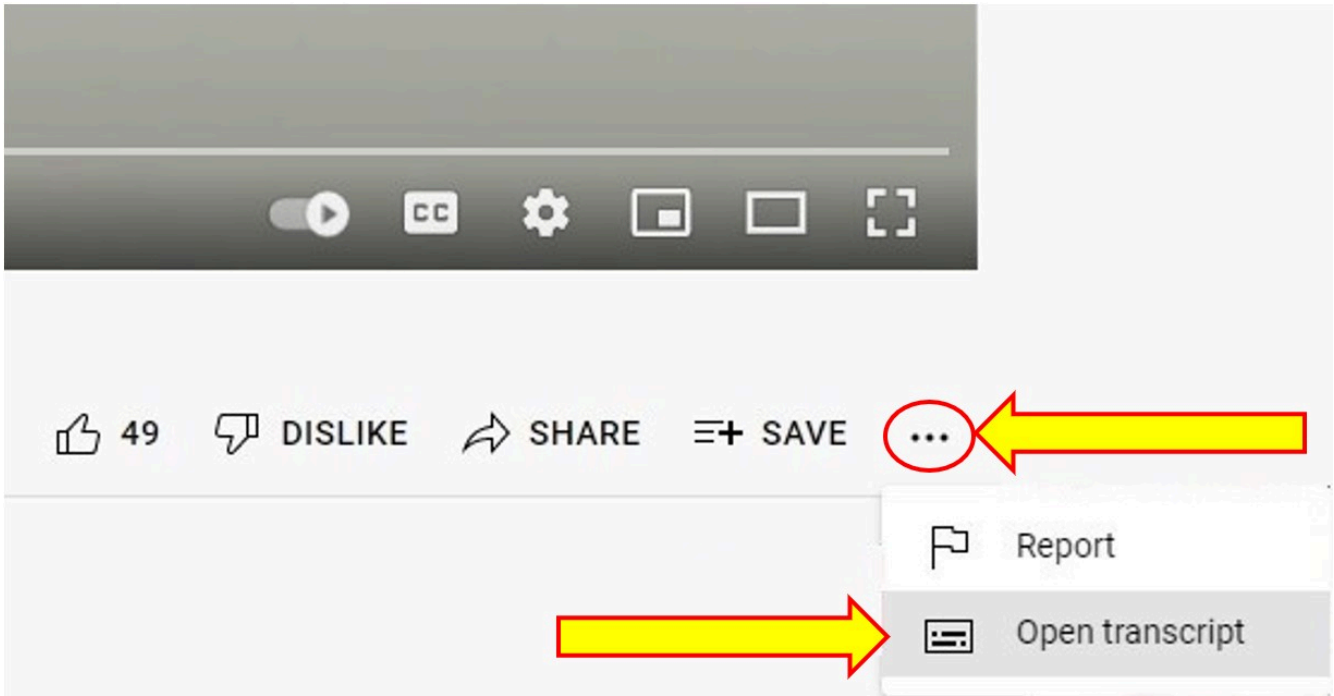
Videos

Drug Policy Alliance. (2016) What is the Drug War? with Jay-Z & Molly Crabapple

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1048#oembed-1

What is the Drug War? With Jay-Z & Molly Crabapple. By Drug Policy Alliance. The Drug Policy Alliance has teamed up with artists Jay-Z and Molly Crabapple to tell the brief history of how the Drug War went from prohibition to the gold rush of the legalized cannabis industry. Do you know your history?[2]

Transcript



Mass Incarceration, Visualized

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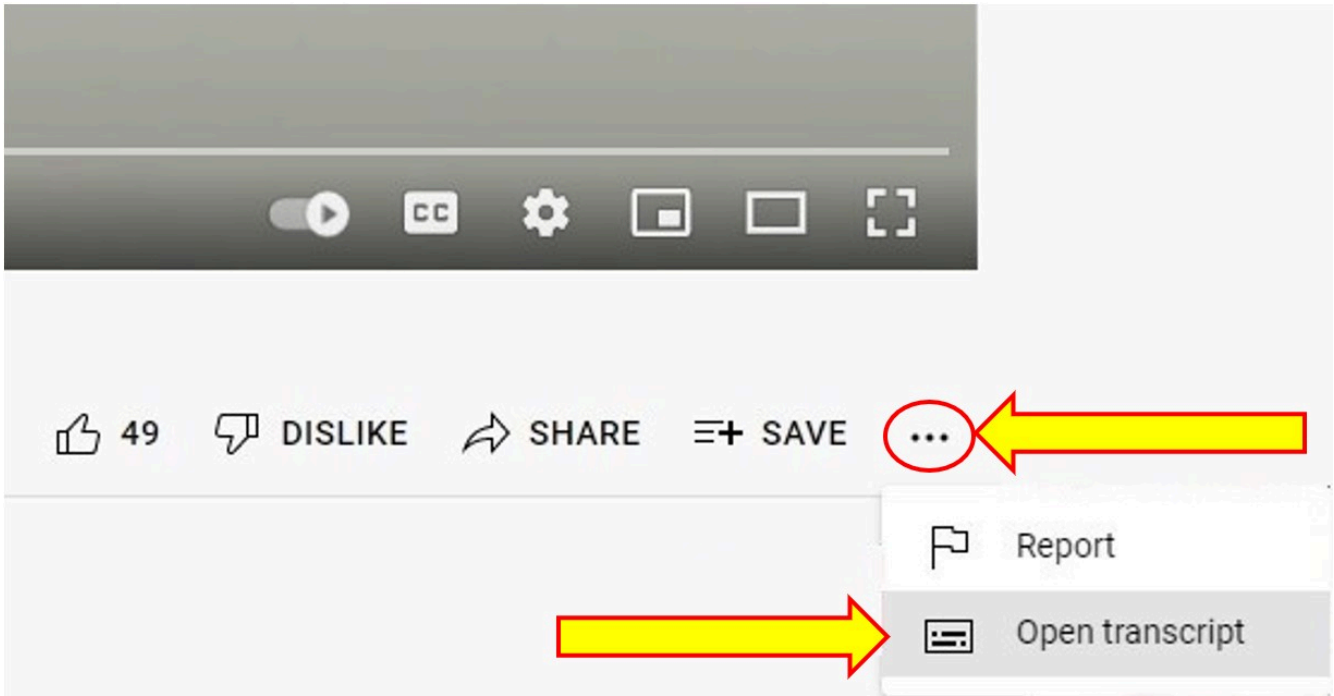
Mass Incarceration, Visualized. By The Atlantic. In this animated interview, the sociologist Bruce Western explains the current inevitability of prison for certain demographics of young black men and how it's become a normal life event. "We've chosen the response of the deprivation of liberty for a historically aggrieved group, whose liberty in the United States was never firmly established to begin with," Western says.[3]

Transcript



The Evidence Podcast: Cannabis Communications Guide[4]

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1048#oembed-3

Attribution:

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3. The Atlantic. (2015, October 2). *Mass Incarceration, Visualized* [Video]. YouTube. https://www.youtube.com/watch?v=u51_pzax4M0
4. DeSour, A & Arbourne, L (Hosts). 2000. Cannabis Communications Guide (No. 4) [Audio podcast episode]. The Evidence, Canadian Centre on Substance Abuse and Addiction. https://soundcloud.com/the-evidence-les-donnees/the-evidence-episode-04-cannabis-communications-guide

The Atlantic. (2015, October 2). *Mass Incarceration, Visualized* [Video]. YouTube. https://www.youtube.com/watch?v=u51_pzax4M0

CHAPTER 8: USE, ABUSE, ADDICTION & TREATMENT

CHAPTER 8: INTRODUCTION

You have probably thought about why some people can have healthy relationships with drugs and function well in life, while others get addicted and manage to ruin their lives and the lives of those around them. For some people, drinking a glass of beer or wine is part of winding down at the end of the day or enjoying a nice meal, for others it turns into binge drinking with predictable destructive behaviours and endless excuses. In this chapter, we will examine some of the factors that can lead to addiction, how addiction impacts health and well-being, and what people are trying to do to help.

LEARNING OBJECTIVES

Learning Objectives

By the end of this chapter you should be able to:

1. Distinguish between drug use, drug abuse, and addiction
2. Determine what factors increase the risk for addiction
3. Recognize the impact of addiction on health
4. Give examples of different treatment methods for addiction
5. Identify different community efforts to help people with addictions

8.1 DRUGS, BRAINS, AND BEHAVIOUR: THE SCIENCE OF ADDICTION

Drug Misuse and Addiction

Drug Misuse and Addiction are complex. At one time people mistakenly thought that it was simply due to a lack of moral principles or willpower which lead to drug use/misuse. They also believed that they simply should choose to stop. We now understand through experience, research, and knowledge about the brain that it is multifaceted and very complex. Drugs change the brain in ways that make quitting challenging, hard and sometimes impossible, even for those who want to. There are many different treatments that can help people recover from drug addiction and lead productive lives

What is drug addiction?

Addiction is defined as a chronic, relapsing disorder characterized by compulsive drug seeking and use despite adverse consequences.[(1)] It is considered a brain disorder because it involves functional changes to brain circuits involved in reward, stress, and self-control, and those changes may last a long time after a person has stopped taking drugs.[(2)]

Addiction is a lot like other diseases, such as heart disease. Both disrupt the normal, healthy functioning of an organ in the body, both have serious harmful effects, and both are, in many cases, preventable and treatable. If left untreated, they can last a lifetime and may lead to death.

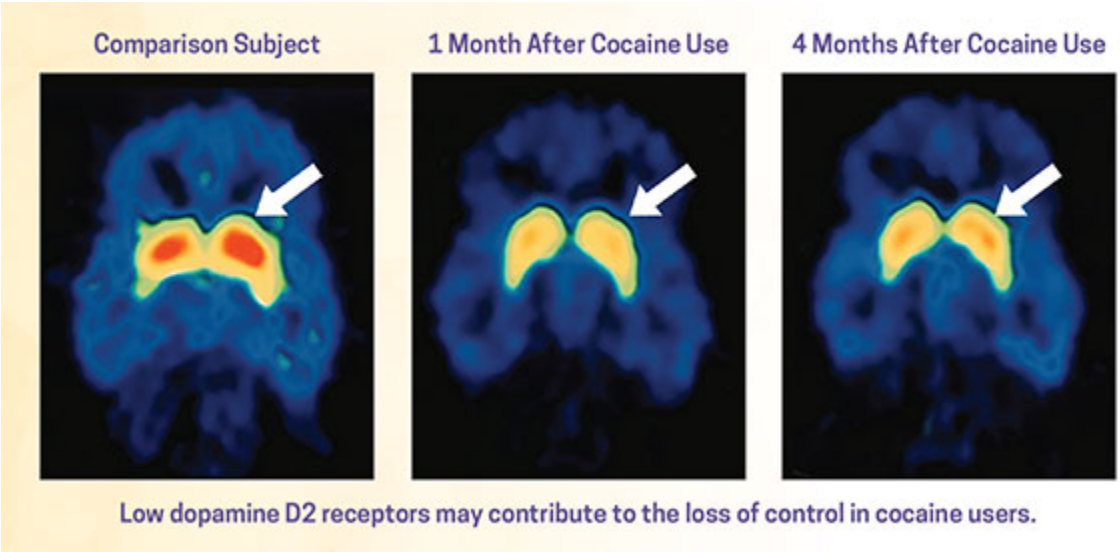


Figure 8.1.1 – Brain Scan

Source: Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health. Modified with permission from Volkow et al. 1993. Note: These fMRI images compare the brain of an individual with a history of cocaine use disorder (middle and right) to the brain of an individual without a history of cocaine use (left). The person who has had a cocaine use disorder has lower levels of the D2 dopamine receptor (depicted in red) in the striatum one month (middle) and four months (right) after stopping cocaine use compared to the non-user. The level of dopamine receptors in the brain of the cocaine user is higher at the 4-month mark (right), but has not returned to the levels observed in the non-user (left).

Why do people take drugs?

In general, people take drugs for a few reasons:

- **To feel good.** Drugs can produce intense feelings of pleasure. This initial euphoria is followed by other effects, which differ from the type of drug used. For example, with stimulants such as cocaine, the high is followed by feelings of power, self-confidence, and increased energy. In contrast, the euphoria caused by opioids such as heroin is followed by feelings of relaxation and satisfaction.
- **To feel better.** Some people who suffer from social anxiety, stress, and depression start using drugs to try to feel less anxious. Stress can play a major role in starting and continuing drug use as well as relapse (return to drug use) in patients recovering from addiction.
- **To do better.** Some people feel pressure to improve their focus in school or at work or their abilities in sports. This can play a role in trying or continuing to use drugs, such as prescription stimulants or cocaine.
- **Curiosity and social pressure.** In this respect, teens are particularly at risk because peer pressure can be

very strong. Teens are more likely than adults to act in risky or daring ways to impress their friends and show their independence from parents and social rules.

If taking drugs makes people feel good or better, what's the problem?

When they first use a drug, people may perceive what seem to be positive effects. They also may believe they can control their use. But drugs can quickly take over a person's life. Over time, if drug use continues, other pleasurable activities become less pleasurable, and the person has to take the drug just to feel "normal." They have a hard time controlling their need to take drugs even though it causes many problems for themselves and their loved ones. Some people may start to feel the need to take more of a drug or take it more often, even in the early stages of their drug use. These are the telltale signs of an addiction. Even relatively moderate drug use poses dangers. Consider how a social drinker can become intoxicated, get behind the wheel of a car, and quickly turn a pleasurable activity into a tragedy that affects many lives. Occasional drug use, such as misusing an opioid to get high, can have similarly disastrous effects, including overdose, and dangerously impaired driving.

Do people freely choose to keep using drugs?

The initial decision to take drugs is typically voluntary. But with continued use, a person's ability to exert self-control can become seriously impaired; this impairment in self-control is the hallmark of addiction. Brain imaging studies of people with addiction show physical changes in areas of the brain that are critical to judgment, decision-making, learning and memory, and behaviour control. These changes help explain the compulsive nature of addiction.

Why do some people become addicted to drugs, while others do not?

No single factor determines whether a person will become addicted to drugs. As with other diseases and disorders, the likelihood of developing an addiction differs from person to person, and no single factor determines whether a person will become addicted to drugs. In general, the more *risk factors* a person has, the greater the chance that taking drugs will lead to drug use and addiction. *Protective factors,* on the other hand, reduce a person's risk. Risk and protective factors may be either environmental or biological.

Risk Factors	Protective Factors
Aggressive behaviour in childhood	Good self-control
Lack of parental supervision	Parental monitoring and support
Poor social skills	Positive relationships
Drug experimentation	Good grades
Availability of drugs at school	School anti-drug policies
Community poverty	Neighbourhood resources

What biological factors increase the risk of addiction?

Biological factors that can affect a person's risk of addiction include their genes, stage of development, and even gender or ethnicity. Scientists estimate that genes, including the effects environmental factors have on a person's gene expression, called epigenetics, account for between 40 and 60 percent of a person's risk of addiction. Also, teens and people with mental disorders are at greater risk of drug use and addiction than others.

What environmental factors increase the risk of addiction?

Children's earliest interactions within the family are crucial to their healthy development and risk for drug use. Environmental factors are those related to the family, school, and neighbourhood. Factors that can increase a person's risk include the following:

- **Home and Family.** The home environment, especially during childhood, is a very important factor. Parents or older family members who use drugs or misuse alcohol, or who break the law, can increase children's risk of future drug problems.
- **Peer and School.** Friends and other peers can have an increasingly strong influence during the teen years. Teens who use drugs can sway even those without risk factors to try drugs for the first time. Struggling in school or having poor social skills can put a child at further risk of using or becoming addicted to drugs.

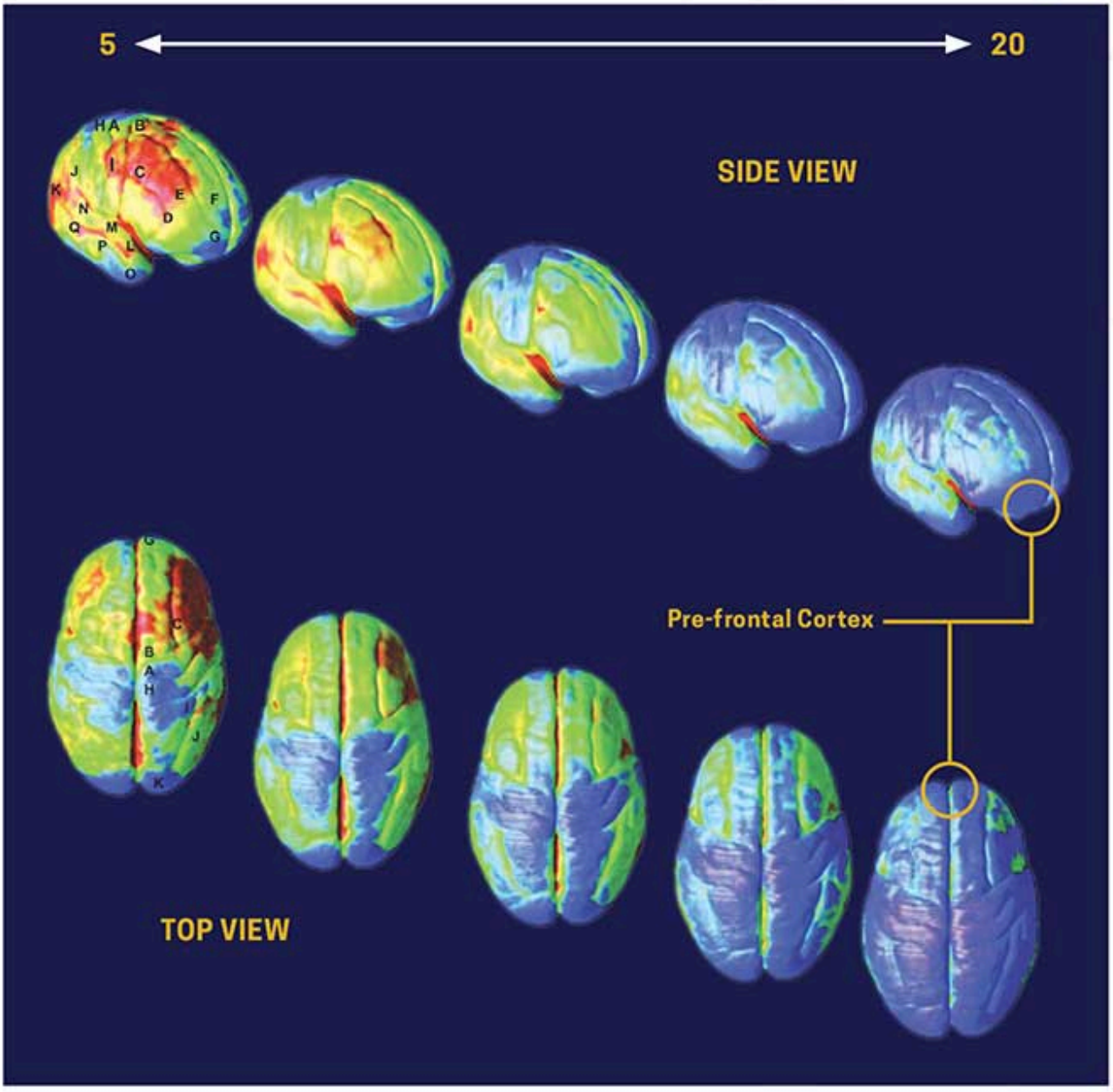
What other factors increase the risk of addiction?

- **Early Use.** Although taking drugs at any age can lead to addiction, research shows that the earlier a person begins to use drugs, the more likely he or she is to develop serious problems. This may be due to the harmful effect that drugs can have on the developing brain. It also may result from a mix of early

social and biological risk factors, including the lack of a stable home or family, exposure to physical or sexual abuse, genes, or mental illness. Still, the fact remains that early use is a strong indicator of problems ahead, including addiction.

- **How the drug is taken.** Smoking a drug or injecting it into a vein increases its addictive potential. Both smoked and injected drugs enter the brain within seconds, producing a powerful rush of pleasure. However, this intense high can fade within a few minutes. Scientists believe this starkly felt contrast drives some people to repeated drug-taking in an attempt to recapture the fleeting pleasurable state.

Addiction is a developmental disease— it typically begins in childhood or adolescence.



Source: PNAS 101:8174–8179, 2004.

Figure 8.1.3 – Brain Scan

As the brain matures, experiences prune excess neural connections while strengthening those that are used more often. Many scientists think that this process contributes to the steady reduction in gray matter volume seen during adolescence (depicted as the yellow to blue transition in the figure). As environmental forces help

determine which connections will wither and which will thrive, the brain circuits that emerge become more efficient. However, this is a process that can cut both ways because not all tasks are desirable. The environment is like an artist who creates a sculpture by chipping away excess marble; and just like bad artists can produce bad art, environments with negative factors (like drugs, malnutrition, bullying, or sleep deprivation) can lead to efficient but potentially harmful circuits that conspire against a person's well-being.

The brain continues to develop into adulthood and undergoes dramatic changes during adolescence.

One of the brain areas still maturing during adolescence is the prefrontal cortex—the part of the brain that allows people to assess situations, make sound decisions and keep emotions and desires under control. The fact that this critical part of a teen's brain is still a work in progress puts them at increased risk for making poor decisions, such as trying drugs or continuing to take them. Introducing drugs during this period of development may cause brain changes that have profound and long-lasting consequences.

Below you will find a 7-minute film describing the pathology of addiction according to the theories presented in Dr. Ronald Ruden's book "The Craving Brain".

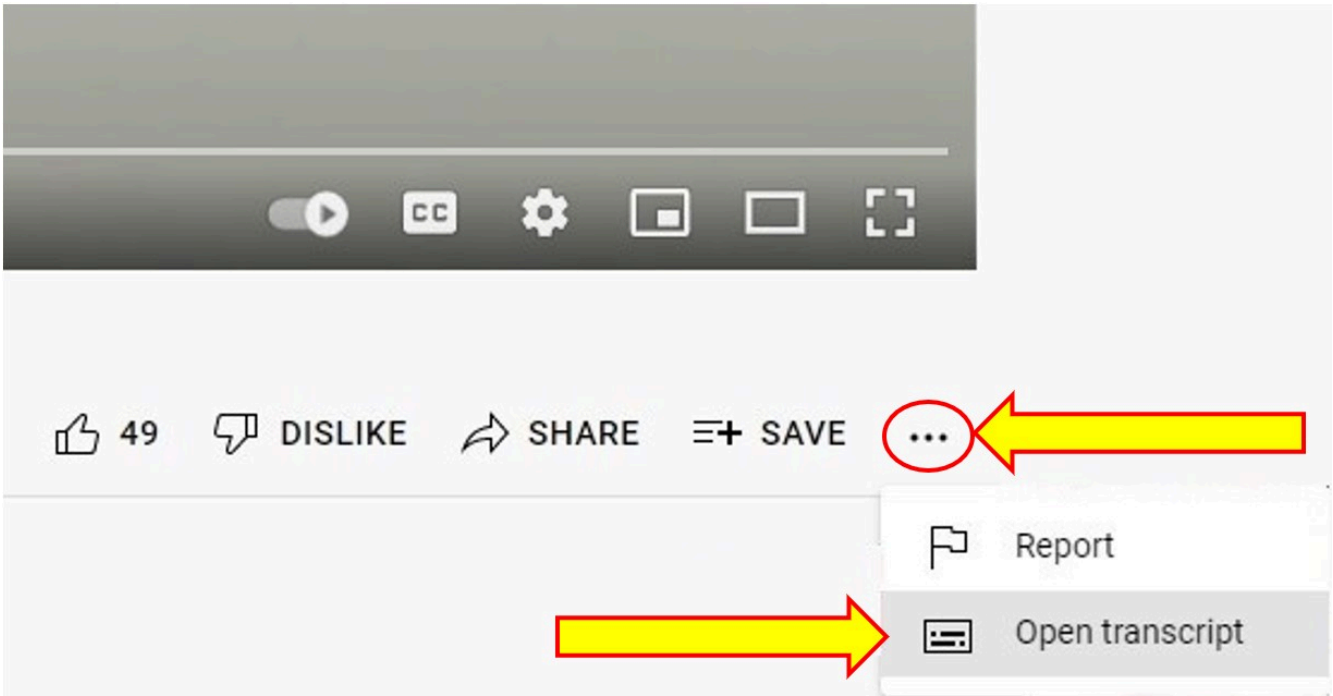
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=175#oembed-1

The Pathology of Addiction by Janis Dougherty. A 7-minute film describing the pathology of addiction according to the theories presented in Dr. Ronald Ruden's book "The Craving Brain".[3]

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



Addiction and Health

What are the other health consequences of drug addiction?

People with addiction often have one or more associated health issues, which could include lung or heart disease, stroke, cancer, or mental health conditions. Imaging scans, chest X-rays, and blood tests can show the damaging effects of long-term drug use throughout the body. For example, it is now well-known that tobacco smoke can cause many cancers, methamphetamine can cause severe dental problems, known as "meth mouth," and opioids can lead to overdose and death. In addition, some drugs, such as inhalants, may damage or destroy nerve cells, either in the brain or the peripheral nervous system (the nervous system outside the brain and spinal cord).

Drug use can also increase the risk of contracting infections. Human immunodeficiency virus (HIV) and hepatitis C (a serious liver disease) infection can occur from sharing injection equipment and from impaired judgment leading to unsafe sexual activity. Infection of the heart and its valves (endocarditis) and skin infection (cellulitis) can occur after exposure to bacteria by injection drug use. Addiction and HIV/AIDS are intertwined epidemics.

Does drug use cause mental disorders or vice versa?

Drug use and mental illness often co-exist. In some cases, mental disorders such as anxiety, depression, or schizophrenia may come before addiction; in other cases, drug use may trigger or worsen those mental health

conditions, particularly in people with specific vulnerabilities. Some people with disorders like anxiety or depression may use drugs in an attempt to alleviate psychiatric symptoms, which may exacerbate their mental disorder in the long run, as well as increase the risk of developing an addiction.Treatment for all conditions should happen concurrently.

How can addiction harm other people?

The Impact of Addiction Can Be Far-Reaching

- Cardiovascular disease
- Stroke
- Cancer
- HIV/AIDS
- Hepatitis B and C
- Lung disease
- Mental disorders

Figure 8.1.4 – Photo by Ray Reyes on Unsplash

Figure 8.1.5 – Photo by National Cancer Institute on Unsplash

Beyond the harmful consequences for the person with the addiction, drug use can cause serious health problems for others. Some of the more severe consequences of addiction are:

- **Negative effects of drug use while pregnant or breastfeeding:** A mother's substance or medication use during pregnancy can cause her baby to go into withdrawal after it's born, which is called neonatal abstinence syndrome (NAS). Symptoms will differ depending on the substance used but may include tremors, problems with sleeping and feeding, and even seizures. Some drug-exposed children will have developmental problems with behaviour, attention, and thinking. Ongoing research is exploring if these effects on the brain and behaviour extend into the teen years, causing continued developmental problems. In addition, some substances can make their way into a mother's breast milk. Scientists are still learning about the long-term effects on a child who is exposed to drugs through breastfeeding.
- **Negative effects of secondhand smoke:** Secondhand tobacco smoke exposes bystanders to at least 250 chemicals that are known to be harmful, particularly to children.Involuntary exposure to secondhand smoke increases the risks of heart disease and lung cancer in people who have never smoked.[5] Additionally, the known health risks of secondhand exposure to tobacco smoke raise questions about whether secondhand exposure to marijuana smoke poses similar risks. At this point, little research on this question has been conducted. However, a study found that some nonsmoking participants exposed

for an hour to high-THC marijuana in an unventilated room reported mild effects of the drug, and another study showed positive urine tests in the hours directly following exposure. If you inhale secondhand marijuana smoke, it's unlikely you would fail a drug test, but it is possible.

- **Increased spread of infectious diseases:** Injection of drugs accounts for 1 in 10 cases of HIV. Injection drug use is also a major factor in the spread of hepatitis C,and can be the cause of endocarditis and cellulitis. Injection drug use is not the only way that drug use contributes to the spread of infectious diseases. Drugs that are misused can cause intoxication, which hinders judgment and increases the chance of risky sexual behaviours.
- **Increased risk of motor vehicle accidents:** Use of illicit drugs or misuse of prescription drugs can make driving a car unsafe—just like driving after drinking alcohol. Drugged driving puts the driver, passengers, and others who share the road at risk. In 2016, almost 12 million people ages 16 or older reported driving under the influence of illicit drugs, including marijuana.After alcohol, marijuana is the drug most often linked to impaired driving. Research studies have shown negative effects of marijuana on drivers, including an increase in lane weaving, poor reaction time, and altered attention to the roam.

Exploration

Check out these websites and their numerous resources to learn more about addiction to opioids and the efforts to combat the problem and treat addictions:

Opioids and the opioid crisis – Get the facts – Government of Canada

These 5 myths about B.C.'s toxic drug crisis are hurting efforts to stop the deaths, say experts – CBC

Substance Use and Addictions Program – Government of Canada

Opioid- and Stimulant-related Harms in Canada Published:(March 2023) – Government of Canada

Attribution:

References:

Figure 8.1.1, Figure 8.1.2, Figure 8.1.3 – NIDA. 2020, July 13. Drug Misuse and Addiction. Retrieved from https://nida.nih.gov/publications/drugs-brains-behavior-science-addiction/drug-misuse-addiction on 2023, May 16

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3. Janis Dougherty. (2010, July 6). *The Pathology of Addiction* [Video]. YouTube. https://www.youtube.com/watch?v=K3gfzfqEre0

8.2 WHY DO TEENS / ADULTS / SENIORS MISUSE PRESCRIPTION DRUGS?

Introduction

About 22% of Canadians over the age of 15 years old use psychoactive prescription drugs in some form according to the 2017 Canadian Tobacco, Alcohol and Drugs Survey. There is an urgent challenge to reduce the related harms of prescription drugs while ensuring timely and appropriate access to them for medical applications. This challenge is particularly pressing for opioids, but also for stimulants and sedatives. CCSA (Canadian Centre of Substance Use and Addiction) synthesizes research on demographic and use trends for psychoactive prescription drugs, provides targeted materials on associated issues, and fosters relationships that support prevention, harm reduction, treatment and recovery efforts.[1]

Why Do TEENS / ADULTS / SENIORS Misuse Prescription Drugs?

Figure 8.2.1 – Photo by Sharon McCutcheon on unsplash

Over half of Canadian adults aged 18 to 79 have used at least one prescription medication in the past month2

New results show that 55% of adults aged 18 to 79 used at least one prescription medication in the past month, while 36% used two or more, and 24% used three or more. The use of prescribed medication increased with age (taking one medication or more: 38% at ages 18 to 39, 56% at ages 40 to 59, and 81% at ages 60 to 79; taking three medications or more: 7% at ages 18 to 39, 22% at ages 40 to 59, and 52% at ages 60 to 79).

Figure 8.2.2 – Photo by Mauro Mora on Unsplash

Overall, a higher proportion of females aged 18 to 59 (55%) reported using prescription medications, compared with males (38%), while for 60- to 79-year-olds, there was no significant difference between males (80%) and females (81%). These results are based on data combined from two cycles of the Canadian Health Measures Survey (CHMS), 2016 and 2017, and 2018 and 2019.

Along with hospital costs, medications constitute one of the major health spending categories in Canada, as reported by the Canadian Institute for Health Information. Spending on prescription medication accounted for 13% of total national health expenditures in 2019.

At least 1 in 10 Canadian adults are taking medications to treat high blood pressure, high blood cholesterol or mood disorders

Among Canadian adults, the most commonly reported prescription medications were to treat high blood pressure (16%); high blood cholesterol (12%); and mood disorders (10%) such as depression, bipolar disorder, mania or dysthymia. The use of these prescription medications was significantly higher in older age groups. Within the 60-to-79 age group, the use of prescription medications to treat high blood pressure (42%), high blood cholesterol (34%) and mood disorders (13%) was more common.

Females are twice more likely than males to take medication to treat mood disorders

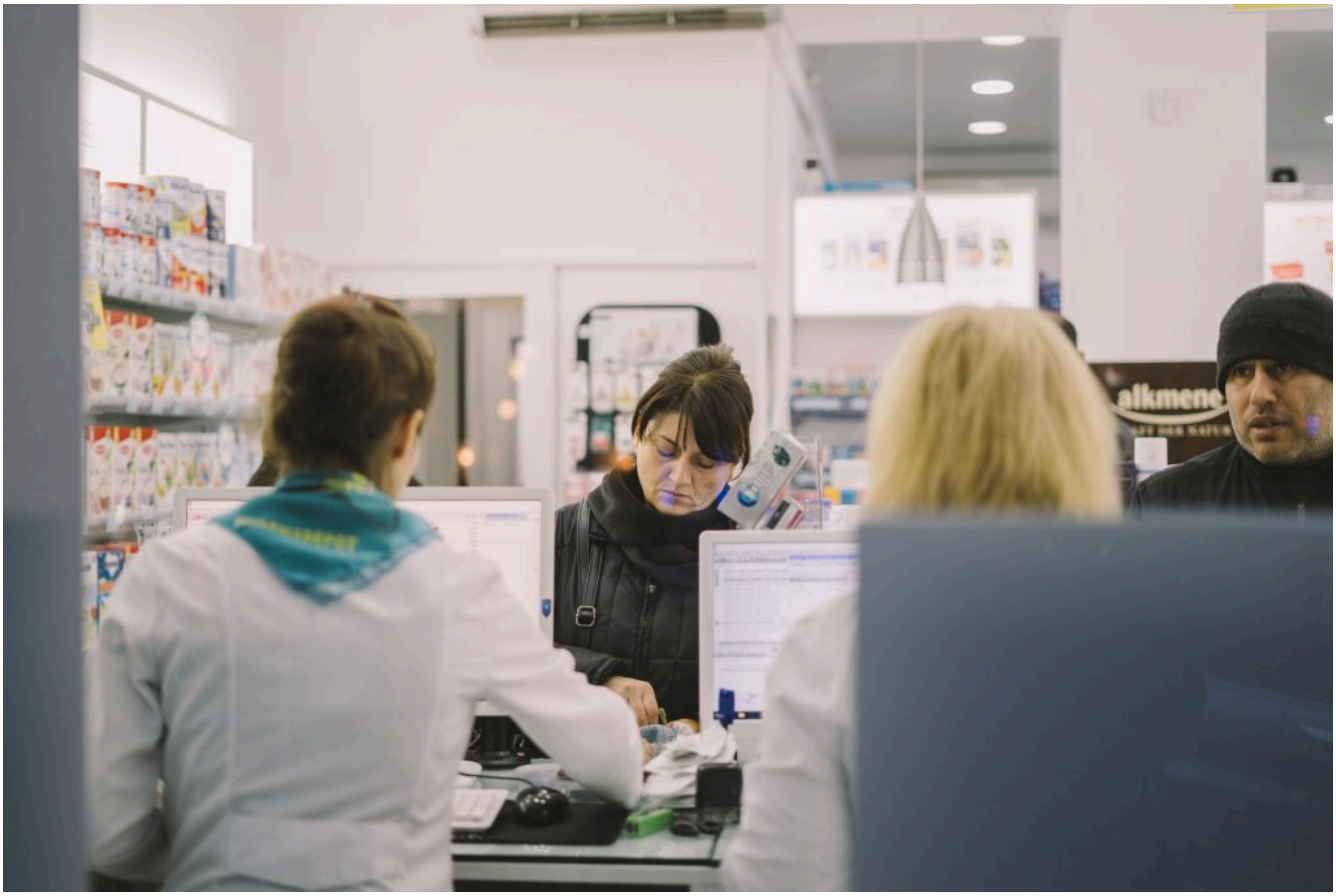

Figure 8.2.3 – Photo by Tbel Abuseridze on Unsplash

Overall, the use of prescription medications to treat high blood pressure and high blood cholesterol was significantly more common in males than females. However, the use of prescription medication to treat mood disorders was twice as common among females (14%) than males (7%).

Prescription medication use by people with high blood pressure or high blood cholesterol

The increase in prescription medication use with age is consistent with the similar trend observed in the prevalence of reported high blood pressure and high blood cholesterol. For example, the number of people who reported having high blood pressure or high blood cholesterol increased significantly with age (data not shown).

The CHMS collected self-reported information on chronic conditions and performed blood pressure measurements and lipids blood tests to determine the prevalence of high blood pressure and high blood cholesterol.

The survey results indicate that the majority of adults with high blood pressure diagnosed by a health professional were taking prescription medication to treat it (85%). However, according to the direct measure of blood pressure collected during this survey, medication was effectively treating the blood pressure of 58% of these adults.

Survey results also indicate that nearly half of adults were taking medication to treat high blood cholesterol diagnosed by a health professional. Based on the direct measures obtained during the survey, medication was effectively treating the cholesterol of 86% of these adults.

Detailed results for high blood pressure based on data from direct measurements and self-reported use of medication were released in the fact sheet "Blood pressure of adults, 2016-2019" (published in March 2021). Similar detailed results for high blood cholesterol are released in the fact sheet "Cholesterol levels of adults, 2016-2019" (available today).

Chart – Figure 8.2.4

The fact sheets "Blood pressure of adults, 2016-2019" and "Cholesterol levels of adults, 2016-2019" are available in the publication *Health Fact Sheets* (Catalogue number82-625-X).

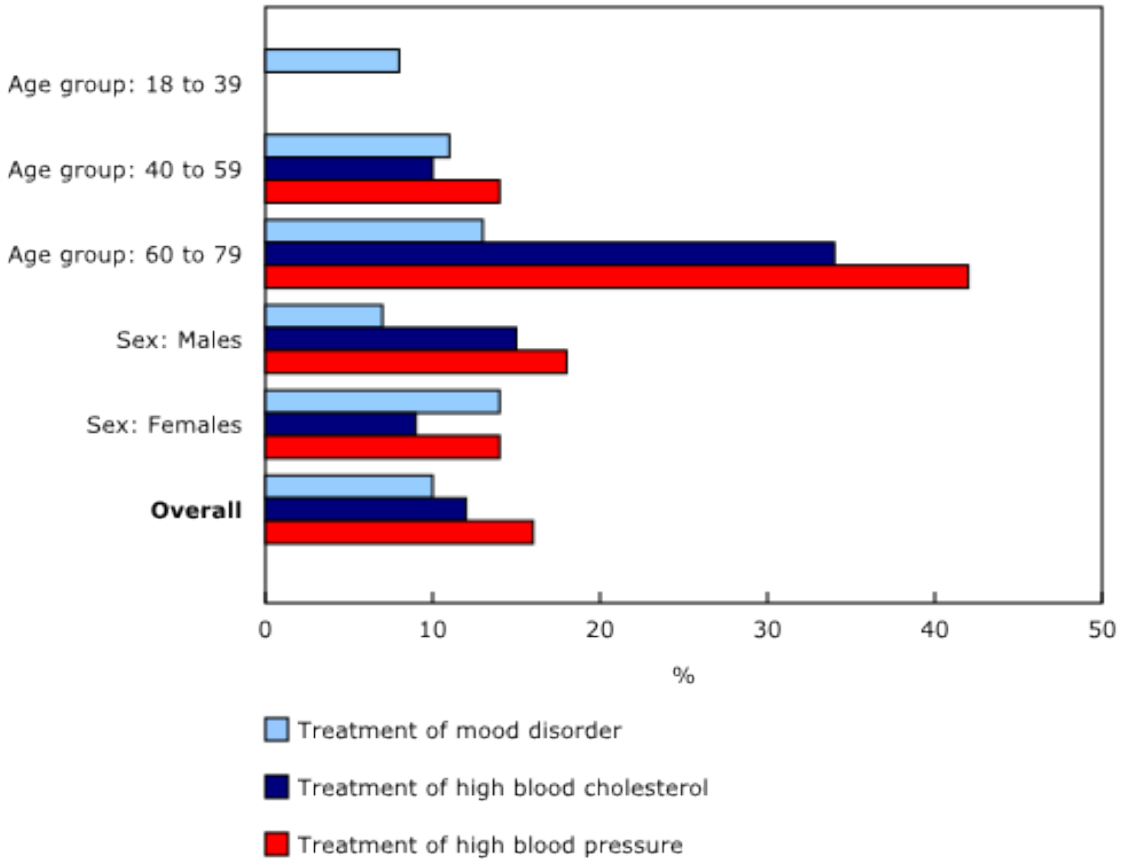

Figure 8.2.4 – Prevalence of the three prescription medications most commonly used in the past month, by age group, sex and medication class, Canadians aged 18 to 79, 2016 to 2019. Catalogue number82-625-X

Why Do TEENS Misuse Prescription Drugs?

Figure 8.2.5 – Photo by Fachy Marín on Unsplash

Teenagers are in the process of growing, changing, experiencing, making decisions, so many more new experiences daily and to make and experience them through their own lens and independently. Sometimes, with new experiences decisions, some are easier to make better choices than others.

When we're looking at Prescription drug abuse in teens, this is a serious problem that can have lasting effects on your child, family and community.

Why Teens Are Vulnerable to Prescription Drug Abuse

As a concerned parent or loved one, it's important to become educated in how to recognize the challenges and support them.

Important information to know:

- probably have some drugs sitting in your home right now

- even Doctor prescribed medication are drugs
- some have the potential for abuse and negative reactions
- Kids often experiment
- sometimes from peer pressure, curiosity, or looking for ways to cope with negative emotions
- it's easier to look for things around the home without the resources to buy illicit substances
- Painkillers and cough syrup are among two of the most-abused substances
- Teens may not be able to buy their own drinks, but may sneak some of Mom and Dad's or at a friend's house
- bathroom medicine cabinets are easy to access for pills that provide mild to moderate highs
- prescription drugs aren't completely safe just because doctors prescribe them
- prescription drugs have side effects and that is taken into consideration when they are prescribed for someone specifically and monitored
- abusing opioids and other narcotics can lead to dependency and negative consequences
- if they can't find drugs and alcohol at home they will find them elsewhere
- they may rely on friends
- they may buy pills on the street or get them off "friends"

Signs of Prescription Drug Abuse in Teens

Figure 8.2.6 – Photo by little plant on Unsplash

Signs indicating drug abuse include:

- Change in behaviour
- Missing pills or prescribed medication
- Missing cough syrup
- Asking for cash often
- items disappearing (money or items)
- Change in sleeping habits
- Falling grades
- Aggressive behaviour

Family Support

If your daughter or son's problems change or steadily grow worse over weeks and months, problems at school are escalating, or any challenging behaviour is happening more often, it's important to have a conversation and see what is going on. There are many programs throughout Canada in all provinces that can assist families, friends and youth. Programs vary from education, individualized therapy in small group settings, support groups, outpatient, residential and virtual.

It all begins with a conversation and then finding the right program for the youth and family to begin the journey.

Examples of Supports or Information for Teens / Youth

- Youth Addiction & Concurrent Disorders Service – The Youth Addiction and Concurrent Disorders Service (YACDS) offers treatment to young people (14-24 years) who have substance use challenges/concerns, with or without concurrent mental health concerns.
- Preventing Problematic Substance Use Through Positive Youth Development – The Centre for School Mental Health at Western University and the Public Health Agency of Canada have partnered to develop a series of resources for school communities to promote positive youth development through school-based initiatives. Following an extensive literature review and consultations from diverse stakeholders (i.e., representing educators, principals, mental health organizations, researchers, and government organizations), three key themes emerged to guide the development of these resources: (1) promoting well-being, (2) creating welcoming environments, and (3) effective programming.
- One in two Canadian homes have prescription medications that are potentially dangerous, and most do not store them in a secure place
- Prescription Drug Abuse in Teens
- CMHA Mental Health Services for Gender-Diverse and Sexual-Minority Youth

Why Do ADULTS Misuse Prescription Drugs?

When Adults go to a health professional to get assistance with a health condition quite often it ends with receiving a prescription medication prescribed for a valid reason.

Although there are regulations for each medication, which are regulated by Health Canada through the *Food and Drugs Act* to ensure their safety, effectiveness and quality, there are times when it becomes an unexpected challenge.

Figure 8.2.7 – Photo by Kate Hliznitsova on Unsplash

Even though many prescription drugs have acceptable safety profiles when used as prescribed, it can easily become a challenge when taken in a larger dose, missed a dose, using a different route of administration or used for non-medical reasons without a prescription. This situation may or may not be intentionally created. Either way problematic use patterns and negative health outcomes happen. Being aware of the restrictions on the label (e.g., driving or operating heavy machinery), when using the drug, as they can have problematic consequences.

There are many different forms of capsules, syrups, sublingual, skin patches and liquids for injections which are very specific for a patients' health conditions. Of these, the most commonly used varieties that can lead to problematic use are:

- Opioids, a broad group of pain-relieving drugs that work help with pain management
- Stimulants, which have many different uses, assist with your CNS (Central Nervous System) and work with those with attention deficit hyperactivity disorder (ADHD)
- Sedatives are a type of medication that slows down your brain activity. They are used to treat conditions like anxiety and sleep disorders.

It's important to be aware, have an ongoing conversation with your physician, or healthcare worker or have someone to support you and have a conversation with so that you can take medications as required.

Why Do SENIORS Misuse Prescription Drugs?

Figure 8.2.8 – According to the World Health Organization, people over the age of 50 accounted for 39% of deaths from drug use disorders in 2015. Of those deaths in older adults (age ≥ 65), approximately 75% were linked to the use of opioids (Degenhardt & Hall, 2012; UNODC, 2018). Photo by National Cancer Institute on Unsplash

Seniors' Misuse of Prescriptions is a serious and growing health issue for seniors in Canada.

In Canada, 43.9% of adults > 55 years of age have used a prescription opioid and 1.1% of that group have done so daily (or almost daily) in the last year (Canadian Centre on Substance Use and Addiction, 2018).

As there is a growing population of older adults, there is a growing population that is developing opioid use disorder (OUD). In addition to this, there are many older adults with longstanding OUD or SUD (Substance

Use Disorder) including many seniors who use illicit opioids, that require treatment for their addiction and related health problems.

Many agencies do not offer Treatment Services to those over 65, so there is the added systems navigation challenge to find these agencies who specialize in working with this issue with seniors which is adding to putting Seniors at risk.

Tools for Seniors and families:

Opioid Use Among Older Adults Brochure
Printer-friendly version of this brochure

Tools for Clinicians / Health Care Workers:

Canadian Guidelines on Opioid Use Disorder Among Older Adults PDF

The purpose of these clinical guidelines is to highlight the issues facing older adults with, or at risk for, an OUD, and to provide recommendations for the prevention, screening, assessment, and treatment of an OUD in those ≥ 65 years of age.

CCSMH Online Resources for Opioid Use Disorder

This list is designed to help primary health care & clinical care providers assess and discuss with persons aged 65 or older, the potential risks and benefits of opioid use.

Canadian Guidelines on Opioid Use Disorder Among Older Adults

Published in the Canadian Geriatrics Journal, March 2020

The New Canadian Guidelines on Opioid Use Disorder Among Older Adults

Learn about CCSMH's Canadian Guidelines detailing the evidence and best practice recommendations for the prevention, assessment and treatment of opioid use disorder among older adults.

Example Resources for Seniors

- Prescription overload is a serious and growing health issue for seniors
- Canadian Coalition for Seniors' Mental Health
- CIHI.ca – Drug use among Seniors in Canada

Physicians, Health Care Workers, Patients and Pharmacists can all play a role in identifying and Preventing non-medical use of Prescription Drugs.

Non-medical use of Prescription Drugs is a problem and physicians, health care workers, patients and pharmacists can all work together to prevent, slow down or stop non-medical use of prescription drugs. There are times when certain patients can benefit from specific prescription stimulants, sedatives, or opioid pain relievers. Therefore, it is important for physicians to balance the legitimate medical needs of patients with the potential risk of misuse and related harms.

Physicians:

When physicians prescribe medications – doctors are in a position to identify misuse of prescriptions as well as take measures to prevent escalation of a patient's misuse of a substance.

Figure 8.2.9 – Photo by National Cancer Institute on Unsplash

- can ask questions about drugs
- help patients recognize whether or not there is a problem
- offer non-opioid medications or non-medical medications
- refer to appropriate treatment or set recovery goals if needed
- refer to other resources for medical and health professionals
- be aware of rapid increases in the amount of medication needed
- be aware of frequent, unscheduled refill requests
- watch for doctor shopping (looking for medications)

Patients:

Patients can take many steps to ensure that they are using all prescription medication appropriately by:

Figure 8.2.10 – Photo by National Cancer Institute on Unsplash

- following the directions as explained by the pharmacist or on the label
- being aware of all potential interactions that can happen with food, other drugs they are taking, supplements as well as alcohol
- keeping a regular routine and not stopping, forgetting or changing a dose regimen without discussion with the doctor or pharmacist
- only using their own prescription medication
- keeping a record of all medications that you are on and carrying that with you to all medical appointments (it should also include all prescriptions, over-the-counter medicines, and dietary and herbal supplements)
- never share their prescription medication
- keep prescription stimulants, sedatives and opioids out of reach of children/youth/adults and stored somewhere safe (so there are not easily obtainable)
- always properly discard unused or expired medication by returning them to a pharmacist for proper disposal

Pharmacists:

Pharmacists can take many steps to ensure that they are using all prescription medication appropriately by:

Figure 8.2.11 – Photo by National Cancer Institute on Unsplash

- helping patients understand the medication they are taking, how the medication works and explaining all the instructions
- being aware of prescription falsifications or alterations
- being the first line of defence, in recognizing problematic patterns with prescription drug use

- using hotlines that have been developed by pharmacies to notify others in that region of a fraudulent prescription
- using systems that are in place for physicians, and pharmacists to help track opioid-prescribing and dispensing patterns in patients.

Medication Formulation and Regulation

There are many manufacturers of prescription drugs who are continuing to work/create new formulations of opioid medications, known as abuse-deterrent formulations (ADF). These formulations are using technologies designed to prevent people from misusing them by snorting or injection.

Some of the approaches that are currently being used or studied for use include:

- **physical or chemical barriers** (prevents crushing, grinding, or dissolving of drug products)
- **agonist/antagonist combinations** (which will counteract the drug)
- **aversive substances** (create unpleasant sensations if the drug is taken in a way other than directed)
- **delivery systems** (long-acting injections or implants)
- **new molecular entities or prodrugs** (renders it inactive unless it is taken orally)

References

Figure 8.2.4 – Chart -Government of Canada, Statistics Canada. (2021d, June 28). *The Daily — Prescription medication use among Canadian adults, 2016 to 2019*. https://www150.statcan.gc.ca/n1/daily-quotidien/210628/dq210628e-eng.htm

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NIDA. 2021, June 13. How can prescription drug misuse be prevented?. Retrieved from

https://nida.nih.gov/publications/research-reports/misuse-prescription-drugs/how-can-prescription-drug-misuse-be-prevented on 2022, April 29

8.3 TREATMENT AND RECOVERY

Before reading the material below watch this video. Marco Badwal, Full-time Researcher Scholar at Harvard University, Ted Talk, January 18, 2019:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=180#oembed-1

The Science of Habits | Marco Badwal | TEDxFS. by TEDx Talks. Marco is currently a full-time research scholar at Harvard University. The aim of the research is to help us to better understand learning and memory. Marco talks about the building and implementation of habits and their benefit to "get a bit better every day". Marco is an upcoming cognitive neuroscientist from the University of Amsterdam (UvA), health consultant and enthusiastic Crossfitter. The impulse to better understand the human psyche and brain came first through his parents, who are both psychologists, and was later sparked by inspiring authors and researchers, such as Sam Harris.

Transcript

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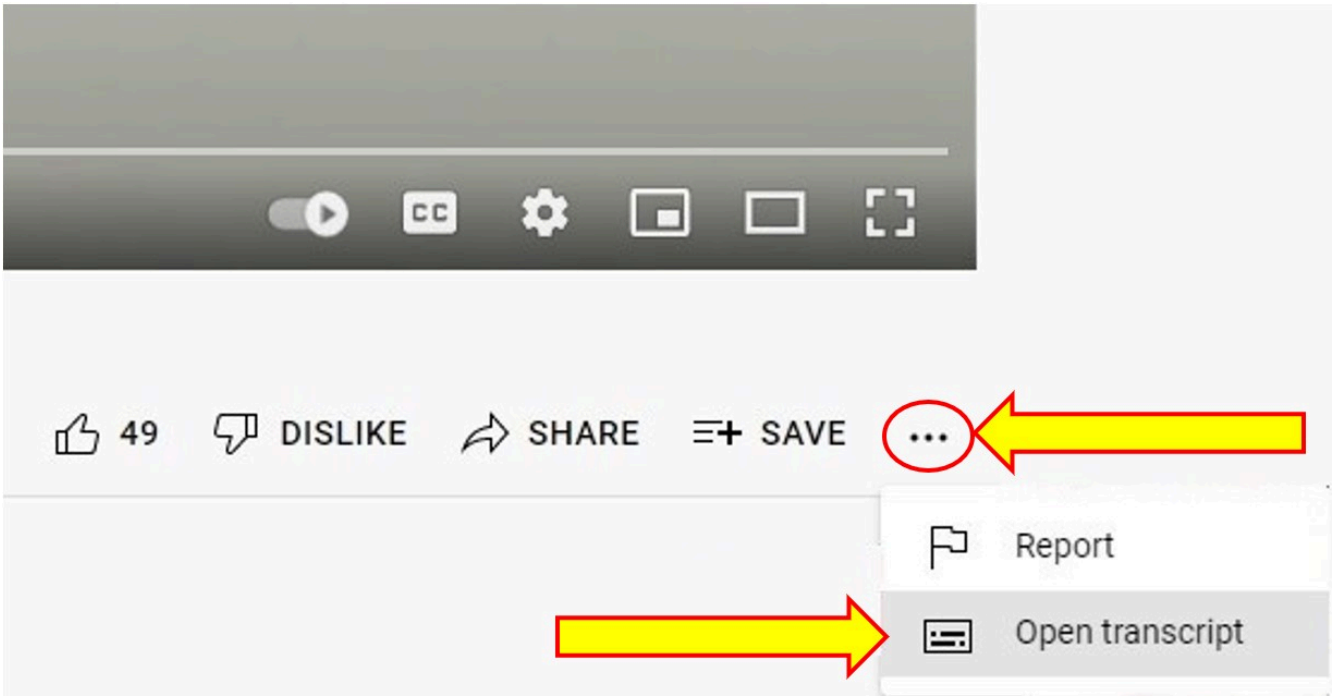
1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



CAN ADDICTION BE TREATED SUCCESSFULLY?

Yes, addiction is a treatable disorder. Research on the science of addiction and the treatment of substance use disorders has led to the development of research-based methods that help people to stop using drugs and resume productive lives, also known as being in *recovery*.

Can addiction be cured?

Like other chronic diseases such as heart disease or asthma, treatment for drug addiction usually isn't a cure. But addiction *can* be managed successfully. Treatment enables people to counteract addiction's disruptive effects on their brain and behaviour and regain control of their lives.

These images showing the density of dopamine transporters in the brain illustrate the brain's remarkable ability to recover, at least in part, after a long abstinence from drugs—in this case, methamphetamine.

Does relapse to drug use mean treatment has failed?

No. The chronic nature of addiction means that for some people *relapse,* or a return to drug use after an attempt to stop, can be part of the process, but newer treatments are designed to help with relapse prevention. Relapse rates for drug use are similar to rates for other chronic medical illnesses. If people stop following their medical treatment plan, they are likely to relapse.

Treatment of chronic diseases involves changing deeply rooted behaviours, and relapse doesn't mean treatment has failed. When a person is recovering from an addiction relapse, it indicates that the person needs to speak with their doctor to resume treatment, modify it, or try another treatment.

Relapse rates for people treated for substance use disorders are compared with those for people treated for high blood pressure and asthma. Relapse is common and similar across these illnesses. Therefore, substance use disorders should be treated like any other chronic illness. Relapse serves as a sign for resumed, modified, or new treatment.

While relapse is a normal part of recovery, for some drugs, it can be very dangerous—even deadly. If a person uses as much of the drug as they did before quitting, they can easily overdose because their bodies are no longer adapted to their previous level of drug exposure. An overdose happens when the person uses enough of a drug to produce uncomfortable feelings, life-threatening symptoms, or death.

What are the principles of effective treatment?

Research shows that when treating addictions to opioids (prescription pain relievers or drugs like heroin or fentanyl), medication should be the first line of treatment, usually combined with some form of behavioural therapy or counselling. Medications are also available to help treat addiction to alcohol and nicotine.

Additionally, medications are used to help people detoxify from drugs, although detoxification is not the same as treatment and is not sufficient to help a person recover. Detoxification alone without subsequent treatment generally leads to the resumption of drug use.

For people with addictions to drugs like stimulants or cannabis, no medications are currently available to assist in treatment, so treatment consists of behavioural therapies. Treatment should be tailored to address each patient's drug use patterns and drug-related medical, mental, and social problems. Discoveries in science lead to breakthroughs in drug use treatment.

What medications and devices help treat drug addiction?

Different types of medications may be useful at different stages of treatment to help a patient stop abusing drugs, stay in treatment, and avoid relapse.

- **Treating withdrawal.** When patients first stop using drugs, they can experience various physical and emotional symptoms, including restlessness or sleeplessness, as well as depression, anxiety, and other mental health conditions. Certain treatment medications and devices reduce these symptoms, which makes it easier to stop drug use.
- **Staying in treatment.** Some treatment medications and mobile applications are used to help the brain adapt gradually to the absence of the drug. These treatments act slowly to help prevent drug cravings and have a calming effect on body systems. They can help patients focus on counselling and other psychotherapies related to their drug treatment.
- **Preventing relapse.** Science has taught us that stress cues linked to drug use (such as people, places, things, and moods), and contact with drugs are the most common triggers for relapse. Scientists have been developing therapies to interfere with these triggers to help patients stay in recovery.

Common medications used to treat drug addiction and withdrawal:

- **Opioid**
  - Methadone
  - Buprenorphine
  - Suboxone
  - Extended-release naltrexone
  - Lofexidine
- **Nicotine**
  - Nicotine replacement therapies (available as a patch, inhaler, or gum)
  - Bupropion
  - Varenicline
- **Alcohol**
  - Naltrexone
  - Disulfiram
  - Acamprosate

How do behavioural therapies treat drug addiction?

Figure 8.3.2 – Photo by TienDat Nguyen on Unsplash

Behavioural therapies help people in drug addiction treatment modify their attitudes and behaviours related to drug use. As a result, patients are able to handle stressful situations and various triggers that might cause another relapse. Behavioural therapies can also enhance the effectiveness of medications and help people remain in treatment longer.

- **Aversion therapy** is often used to treat problems such as substance abuse and alcoholism. It works by teaching people to associate a stimulus that's desirable but unhealthy with an extremely unpleasant stimulus
- **Cognitive-behavioural therapy** seeks to help patients recognize, avoid, and cope with the situations in which they're most likely to use drugs.
- **Cognitive-behavioural play therapy is** commonly used with children
- **Contingency management** uses positive reinforcement such as providing rewards or privileges for remaining drug free, for attending and participating in counselling sessions, or for taking treatment medications as prescribed.

- **Family therapy** helps people (especially young people) with drug use problems, as well as their families, address influences on drug use patterns and improve overall family functioning.
- **Motivational enhancement therapy** uses strategies to make the most of people's readiness to change their behaviour and enter treatment.
- **Systems Desensitization** relies heavily on classical conditioning
- **Twelve-step facilitation (TSF)** is an individual therapy typically delivered in 12 weekly sessions to prepare people to become engaged in 12-step mutual support programs. 12-step programs, like Alcoholic Anonymous, are not medical treatments, but provide social and complementary support to those treatments. TSF follows the 12-step themes of acceptance, surrender, and active involvement in recovery.

Treatment must address the whole person.

Self-Help Supports

Figure 8.3.3 – Photo by Clay Banks on Unsplash

- **Celebrate Recovery** is a Christ-centred based 12 step recovery program for anyone struggling with hurt pin or addiction of any kind.
- **Families for Addiction Recovery** is a support group for Families to assist in the process of healing
- **Twelve-step meetings** is an individual therapy typically delivered in 12 weekly sessions to prepare people to become engaged in 12-step mutual support programs. 12-step programs, like Alcoholic Anonymous, are not medical treatments, but provide social and complementary support to those treatments. TSF follows the 12-step themes of acceptance, surrender, and active involvement in recovery.
- **Smart Recovery (SR)** mutual support meetings are free and open to anyone who is seeking science-based, self-empowered addiction recovery.

How do the best treatment programs help patients recover

from addiction?

Stopping drug use is just one part of a long and complex recovery process. When people enter treatment, addiction has often caused serious consequences in their lives, possibly disrupting their health and how they function in their family lives, at work, and in the community.

Because addiction can affect so many aspects of a person's life, treatment should address the needs of the whole person to be successful. Counsellors may select from a menu of services that meet the specific medical, mental, social, occupational, family, and legal needs of their patients to help in their recovery.

An important piece to remember is that everyone's substance use and abuse/addiction is individual to each person. This being the case, we need to always be aware that every journey into health & wellness/recovery/treatment is different and so are the pieces that assist in making this a successful experience.

For more information on Canadian Supports

Explore Canadian Treatment Supports

- Canadian Government – Help with Substance Use – Helplines & Information for all Provinces & Territories
- CAMH Supports within CAMH and in the Community
- Celebrate Recovery (Christian)
- Families for Addictions Recovery
- Refuge Recovery Intervention (Buddhist)
- Smart Recovery

For more information on Drug Treatment

For more information on drug treatment:

- *Principles of Drug Addiction Treatment: A Research-Based Guide*,
- Principles of Adolescent Substance Use Disorder Treatment: A Research-Based Guide.
- The Canadian Association of Cognitive and Behavioural Therapies – CACBT

References

Figure 8.3.1 – The Journal of Neuroscience. (2001). *Loss of Dopamine Transporters in Methamphetamine Abusers Recovers with Protracted Abstinence* [Photograph]. Journal of Neuroscience. https://www.jneurosci.org/content/21/23/9414

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8.4 ADDICTION TREATMENTS AND THERAPIES

Addiction Treatments Past and Present

In the past, society viewed drug addiction as a moral flaw. Popular "treatments" involved imprisonment, sentencing to asylums, and church-guided prayer. Not surprisingly, these methods were generally ineffective. Today we understand that addiction is a brain disease characterized by fundamental and long-lasting changes in the brain. Modern treatments are based on scientific research. Treatment is tailored to the individual and typically involves a combination of drug and behavioural therapy. Today's methods are very effective, with 40-70% of patients remaining drug-free.

There are many options that have been successful in treating drug addiction, including:

- behavioural counselling
- medication
- medical devices and applications used to treat withdrawal symptoms or deliver skills training
- evaluation and treatment for co-occurring mental health issues such as depression and anxiety
- long-term follow-up to prevent relapse

A range of care with a tailored treatment program and follow-up options can be crucial to success. Treatment should include both medical and mental health services as needed. Follow-up care may include community- or family-based recovery support systems.

This video provides a brief overview of the treatments covered in this chapter:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=182#oembed-1

Recovery Options: Treatment for Drug Addiction and Alcoholism. by Carrier Clinic. 12-steps, AA, NA, S.M.A.R.T., detox, rehab, and other options for addiction treatment are discussed.

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
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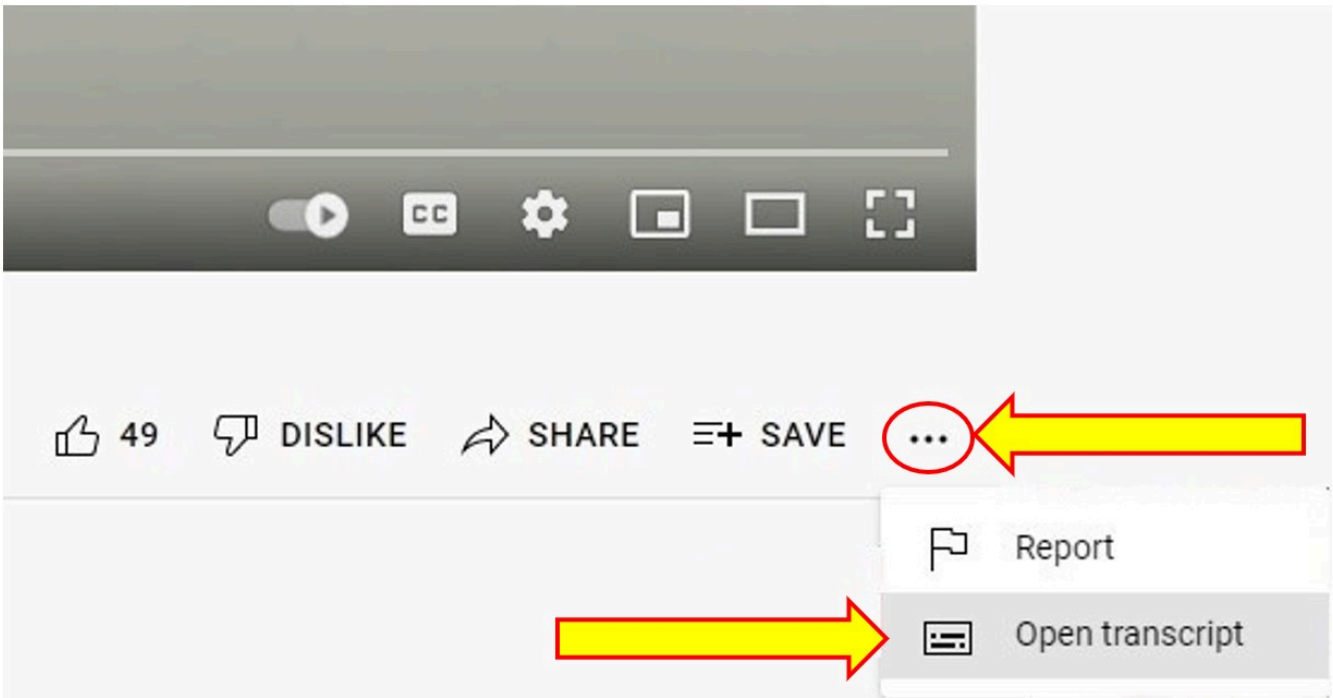

How are medications and devices used in drug addiction treatment?

Medications and devices can be used to manage withdrawal symptoms, prevent relapse, and treat co-occurring conditions.

Withdrawal. Medications and devices can help suppress withdrawal symptoms during detoxification. Detoxification is not in itself "treatment," but only the first step in the process. Patients who do not receive any further treatment after detoxification usually resume their drug use. One study of treatment facilities found that medications were used in almost 80 percent of detoxifications (SAMHSA, 2014).

Harm Reduction. Medications and devices are sometimes needed to assist in reducing harm for an extended period. The will assist by suppress withdrawal symptoms for an extended period of time.

Detoxification is not in itself "treatment," but only the first step in the process. Patients who receive Harm Reduction support have a higher success rate for treatment.

Relapse prevention. Patients can use medications to help re-establish normal brain function and decrease cravings. Medications are available for the treatment of opioid (heroin, prescription pain relievers), tobacco (nicotine), and alcohol addiction. Scientists are developing other medications to treat stimulant (cocaine, methamphetamine) and cannabis (marijuana) addiction. People who use more than one drug, which is very common, need treatment for all of the substances they use.

- ***Opioids:*** Methadone (Dolophine®, Methadose®), buprenorphine (Suboxone®, Subutex®, Probuphine®, Sublocade™), and naltrexone (Vivitrol®) are used to treat opioid addiction. Acting on the same targets in the brain as heroin and morphine, methadone and buprenorphine suppress withdrawal symptoms and relieve cravings. Naltrexone blocks the effects of opioids at their receptor sites in the brain and should be used only in patients who have already been detoxified. All medications help patients reduce drug seeking and related criminal behaviour and help them become more open to behavioural treatments. A NIDA study found that once treatment is initiated, both a buprenorphine/naloxone combination and an extended-release naltrexone formulation are similarly effective in treating opioid addiction. Because full detoxification is necessary for treatment with naloxone, initiating treatment among active users was difficult, but once detoxification was complete, both medications had similar effectiveness.
- ***Tobacco:*** Nicotine replacement therapies have several forms, including the patch, spray, gum, and lozenges. These products are available over the counter. The U.S. and Canada have approved two prescription medications for nicotine addiction: bupropion (Zyban®) and varenicline (Chantix®). They work differently in the brain, but both help prevent relapse in people trying to quit. The medications are more effective when combined with behavioural treatments, such as group and individual therapy as well as telephone quit-lines.
- ***Alcohol:*** Three medications have been FDA-approved for treating alcohol addiction and a fourth, topiramate, has shown promise in clinical trials (large-scale studies with people). The three approved medications are as follows:
    - **Naltrexone** blocks opioid receptors that are involved in the rewarding effects of drinking and in the craving for alcohol. It reduces relapse to heavy drinking and is highly effective in some patients. Genetic differences may affect how well the drug works in certain patients.
    - **Acamprosate (Campral®)** may reduce symptoms of long-lasting withdrawal, such as insomnia, anxiety, restlessness, and dysphoria (generally feeling unwell or unhappy). It may be more effective in patients with severe addiction.
    - **Disulfiram (Antabuse®)** interferes with the breakdown of alcohol. Acetaldehyde builds up in the body, leading to unpleasant reactions that include flushing (warmth and redness in the face), nausea, and irregular heartbeat if the patient drinks alcohol. Compliance (taking the drug as

prescribed) can be a problem, but it may help patients who are highly motivated to quit drinking.

- ***Co-occurring conditions:*** Other medications are available to treat possible mental health conditions, such as depression or anxiety, that may be contributing to the person's addiction.

The Controversy of Maintenance and Medication

Figure 8.4.1 – Photo by Ksenia Yakovleva on Unsplash

When we use medication or maintenance to treat drug addiction are we just replacing one drug with another? Does the addict simply become addicted to a legal drug? No. With pharmaceutical substance-abuse treatment, the user can begin to function normally again and stop the cravings. Using drugs to treat cravings and prevent relapse buys crucial time for behavioural and cognitive therapies to begin working.

Maintenance programs are controversial because the treatments are drugs that often have potent, intoxicating effects, and because patients often require continuous treatment, sometimes over many years. The classic example of a maintenance-based drug treatment is methadone or suboxone, taken once a day to suppress heroin withdrawal. This is becoming a more therapeutic maintenance option.

One patient's story: NIDA clinical trials bring a new life to a woman struggling with opioid addiction – the study hoped to determine if clonidine used with buprenorphine could help reduce stress-induced relapse in heroin users.

How are behavioural therapies used to treat drug addiction?

Behavioural therapies help patients:

- modify their attitudes and behaviours related to drug use
- increase healthy life skills
- persist with other forms of treatment, such as medication

Patients can receive treatment in many different settings with various approaches.

Outpatient behavioural treatment includes a wide variety of programs for patients who visit a behavioural health counsellor on a regular schedule. Most of the programs involve individual or group drug counselling, or both. These programs typically offer forms of behavioural therapy such as:

- *cognitive-behavioural therapy,* which helps patients recognize, avoid, and cope with the situations in which they are most likely to use drugs (*See information below)
- *multidimensional family therapy*—developed for adolescents with drug abuse problems as well as their families—which addresses a range of influences on their drug abuse patterns and is designed to improve overall family functioning
- *motivational interviewing,* which makes the most of people's readiness to change their behaviour and enter treatment
- *motivational incentives* (contingency management), which uses positive reinforcement to encourage abstinence from drugs

Treatment is sometimes intensive at first, where patients attend multiple outpatient sessions each week. After completing intensive treatment, patients transition to regular outpatient treatment, which meets less often and for fewer hours per week to help sustain their recovery.

In September 2017, the FDA permitted marketing of the first mobile application, reSET®, to help treat substance use disorders. This application is intended to be used with outpatient treatment to treat alcohol, cocaine, marijuana, and stimulant substance use disorders.

There have been many new mobile applications created and available on all mobile devices. The application is intended to give support, autonomy, hope, answers, encouragement, be part of a community, independent and connectivity wherever you are. This of course is in addition to your recovery plan, not the only component of your recovery plan.

Mobile applications to assist in treating Substance Use Disorders, Alcohol and Gambling (Behaviour Addictions):

- Alberta Health News – Addiction and Mental Health Mobile Apps Directory
- New Interactive Risk Assessment Tool Helps People in Canada Assess Their Gambling
- The Best Alcohol Addiction Recovery Apps of 2021
- Smartphone Apps Targeting Alcohol and Illicit Substance Use: Systematic Search in in Commercial App Stores and Critical Content Analysis
- Apps to Help You Cope with Addiction
- Free Sobriety Apps to Boost Your Recovery

Inpatient or residential treatment can also be very effective, especially for those with more severe problems (including co-occurring disorders). Licensed residential treatment facilities offer 24-hour structured and intensive care, including safe housing and medical attention. Residential treatment facilities may use a variety of therapeutic approaches, and they are generally aimed at helping the patient live a drug-free, crime-free lifestyle after treatment. Examples of residential treatment settings include:

- *Therapeutic communities*, which are highly structured programs in which patients remain at a residence, typically for 6 to 12 months. The entire community, including treatment staff and those in recovery, act as key agents of change, influencing the patient's attitudes, understanding, and behaviours associated with drug use. Read more about therapeutic communities in the *Therapeutic Communities Research Report* at https://www.drugabuse.gov/publications/research-reports/therapeutic-communities.
- *Shorter-term residential treatment*, which typically focuses on detoxification as well as providing initial intensive counselling and preparation for treatment in a community-based setting.
- *Recovery housing,* which provides supervised, short-term housing for patients, often following other types of inpatient or residential treatment. Recovery housing can help people make the transition to an independent life—for example, helping them learn how to manage finances or seek employment, as well as connecting them to support services in the community.

Behavioural and Cognitive Therapy

Counselling, support groups, and other forms of therapy are crucial to preventing relapse. In order to stay off drugs, addicts must learn new ways of thinking and behaving. Cognitive and behaviour therapy can include such things as learning to:

- Talk openly about personal experiences
- Manage problems without turning to drugs
- Identify and correct problem behaviour
- Identify and correct harmful patterns of thinking
- Recognize drug cravings
- Identify and manage high-risk situations
- Establish motivation to change
- Improve personal relationships
- Develop refusal skills
- Manage time more efficiently

Principles of Effective Treatment

Based on scientific research since the mid-1970s, the following key principles should form the basis of any effective treatment program:

- Addiction is a complex but treatable disease that affects brain function and behaviour.
- No single treatment is right for everyone.
- People need to have quick access to treatment.
- Effective treatment addresses all of the patient's needs, not just his or her drug use.
- Staying in treatment long enough is critical.
- Counselling and other behavioural therapies are the most commonly used forms of treatment.
- Medications are often an important part of treatment, especially when combined with behavioural therapies.
- Treatment plans must be reviewed often and modified to fit the patient's changing needs.
- Treatment should address other possible mental disorders.
- Medically assisted detoxification is only the first stage of treatment.

- Treatment doesn't need to be voluntary to be effective.
- Drug use during treatment must be monitored continuously.
- Treatment programs should test patients for HIV/AIDS, hepatitis B and C, tuberculosis, and other infectious diseases as well as teach them about steps they can take to reduce their risk of these illnesses.

Is treatment different for criminal justice populations?

Figure 8.4.2 Photo by Tingey Injury Law Firm on Unsplash

Scientific research since the mid-1970s shows that drug abuse treatment can help many drug-using offenders change their attitudes, beliefs, and behaviours towards drug abuse; avoid relapse and successfully remove themselves from a life of substance abuse and crime. Many of the principles of treating drug addiction are similar for people within the criminal justice system as for those in the general population. However, many offenders don't have access to the types of services they need. Treatment that is of poor quality or is not well suited to the needs of offenders may not be effective at reducing drug use and criminal behaviour.

In addition to the general principles of treatment, some considerations specific to offenders include the following:

- Treatment should include the development of specific cognitive skills to help the offender adjust attitudes and beliefs that lead to drug abuse and crime, such as feeling entitled to have things one's own way or not understanding the consequences of one's behaviour. This includes skills related to thinking, understanding, learning, and remembering.
- Treatment planning should include tailored services within the correctional facility as well as transition to community-based treatment after release.
- Ongoing coordination between treatment providers and courts or parole and probation officers is important in addressing the complex needs of offenders re-entering society.
- Education in addictions, mental health and strategies as well as counselling.

Key Takeaways

- Drug addiction can be treated, but it's not simple. Addiction treatment must help the person do the following:
  - stop using drugs
  - stay drug-free
  - be productive in the family, at work, and in society
- Successful treatment has several steps:
  - detoxification
  - behavioural counselling
  - medication (for opioid, tobacco, or alcohol addiction)
  - evaluation and treatment for co-occurring mental health issues such as depression and anxiety
  - long-term follow-up to prevent relapse
- Medications and devices can be used to manage withdrawal symptoms, prevent relapse, and treat co-occurring conditions.
- Behavioural therapies help patients:
  - modify their attitudes and behaviours related to drug use
  - increase healthy life skills

    - persist with other forms of treatment, such as medication
- People within the criminal justice system may need additional treatment services to treat drug use disorders effectively. However, many offenders don't have consistent access to the types of services they need.

For More Information:

Type your examples here.

- Research Report on Medications to Treat Opioid Addiction
- Research Report on Therapeutic Communities
- Naloxone – a medication designed to rapidly reverse an opioid overdose

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8.5 KEY TERMS STUDY GUIDE

Photo by adrianna geo on Unsplash

The material in this chapter we examined some of the factors that can lead to addiction, how addiction impacts health and well-being, and what people are trying to do to help with Use, Abuse, Addiction and Treatment and how it looks different in different communities.

You may be familiar with these terms, but If you are not familiar with the terms below, I recommend you download this study sheet, add more spaces to write in definitions and relevant information (or make flashcards) as you read the chapter and watch videos.

1. Adults
2. Addiction
3. Addiction Treatment
4. Addiction and Health
5. Aversion Therapy
6. Behaviour
7. Behavioural Therapies
8. Brains
9. Cognitive Behaviour Therapy (CBT)

10. Controversy of Maintenance & Medication
11. Different Community Options
12. Drug Abuse
13. Drug Misuse
14. Drug Treatment
15. Drug Use
16. Environmental Influences
17. Family Therapy
18. Harm Reduction
19. Motivational Enhancement Therapy
20. Prescription Drugs
21. Recovery
22. Relapse Prevention
23. Risks for Addiction
24. Science of Addiction
25. Self-Help
26. Seniors
27. Systems Desensitization
28. Teens
29. Treatment
30. Treatment Methods for Addiction
31. Twelve Step Facilitation
32. Withdrawal

ATTRIBUTION: This chapter is not covered by the adaptation statement, it is an original work.

8.6 SELF-CARE

Self care in this module is an opportunity to explore an Indigenous practice of care. "Self-care isn't about being self-absorbed—it's about caring for our families, communities, environments, and workplaces".(1)

Photo by Stéfano Girardelli on Unsplash

Please watch this 40 minute video on Indigenous approaches to self-care; an Indigenous approach to self care during a crisis.

What is one new approach you will take to your self-care after watching this video?

Attribution:

Reference:

1. Moyer, R. (2019). *Self care is about dignity: Caring for all our relations*, (para. 2). https://www.fnha.ca/about/news-and-events/news/self-care-is-about-dignity-caring-for-all-our-relations

ADDITIONAL RESOURCES

Articles

One in two Canadian homes have prescription medications that are potentially dangerous, and most do not store them in a secure place – Drug Free Kids Canada

Prescription medication use among Canadian adults, 2016 to 2019 – Stats Canada

CHAPTER 9 PREVENTION & TREATMENT OF ADDICTION, COVID-19 & RECOVERY

CHAPTER 9: INTRODUCTION

Introduction

In this chapter, we will explore the ways to recover and prevent substance abuse and addiction. We begin by an acknowledgment that drugs have been part of the human experience since prehistoric times. Yet today, we have a new lethality due to the growing number of drugs, the accessibility of drugs, and the huge global drug trade business all of which have led to waves of drug abuse epidemics resulting in the heart-breaking cost to individuals, families, and society.

Schools, communities, and organizations have designed and implemented many types of prevention programs some of which have worked better than others.

We will also explore the effects of the COVID-19 pandemic as unprecedented global health, social and economic crisis and how it has impacted abuse and addiction.

Recovery from addiction, looks different for everyone and this can include many different doors to health and wellness.

Figure 9.1 – Image by Arek Socha from Pixabay

These can include:

- formal treatment (inpatient, outpatient)
- medication (MMT – Methadone Maintenance Treatment, Suboxone)
- dietary changes
- exercise (gym, walking, meditation, yoga, Tai Chi, etc.)
- health issues (physical, mental, disease)
- meditation
- mutual help groups (AA {12 steps}, SMART Recovery, Celebrate Recovery,
- psycho-education groups {art, cooking, music, specific topics}
- faith-based engagement
- work with a counsellor
- psychotherapist
- psychiatrist
- multidiscipline team of professionals
- therapy (CBT, REBT, etc)
- RAAM Clinics (Rapid Access Addiction Medicine)
- cultural specific programs
- programs specific to a population (doctors, firefighters, police/law enforcement)
- programs offered in different languages

- socioeconomic status
- psychological and behavioural needs
- nature of their substance use disorder

Attribution:

LEARNING OBJECTIVES

Learning Objectives

By the end of this chapter you should be able to:

1. Discuss the importance of Health Promotion
2. Summarize the use theories of substance Use / Addiction..
3. List any four specific measures/solutions that may assist/help deal with a drug problem.
4. Describe how treatment in this field is offered on a spectrum
5. Describe Indigenous treatment options
6. Describe the benefits of Biopsychosocial Plus Model.
7. Evaluate the Importance of Prevention
8. Describe how COVID-19 has affected Use, Abuse, Mental Health, Addiction, Behaviour and Treatment
9. Summarize the current types of prevention, harm reduction, overdose prevention and withdrawal management programs.
10. Identify New Initiatives, Challenges and Food for Thought.

Attribution:

9.1 HEALTH PROMOTION, PREVENTION & EARLY INTERVENTION, SUBSTANCE USE AND YOUTH, PREVENTIONS PROGRAMS, AND EARLY INTERVENTION PROGRAMS IN CANADA

Food for Thought

If you had to describe health, how would you describe it? When you add the word good or poor in front, does your definition change?

When we look at Health, we understand that there are many moving components that we need to look at. Health inequities include looking at the social determinants of health and the impact of policy development that shapes our health[(1)].

How can we use health promotion for people / who are impacted communities impacted by substance use? "Health promotion in the substance use field works at a broader level than substance use prevention, with the aim of strengthening health, well-being and resiliency, reducing stigma, and addressing the root causes of harmful behaviours" [(2)]. This could be through affordable housing initiatives, playground development, school-based nutrition programs and more. Health promotion benefits individuals as well as communities and can be a strategy for supporting both people who use substances and people with a substance use disorder.

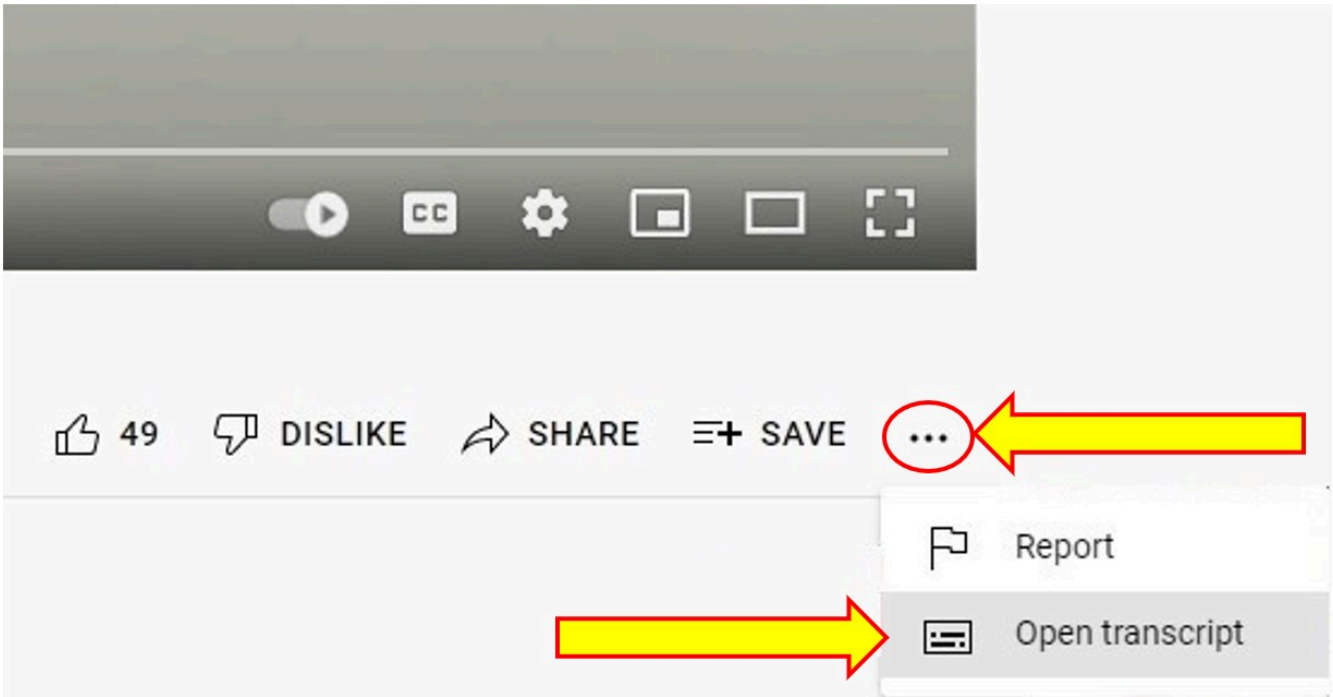
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=189#oembed-1

Creating Healthier Populations: Health Promotion and the Ottawa Charter. By Let's Learn Health. In this video we take a brief look at Health Promotion, the process of enabling people to increase control over, and to improve their health. Health promotion is a very important part of public health and an essential component in any public health program[3].

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



Activities

1. Look up health promotion activities in your community that target the determinants of health. What did you find?
2. What are the activities focused on? (Do they target a specific health outcome?)
3. Who are the activities for? (Do they target a specific audience?).
4. Are the activities inclusive? How?

Health promotion programs look broadly at communities and societies; health promotion programs may target individuals or communities. For example, harm reduction programs are part of a robust health promotion strategy to support individuals who use substances.

Activities

1. Review the Health Promotion and Substance Use Toolkit Health Promotion and Substance Use Toolkit
2. What are the Primary Goals?

Prevention and Early Intervention

Addiction prevention and early intervention are important to reduce substance use and substance use disorders in Canada.

Recognized as an important pillar of the continuum of health, "part of Health Canada's role is to increase awareness among youth of the dangers of experimenting with illicit drugs, and to assist parents in keeping their kids drug-free" [(4)].

Here is an example from Western Health, in Newfoundland and Labrador Mental Health Promotion & Substance Use Prevention School Health Promotion Resources PRIMARY: KINDERGARTEN – GRADE 3 [(5).]

There are many prevention programs that focus on preventing substance use and substance use disorders. Some programs focus on substance specific prevention like alcohol, cannabis, and opioids. Other programs aim to prevent specific types of use, for example, inhalation versus injection use. Some programs are specific for vulnerable groups based on age, gender, and ethnicity, as well as factors like mental health, while others focus on community and society. There are a variety of factors, both risk and protective elements, which exist within each of these contexts. For programs to be effective, as we have discussed in previous chapters, they must look beyond the substance use to the intersections with health. Researchers suggest a mix of prevention interventions is required to address substance use disorders in communities and societies.

Prevention programs should consider comprehensive solutions that fit the needs of their communities and population, within a gender and cultural context and taking into consideration unique local circumstances, including community readiness. Some interventions may be evidence-based, while others may document their effectiveness based on other sources of information and empirical data.

Many programs in Canada are focused on preventing substance use as well as preventing use from becoming a disorder. These programs typically focus on age, and more specifically youth.

Substance Use and Youth

Figure 9.1.1 – Photo by Artem Kniaz on Unsplash

The early use of substances increases a person's chances of developing a disorder as substance use often begins in adolescence [(6)]. Young people aged 15 to 24 are more likely to experience mental illness and/or substance use disorders than any other age group [(7)]. The risk of substance use increases greatly during times of transition. For a youth, developmental stages may result in higher risk-taking behaviour [(8)]. A certain amount of risk-taking is a normal part of adolescent development; the desire to try new things and become more independent is healthy

but it may also increase the risk of experimentation. The parts of the brain that control judgment and decision-making do not fully develop until people are in their early or mid-20s [9].

When youth enter high school, research suggests youth encounter greater availability of substances [10]. According to the Canadian Centre on Substance Use and Addiction [11], approximately 62.3% of youth aged 15-17 engaged in early use of alcohol and 29.2% in early cannabis use over a year period. The research indicated that "among those under age 20, smokers were 14 times more likely to consume alcohol than were their non-smoking peers and were also more likely to engage in binge drinking (five or more drinks on one occasion)" [12].

Using substances at an early age has more potential to disrupt brain function in areas critical to motivation, memory, learning, judgment, and behaviour control [13]. Studies also show the harms associated with early substance use include death by overdose and car accidents [14]. Preventing early use of substances may reduce the number of people who develop a substance use disorder, and it may also reduce early mortality. Data from Public Safety Canada [15] found that childhood physical abuse is a strong predictor of substance use and those who are abused are more likely to develop a substance use disorder. Researchers, community advocates, and agencies have developed numerous interventions to address risk and protective factors for substance use. Each program may or may not work depending on the audience, the location, and the strategy. Public Safety Canada ([16]) has suggested each program must be tailored towards the audience as there is no one-size fits all when it comes to prevention programs.

Activities

1. Choose 1 of the following youth intervention programs.
    - National Youth Solvent Abuse Program
    - Positive Choices: A Better Future
    - preventing-problematic-substance-use-youth
2. What factors does this program address?
3. How does this intervention include health promotion/social determinants of health?
4. What is one change you would make to this intervention? Why?

Prevention Programs

Figure 9.1.2 – Photo by Gabriella Clare Marino on Unsplash

Prevention programs funded in Canada work towards "increasing awareness and knowledge about the risks of problematic substance use and reducing the desire and willingness to obtain and use drugs" (17).

Prevention programs can focus on not only helping individuals develop the knowledge, attitudes, and skills they need to make good choices but address the larger systemic issues that impact their ability to understand the choices they make, focusing on risk reduction and health promotion(18). The programs are designed for various ages and can be used in individual or group settings, such as the school and home. Examples of a prevention program includes the Nova Scotia Municipal Alcohol Policy (19).

Early Intervention Programs in Canada

As information about substance use and substance abuse disorders grows, so have intervention strategies. The "Just Say No" Campaign and other programs focusing on how to refuse substances failed to address the determinants of health and their connection to substance use and abuse. Programs today focus on not only

helping individuals develop the knowledge, attitudes, and skills they need to make good choices but address the larger systemic issues that impact their ability to understand the choices they make. For example, the Canadian Drugs and Substances Strategy includes prevention, treatment, harm reduction, evidence and enforcement, as well as funding for these initiatives [20].

Two examples of early intervention programs in Canada include Project SUCCESS (Schools Using Coordinated Community Efforts to Strengthen Students) [21] and ALERT ([22]. These programs focus on various intervention levels, including working with youth who have experimented with substances to those who are using substances more frequently. Using evidence to develop programs is essential for success. Please review Canada's evidence base to view how programs gather data.

For diverse populations to benefit from prevention and early intervention programs, culture, gender, ability, and language must be considered at every step when developing and then implementing these programs.

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9.2 THEORIES OF SUBSTANCE USE / ADDICTION

Learning Objectives

By the end of this chapter you should be able to:

1. Explore various theories of substance use
2. Compare and contrast theories
3. Discuss how theories impact service provision and prevention initiatives

There are many theories that hope to explain why individuals use and abuse substances. Theories can also help with interventions, treatment, prevention, relapse and recovery.

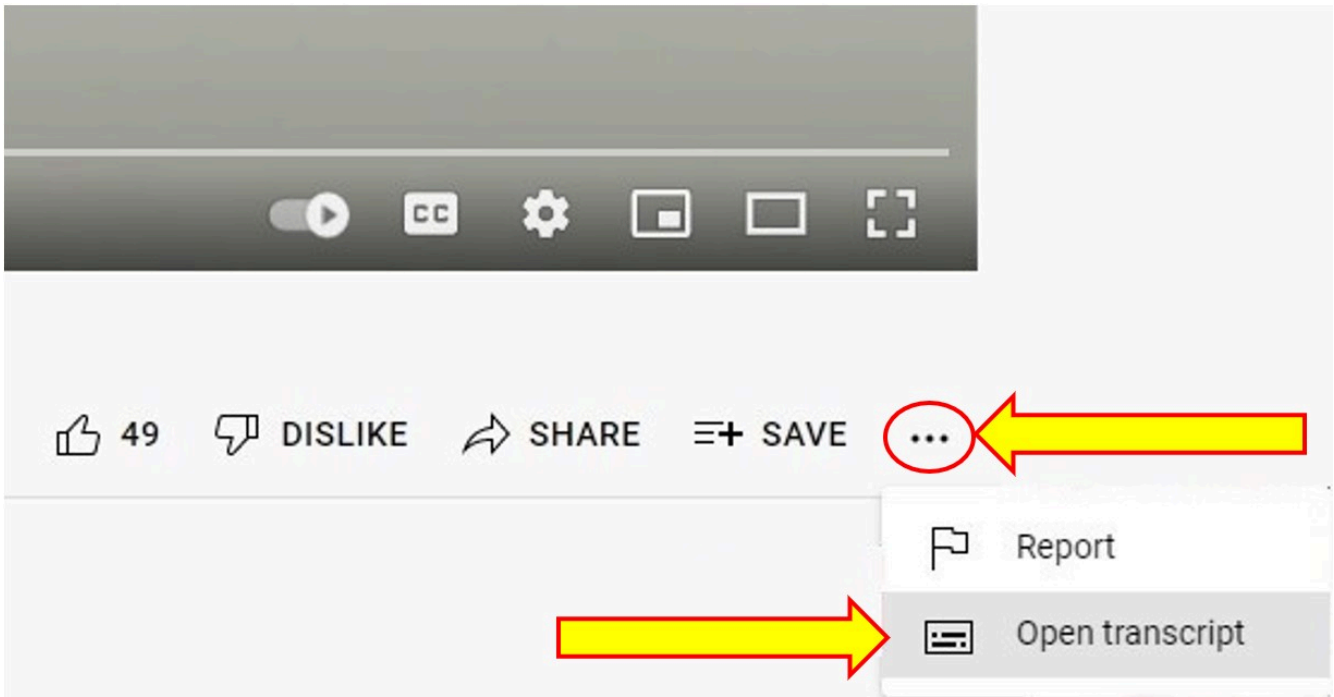
We will be exploring substance use disorders as a biopsychosocial phenomenon and unpack biological, psychological and social theories of substance abuse. You may choose to explore other theories, there are links to multiple theories of substance use disorders in additional resources.

We will start by an overview on theories below. Watch *Orientation to Theories of Substance Misuse*

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=191#oembed-1

Orientation to Theories of Substance Misuse. By Council on Social Work Education. Orientation to Theories of Substance Misuse was developed and recorded by Dr. Audrey Begun, MSW, PhD, The Ohio State University, in February 2021[1].

Transcript



The concept of substance use disorders has evolved. While a moral model is still prevalent in much of the population, there has been a shift in the medicalization of addressing substance use disorders. The moral model is based on the belief that using substances is a moral failing, related only to individual issue "using any drug is unacceptable, wrong, and even sinful.(2) Other theories include a biological theory, which suggests it may be the chemistry in our brain or our genetics that makes us susceptible to substance use. There is no one theory that can explain substance use for every person with a substance use disorder: "not everything that counts can be counted, and the healing that involves the making whole of a life involves not seeing different things but seeing everything differently".[3] When we understand these theories and use them together, this is called a biopsychosocial approach and western treatment models generally "implicates numerous biological, psychological and social factors as playing a part in the development of addiction. Consequently, it is considered that all three domains must be considered in treatment".[4]

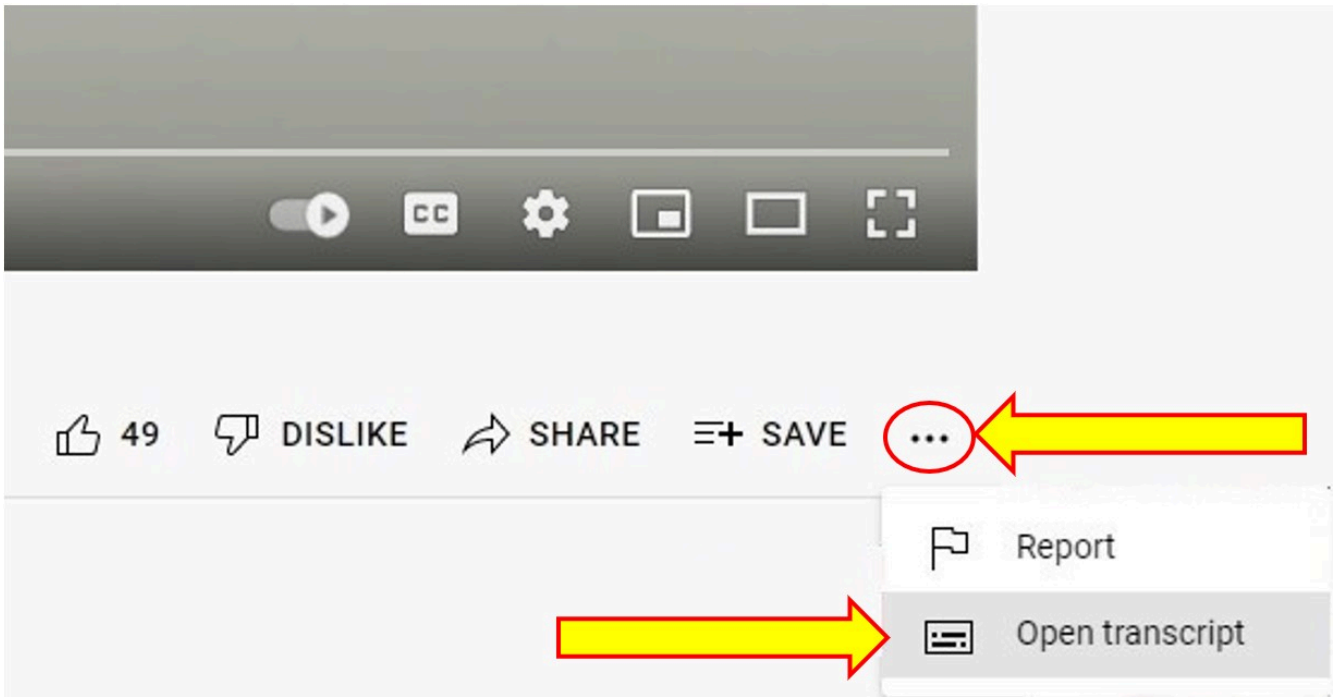
Understanding theories is important as you will be exploring treatment, prevention and recovery, as well as harm reduction. A theory can help explain a phenomenon like substance use. You do not need to be an expert on theories; however, it is important to understand the theories and begin to explore your own beliefs about substance use and process addiction. Exploring theories will help broaden your understanding, and through exploring theories you will have an opportunity to determine what connects for you. This means the services you provide may rely on one theory or multiple theories. For example, Alcoholics Anonymous and Narcotics Anonymous use a spiritual model, which sees substance use and substance use disorders as a spiritual deficit[5] and focus on bringing a spiritual component to treatment; "there is a power greater than us as individuals".[6]

While there are many theories about substance use, this chapter should help you to understand why some people misuse substances. We will start with watching the video below which provides an exploration of some of the more prevalent theories of substance use.[7]

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=191#oembed-2

Theories of Addiction. By Doc Snipes. Dr. Dawn-Elise Snipes is a Licensed Professional Counselor and Qualified Clinical Supervisor. This video speaks about Theories of Addiction

Transcript



ACTIVITIES

1. Review the various theories of addiction identified by ALLCEU Counselling (2012). What, if

anything, is missing?

2. Compare and contrast two theories.
3. Pick the theories you most closely align with.
4. Can any theory stand alone on its own? Why? Why not?

All these theories separately create a narrower view of substance use and influence how we treat substance use disorders. As our understanding of substance use and substance use disorders continues to evolve, using a perspective which includes an intersectional approach may help us to address some of the societal inequities that put people and communities at risk of substance use disorders. We must be cautious to acknowledge there is no panacea, nor any magic bullet. Substance use is a reality; and Wright[8] suggests "if addiction is 'always already' part of the metaphysics of western culture, it can be hard to be analytical about specific effects at specific times".[9] This means that substance use is engrained in much of Canadian culture from celebrations to daily life and using one lens in one moment to explore substance use is not effective. Theories are one piece of a complicated puzzle.

Moral theory

Figure 9.2.1 – Photo by Casey Horner on Unsplash

Where does a moral approach to substance use come from? Wright[10] suggests our current moral judgments of addiction begin with a Victorian politic, when "modern man begins to worry that any weakness of moral fiber in the exercise of self-restraint could lead him rapidly away from industry and towards indolence and even idiocy, by way of the bottle, the pipe or the syringe".[11] There are examples of the moral model in Canada, including prohibition and the Controlled Drug and Substances Act, as well as the Criminal Code of Canada. The moral model suggests using a substance is a moral failing which will lead to a path of destruction. It views people who use substances as having a choice to use substances and judges them for using the substances.

Listen to the short podcast below.[12] Note the language used. Is this podcast stigmatizing?

LISTEN

The Moral Model by the Centre for Youth AOD Practice Development

Food For Thought

- Reflect for a moment on stigma as we discussed in Chapter 2.
- How can you relate the stigma of substance use to the moral model?
- What are some examples?
- How could you help others understand the moral model?

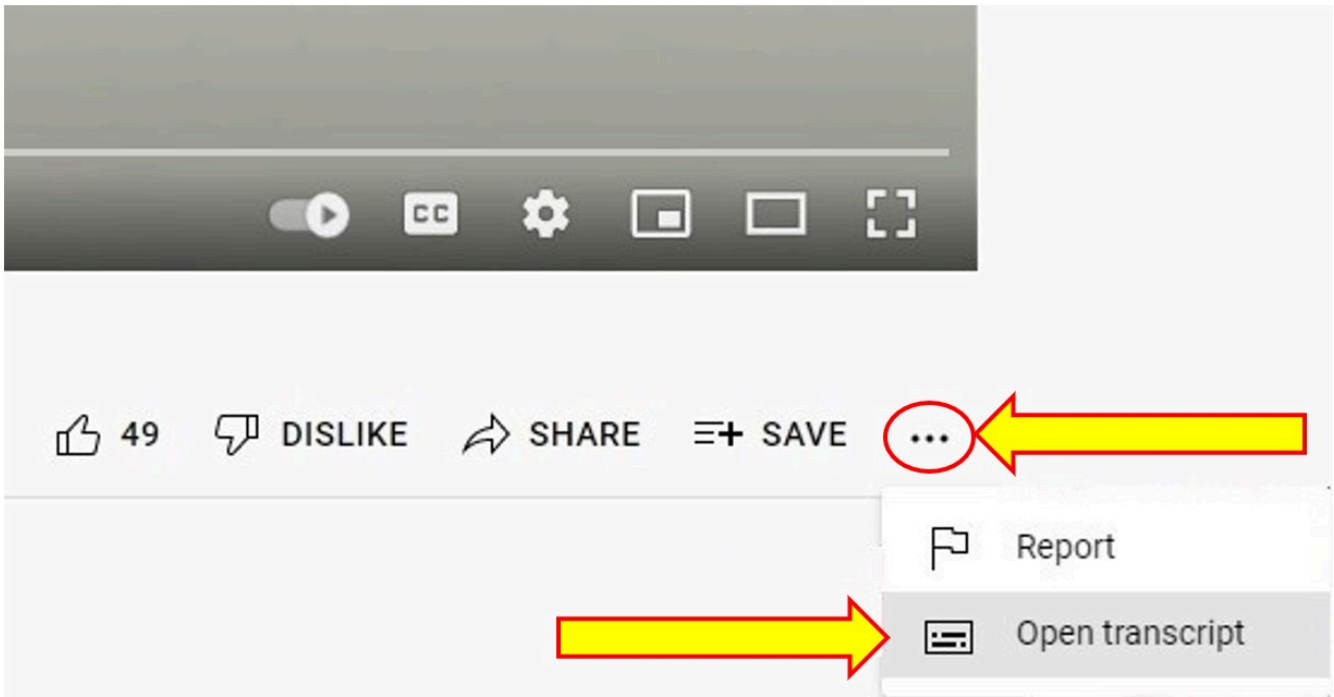
The stigma associated with substance use is so prevalent, a recent review by the World Health Organization concluded out of all health disorders, substance use and process addiction disorders were the most stigmatized.[13] Think about the language used to describe substance use disorders and the people who live with them. Stigma and the moral model go hand in hand. "A large body of research indicates that this stigma is persistent, pervasive, and rooted in the belief that addiction is a personal choice reflecting a lack of willpower and a moral failing".[14] The moral model still exists today when you hear statements like "pull up your bootstraps," or "get over it," when talking about a substance use disorder. It seeks to place blame on the person with the substance use disorder. This can impact individuals who use substances, who may see themselves as having failed, especially when it comes to treatment and recovery.

The following video may help you understand how some view substance use.[15]

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=191#oembed-3

Nuggets. By Filmbilder & Friends. Kiwi tastes a golden nugget. It's delicious.

Transcript



Food For Thought

- Reflect on Nuggets
- What do you think this video promotes (abstinence, prevention, harm reduction, recovery?) Why?
- Is this video helpful in explaining substance use?

Treatment methods generally have moved beyond a moral model. For example, programs that offer a harm reduction approach are a direct challenge to the moral model, as they offer a lack of judgment and support people "where they are," embracing the stages of change and allowing for engagement at each level of pre-contemplation, contemplation, preparation, action, and relapse.

ACTIVITIES

- Review the Government of Canada's Background Document strengthening-canada-approach-substance-use-issue
- Can you find examples of moral theory?

The field of Social Services is working to move beyond a moral model of substance use disorders. You can help people make their own decisions (self-efficacy) and advocate for services to improve the lives of people who use substances and live with SUDs.

Biological theory

Some researchers believe that substance use disorders are a biological phenomenon; "efforts to target addictions require consideration of how the improved biological understanding of addictions may lead to improved prevention, treatment and policy initiatives"[16]. The biological theory of substance use helps us understand how substances impact our brain and the changes that happen. Please watch the following short video on how substances impact the brain.[17]

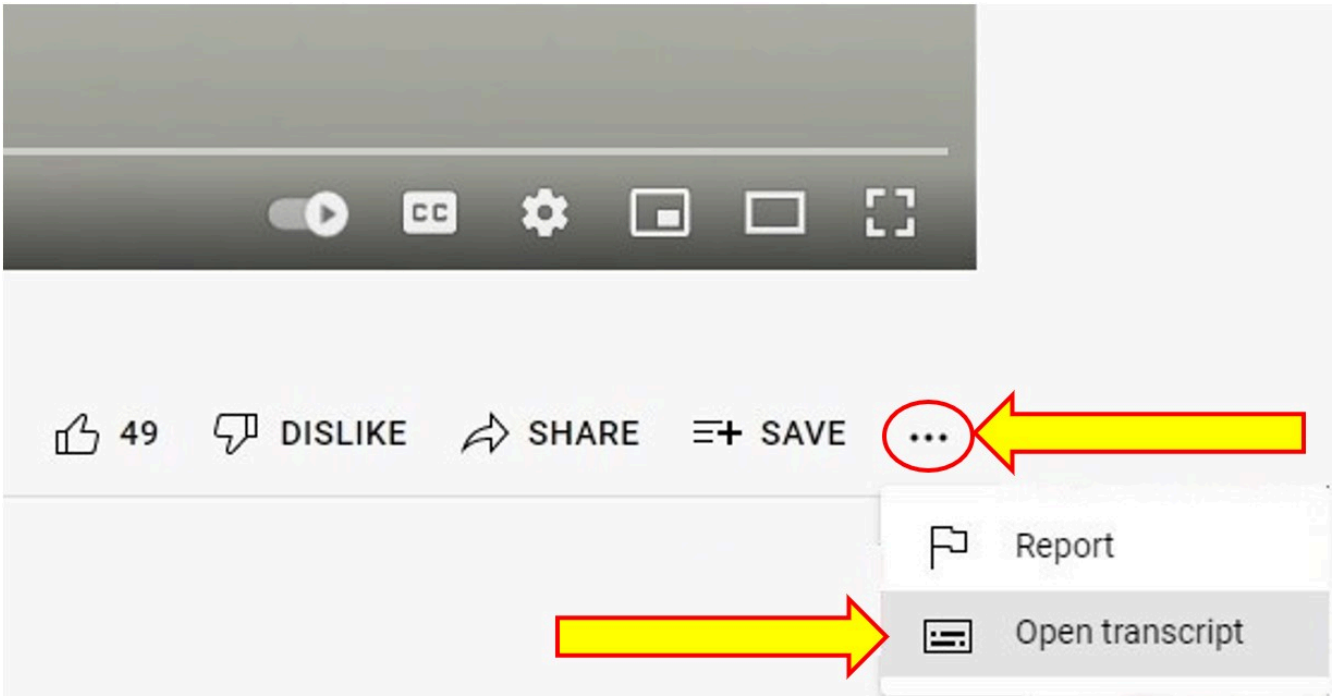
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=191#oembed-4

The Biology of Addiction: Killing Pain: Addiction tends to masquerade as bad behavior. The more we learn about how the brain is chemically altered because of substances like opioids, the more we can see how physiologically our brains are "re-wired", making addiction a disease of the brain.Episode 2. By Killing Pain.

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



If you think about any activity you participate in, if it makes you feel good, chances are that when you participate your brain is releasing dopamine. If you remember we learned dopamine is a neurotransmitter that impacts the reward centre of the brain. Your brain typically releases dopamine when you participate in behaviours or activities that make you feel good. This is released each time you repeat a behaviour.

Food For Thought

- What are the activities you participate in that give you a pleasant feeling?
- How often do you participate in those activities?
- Why do you think these activities make you feel good beyond the dopamine release?

When you take a substance, especially opiates, your brain releases dopamine. Every time you take that substance, your brain, and the dopamine it produces are remembering that "feel good" feeling and reinforcing it. For a person living with a substance use disorder, every time they use a substance it triggers adaptations in

dopamine production. Using a biological theory to explore how substances impact the brain can help with the development of treatment that focuses specifically on the brain. For example, Methadone Maintenance Treatment (MMT) is a treatment that focuses on the biology of an opiate use disorder and benzodiazepines have been used to target the biology of alcohol withdrawal symptoms.[18]

We can use biological theory to help us understand the vulnerabilities of some to a substance use disorder. What is a vulnerable individual? A vulnerable individual may be someone who has a unique physiology (mental health disorder, brain disorder, or physical disorder). Certain groups, particularly adolescents and young adults, may be vulnerable to developing a substance use disorder at certain ages, due to the stages of brain development. Specific brain regions, like the amygdala typically mature slower, impacting decision making, which may be a reason why some youth struggle with substance use.(19)

Mental health also plays a role in substance use. Many studies suggest and confirm those with mental health use substances to manage their day-to-day challenges due to their illness.[20] Vulnerable individuals may also be people who have a genetic predisposition (a parent or a close family member who has struggled with a substance use disorder). For example, numerous family studies, adoption studies, and twin studies suggest genetics plays a role.[21] Many of these studies however do not allow us to separate the effects of genetic and environmental influences.[22] This means that substance use disorders from a genetic perspective should not be considered simply a biological phenomenon.

Despite significant advances in our understanding of the biological bases of substance use disorders; we know substance use disorders continue to represent a huge public health crisis,[23] and further research in this area must continue as we support individuals living with a substance use disorder. Every brain, and every person is different; we must look at biology as one potential factor in a substance use disorder.

Psychological Theories

Using psychology also helps us understand substance use disorders. There are a variety of psychological approaches that help us understand behaviours, treatment, and recovery. Psychological theory can look at behaviour. For example, helpers may look at how and why the behaviour is maintained; they may also engage in understanding the behaviours that are happening while a person is under the influence of a substance [24].

Learning theory is another example of a psychological theory. Learning theory suggests that a substance use disorder results from the learning we receive from the social environment, our experiences. For example, observing a peer or parent smoke or vape may influence whether a young person also begins smoking or vaping. Is the child or youth seeing a positive or a negative experience in the substance use? These observations "can instill positive expediencies for the effects of these substances and provide models that show how to obtain and use them".[25]

Food For Thought

- What is something you do when you are happy?
- Why do you do this?
- When you reflect on this activity, where do you think you learned this?
- How many activities do you engage in that you learned from others?

Classical conditioning and operant conditioning are two types of learning models. When we use classical conditioning in the field of substance use disorders, we examine the relationship between the substance use and its connection with the environment. For example, let us examine smoking tobacco.

ACTIVITIES

1. Brainstorm a list of reasons why people smoke
2. Brainstorm a list of reasons why people quit
3. If you were to use classical conditioning to understand how to support someone who was quitting, what might you consider based on your answers above?

Classical conditioning helps individuals understand their relationship with a substance and how they may crave a particular substance based on their environment. For example, someone who smokes tobacco may feel a pleasant feeling every time they visit a particular store, as that is the store where they buy cigarettes from, and often smoke as soon as they leave the store. There are numerous resources to help a person quit smoking based on classical conditioning. These resources help individuals identify "triggers" or activators, they look at factors that can make someone feel like they need to use a substance, because of their relationship to the environment. "Common triggers that bring-on cravings include drinking coffee or alcohol, relaxing after work or after a meal, talking on the phone, driving, feeling stressed or angry"[26] Using classical conditioning, you can examine activators and help an individual identify strategies to reduce the emotions associated with the

activators. These activators or cravings will reduce over time, the more a person is able to engage with the environment without using the substance.

Operant conditioning uses the concept of rewards and punishments. If a person uses a substance, there are biological changes that happen. For some it is a pleasant feeling, for others, it is unpleasant. Not every person who uses a substance will develop a disorder; for some the pleasant feeling is just that, a pleasant feeling. For others the pleasant feeling takes over, and the reward becomes the focus.

This focus can then develop into a substance use disorder. The Community Reinforcement Approach builds on operant conditioning; "the goal of CRA is to help people discover and adopt a pleasurable and healthy lifestyle that is more rewarding than a lifestyle filled with using alcohol or drugs".[27] Please read this primer on the Community Reinforcement Approach by the Canadian Centre on Substance Use and Addiction.[28]

This type of conditioning has also been seen in television programs like Intervention Canada, where family members stage an intervention with the person using substances and give the individual an "ultimatum." Operant conditioning can be highly effective; however, interventions which focus on punishment rarely lead to a life without substances. Confrontation is highly ineffective in decreasing the use of alcohol and other substance.[29]

Psychological theories of substance use are varied and may help you explore how to best serve the individuals you will be working with.

READ

For more information on psychological theories review Chapter 4: Psychological Models of Substance Misuse in Introduction to Substance Use Disorders by Patricia Stoddard Dare and Audrey Begun. CC BY-NC

Social Theories

Figure 9.2.3 – Photo by Hannah Busing on Unsplash

We live in a complex world with many factors that influence our behaviours. We learn from many areas around us. This can be individual, family, peer and community.[30] Substance use may be familial, a person may have watched a parent or caretaker use alcohol on special occasions or more frequently. Perhaps you had a parent who smoked tobacco, and this may have played a role in whether you smoke. These social connections that are critical for our development as babies, toddlers, youth and into adulthood play a role in what we do, how we act, and how we live.

ACTIVITIES

1. Brainstorm a list of things you do each day, from morning until night.
2. Scratch out everything you do in a group. What is left?
3. How much of your daily interactions are with a group?
4. How did you learn to do each activity you do daily?

Social connections are also important for our health. Think back to the beginning days of the COVID-19 pandemic and how many people were negatively impacted by the social gathering restrictions. Some people used increased their substance use to cope with the isolation.[31] Some people used technology to connect with family, friends, and even with their workplace.

ACTIVITIES

1. Brainstorm a list of things you did to cope with the isolation from the pandemic.
2. Did you increase your substance use?
3. How important is social connection in your life?
4. Did technology help?

Social connection is an important factor in wellness and subsequently whether a person uses substances.[32]

One or more interactive elements has been excluded from this version of the text. You can view

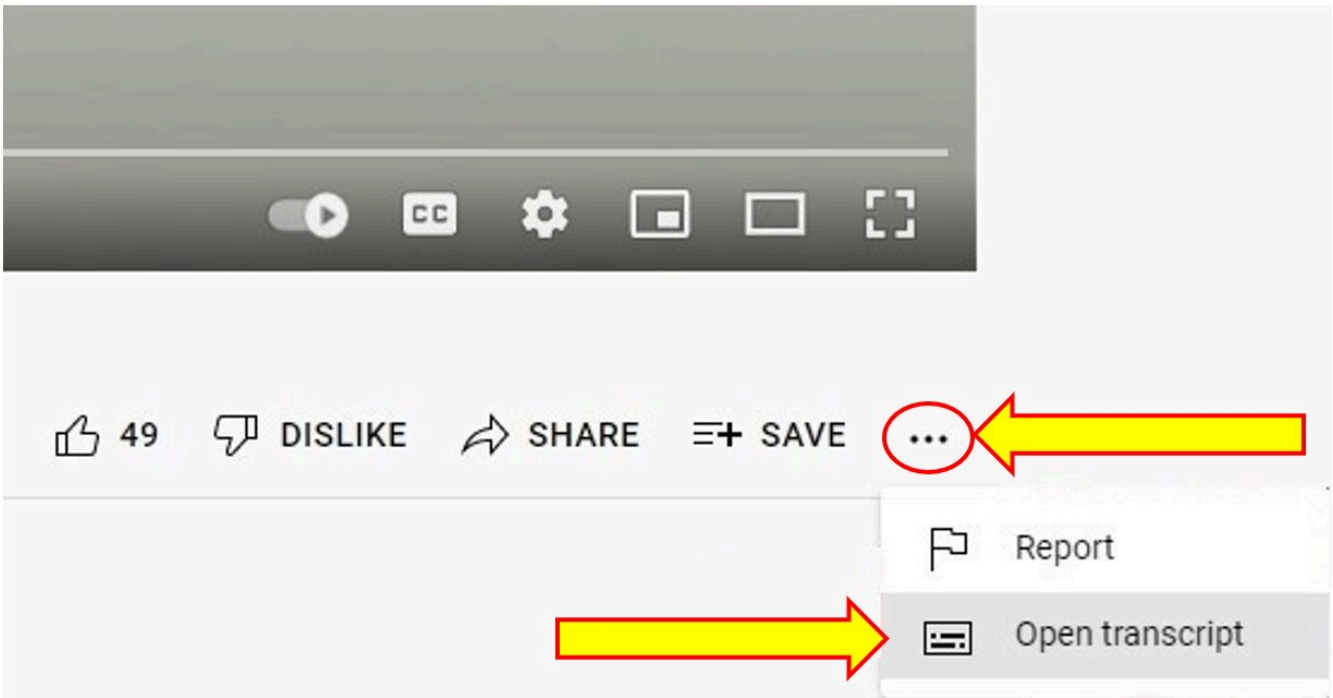
them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=191#oembed-5

Social Connection. By Every Mind Matters. Social contact is good for your mental health – even if you don't always feel like engaging with other people when you're low or anxious. This video will show you ways you can build more social connection into your life.

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



Social learning theory suggests behaviour is influenced by the interaction of personal, social, and environmental factors including intrapersonal factors, interpersonal factors, institutional or organizational factors, community factors, and public policy.[33] This is intersectionality. If you have been negatively impacted by one of these factors, are you susceptible to a substance use disorder? The research indicates yes; remembering it is one risk factor and does not mean it WILL lead to a substance use disorder. This theory

is often used in counselling in supporting individuals with substance use disorders as it allows supporters to focus on individual, environmental, and societal factors.

Food For Thought

- Reflect on a happy memory from your childhood.
- Identify everyone who was involved.
- What were the factors that make this memory so wonderful?

The social factors that influence us are complex. Many of the treatment models use a social-ecological approach, identifying factors like trauma, adverse childhood experiences, mental health, racism, as well as self-efficacy.

FURTHER READING

Open Educational Resource Chapter 5 by Patricia Stoddard Dare and Audrey Begun. https://pressbooks.ulib.csuohio.edu/substancemisusepart1/part/module-5-social-context-physical-environment-models-of-substance-misuse/

Attribution:

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9.3 BIOPSYCHOSOCIAL PLUS MODEL

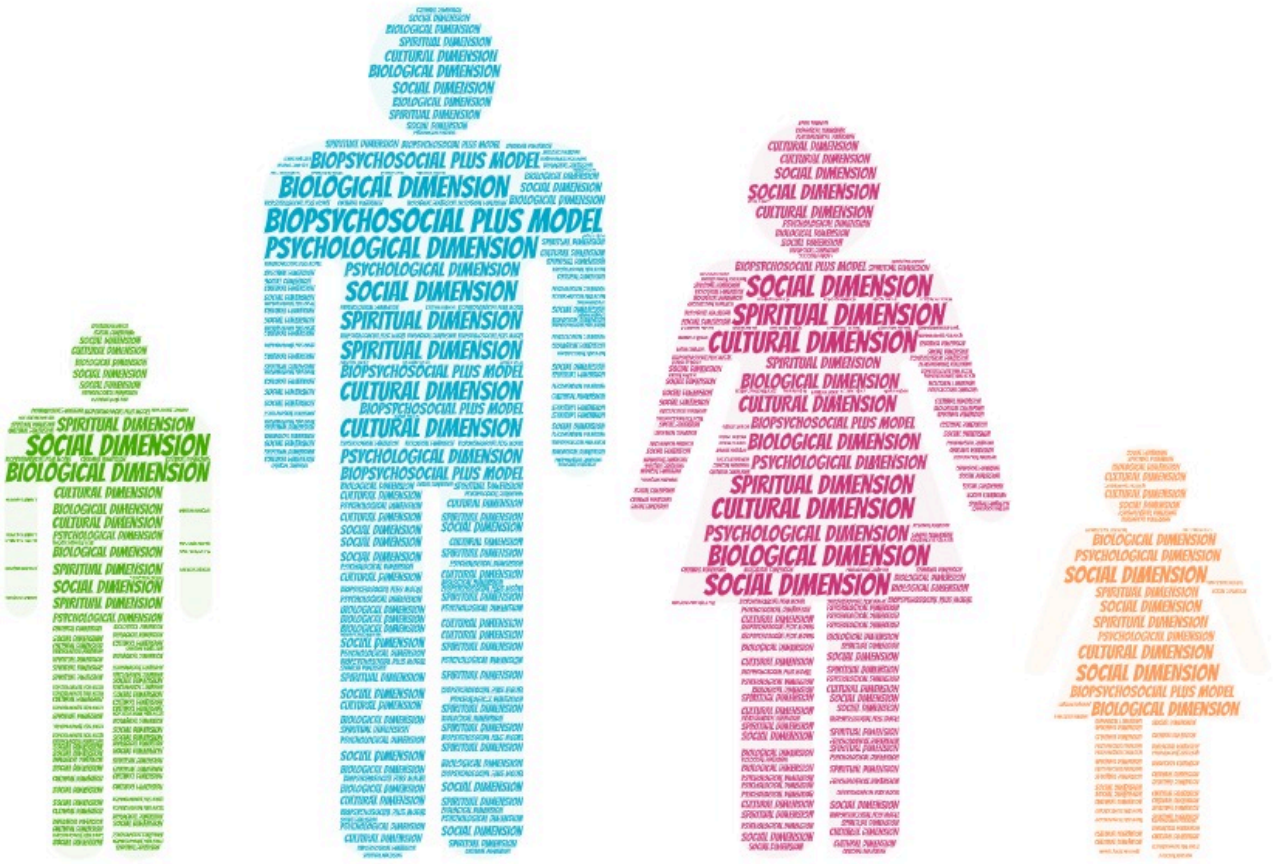


Figure 9.3.1 – WordArt by Denise Halsey

Substance use disorders / Addictions as a Biopsychosocial Plus phenomenon

Reflect on the theories you have explored this far. As you have come to understand, to look at substance use disorders in a binary fashion, choosing one lens or another is not effective. Breaking down substance use and connecting it to biological factors, psychological factors, and social factors can help provide Social Service workers an opportunity to see a "whole" person and to provide wrap-around supports that can help a person meet their individual goals related to their substance use. You can further explore poverty, race, gender, and

other examples of intersectionality that may play a role in a person's substance use as you are working with them, ensuring your work is culturally and gender sensitive.

It is important to note substance use disorders do not often have one-specific cause. You may use a combination of theories to help your clients explore why they use substances and why they continue to use substances, are increasing substance use, or choosing to change their substance use, remembering you are not diagnosing. Using theories may help you understand the complexity of substance use and why one theory is generally not enough.

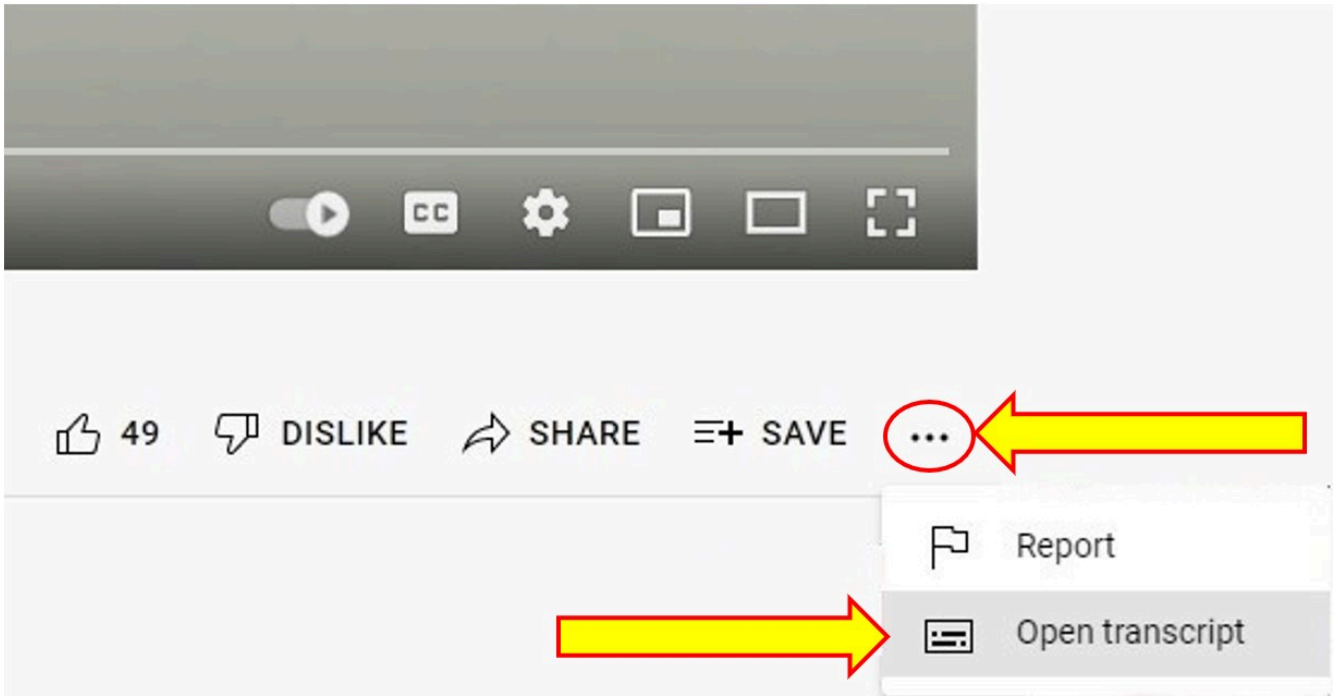
Attribution:

Let's watch The Science of Addiction – A Different Lens.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1450#oembed-1

The Science of Addiction – A Different Lens. By Monash University. Why do people succumb to drug, alcohol, gambling and food addictions? Today, the science behind addiction is playing a bigger role in understanding why people become addicted and how to curb these dangerous behaviours. While society often continues to stigmatise addiction, we now know that it is a neurological condition. This has resulted in cutting edge treatments, better education, and significant research that is disrupting the exploitation of addicts by the tobacco, gambling and fast food giants.[1]

Transcript



When we see substance use disorders/addictions in a binary fashion, we are choosing one lens or another, which does not give us a clear picture of the person. When we look at substance use/addictions through a Biopsychosocial Plus model by connecting to biological, psychological, social, cultural and spiritual dimensions then we can as a social/mental health/addictions worker take an opportunity to see a "whole" person and be able to provide wrap-around supports that can help a person meet their individual goals related to their substance use/addiction. You can further explore poverty, race, gender, and other examples of intersectionality that may play a role in a person's substance use/addiction as you are working with them, ensuring your work is cultural, spiritual, gender-sensitive and trauma-informed.

It is important to note substance use disorders/addiction do not often have a one-specific cause. You may use a combination of theories to help your clients explore why they use substances, why they continue to use substances, the increasing substance use, or choosing to change their substance use, always remembering you are not diagnosing and they are the expert in their journey. Using all these theories may help you understand the complexity of substance use and why one theory/lens is generally not enough

The Biopsychosocial Plus Model reflects a dimensional understanding of addiction. The Biopsychosocial Plus Model recognizes the complex interactions between the biological, psychological, social, cultural, and spiritual aspects of addiction. The model provides you with a framework to dynamically engage with clients wherever they are on the addiction continuum – from absent, mild, moderate to severe – and adjust treatment/care as clients' needs change and

evolve.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1450#oembed-2

Whole Person Healthcare | The Biopsychosocial Spiritual Model of Medicine. By Doodle Med.(2)

Transcript

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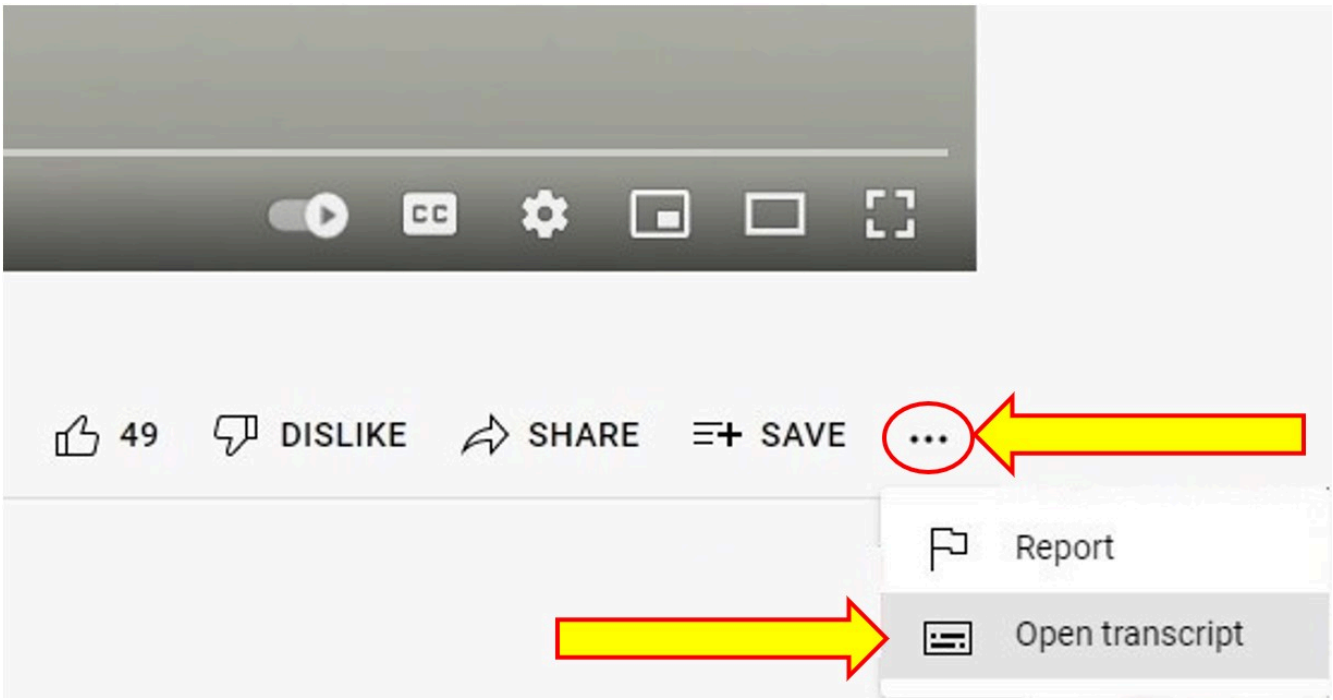

Biopsychosocial Plus Model

Biological Dimension

Figure 9.3.2 – Photo by Brano on Unsplash

It is important not to look at the biological dimension as neurobiology alone. It also takes into consideration aspects of health functioning such as addictive behaviour, diet, exercise, self-care, nutrition, sleep and genetics. We look at all aspects of health, whether it is positive, neutral or challenging. Understanding the impact this information has on the person as well as the additive behaviour gives us a clearer picture for positive changes and for the person to actively participate in their recovery and treatment plan.

It is important not to look at the biological dimension as neurobiology alone, but to also take into consideration aspects of health functioning such as addictive behaviour, diet, exercise, self-care, nutrition, sleep and genetics. What is present, what is missing and what could be added.

The Biological Dimension Considers:

- Genetic factors that influence the variability of addiction
- Pharmacological solutions for treating addiction (overdose to pharmacotherapy)
- Effects on the body
- Importance of nutrition, sleep, and exercise

Psychological Dimension

Figure 9.3.3 Image by Gerd Altmann from Pixabay

The mind is to the psychological dimension what the brain is to neuroscience. The term "psychology" refers to a behavioural process that relates to motivation, emotions, mood, or the mind. Informed by science, many psychological models, govern our understanding of addiction. When we look at classical and operant conditioning to social learning theory, the transtheoretical model and the behavioural perspective we can see how the psychological dimension strongly affects addiction. All these areas contribute to the Psychological Dimension and what motivates the reward system.

When we look at the psychological dimension, it also allows us to understand and work more effectively in helping individuals, families and communities thrive and flourish in a positive way. When we understand the impact of our perception, purpose of rewards, motivation, expectancy, and maturation, it helps us to find solutions to the addictive behaviours that may not have been an option previously. It allows for the development of more positive behaviours by understanding alternatives, and more possibilities and gives opportunities for making positive decisions with those options.

Some refer to addiction as the disorder of choice.

The Psychological Dimension considers:

- Thoughts, feelings, and behaviours surrounding and generated by misuse (triggers)
- Early and persistent problem behaviours
- Issues related to trauma, victimization, and extreme stress experiences
- Motivators to reduce or stop drug use

Social Dimension

Figure 9.3.4 – Photo by Brooke Cagle on Unsplash

The social dimension is considered to be vitally important, it is the immediate interpersonal domain that is most proximal to the person who develops an addictive disorder. Who is in the social dimension includes, family, friends, workplace, social, exercise, the community of choice, leisure companions and faith community. It also takes into consideration the socio-structural perspective of the individual as it relates strongly to the many decisions that are made around addictions. This also takes into consideration the social determinants of health, social factors, culture, age, gender and other stressful situations that were experienced.

The Social Dimension considers:

- Family and family-of-choice relationships (interpersonal)
- Class, race, age and gender
- Early life exposures to stressful situations, such as conflict, hunger, violence and prejudice
- Association with alcohol and drug users

Cultural Dimension

Figure 9.3.5 – Photo by Ruben Hutabarat on Unsplash

Culture is very personal and we need to allow it to be whatever the person identifies it as. Culture is a missing piece and very important to those who have an addiction. It may have been lost, not yet experienced, which leaves a person feeling like there are missing pieces. Sometimes it is by choice, or experience, a negative representation of what they believed culture meant. It is important to be aware of the importance of understanding the client's cultural belief system as they feel it is, through their eyes.

Culture is different for everyone, even if they were brought up in the same environment. It is what the person feels it is or is not. It is also connected to the spiritual dimension.

The Cultural Dimension considers:

- Community, race, gender, disabilities, etc.
- Association or disassociation from culture and community has an impact
- The client's cultural belief system

Spiritual Dimension

Figure 9.3.6 – Photo by Jeremy Bishop on Unsplash

Spiritual Dimension is very personal to people. You will hear about the importance of spirituality to people, whether it is religious or non-religious. It is very important to be respectful around all spiritual dimensions as it is very important to people. Think of it as the therapeutic imagination of what spirituality means to

the individual and show respect to each person, so that they can have the freedom to find, explore, revisit or discover their own beliefs. It is a very personal, powerful journey and individual to all.

Spirituality affects our mental health as well as our well-being. It is important to allow them the journey of peer support, mutual aid, culture, nature, and spirituality to find their own spiritual dimension and it's important to them.

The Spiritual Dimension considers:

- Personal perceptions and beliefs
- Spiritual and religious beliefs by which people live

Biopsychosocial Plus Model Activity:

The Biopsychosocial Plus Model is a very effective tool when working with mental health and addictions. Do you see it as a model you would use? Where and when would you use it? Do you feel that one specific area would be easier for you to support or would have a stronger effect on a person?

Figure 9.3.7 – WordArt by Denise Halsey

For more Information to Explore:

- The Biopsychosocial-Spiritual Model[3]
- Psychology Today[4

Key Takeaways

- Addiction is a multi-dimensional problem
- Recovery requires long-term solutions that address biological, psychological, social, cultural and spiritual concerns

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9.4 INDIGENOUS APPROACHES

Figure 9.4.1 – Photo by Stéfano Girardelli on Unsplash

I would like to acknowledge the individuals and organizations that shared their knowledge to help us learn about the history of Indigenous people in Canada. Please bring openness and respect to this learning.

This section will focus on healing that has happened and is happening in Indigenous communities in the context of substance use. Here is what we know: the Canadian Government has systemically and continuously tried to eradicate Indigenous groups across North America, devalued their stories and cultural practices [(1).] The Canadian Government, under the Indian Act, forced generations of trauma upon individuals and communities; we must acknowledge and understand this as "to understand the Aboriginal perspective there needs to be recognition of the effects of colonization" [(2)].

Indigenous people are strong and resilient [(3)]. According to McIvor et al. [(4),] Aboriginal communities have asserted "that their language and culture is at the heart of what makes them unique and what has kept them alive in the face of more than 150 years of colonial rule" [(5)]. By understanding the ways Indigenous

communities have responded to colonization and ongoing health concerns in this context, substance use may help non-Indigenous practitioners understand Indigenous practices. Of key importance is the understanding that "health" goes beyond the western ideal of physical and mental health; Indigenous health is "understood as one of a harmonious relationship within the whole person, including mind, body, emotion, and spirit" [(6)]. By knowing and respecting this worldview, Social worker practitioners may begin to explore the ways they can learn from Indigenous communities.

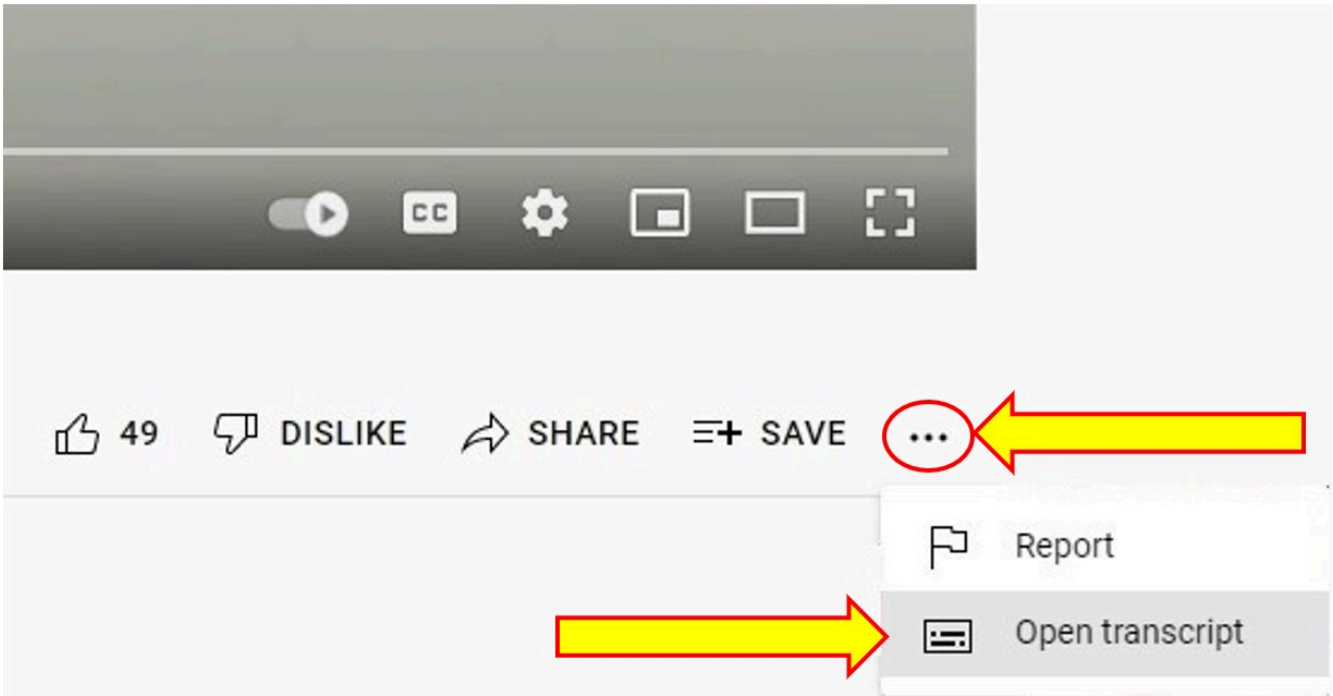
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1647#oembed-1

What non-Indigenous Canadians need to know. By TVO Today Docs. Eddy Robinson is an educator on Indigenous issues. In this web series called "First Things First," Robinson explains why asking "How Can I Help?" is not the right question.(7)

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



Indigenous Canadians who use substances have some of the highest rates of substance use disorders in Canada because of inter-generational trauma and colonization [8]. Substance use is not unique to Indigenous groups and many individuals and communities are addressing their substance use using culture as intervention and treatment.

Most Indigenous scholars proposed that the wellness of an Aboriginal community can only be adequately measured from within an Indigenous knowledge framework that is holistic, inclusive, and respectful of the balance between the spiritual, emotional, physical, and social realms of life. [9]

Some groups may solely use culture and traditional methods, some may use Western treatment and sometimes individuals and groups use a blending of the two. This blending could be seen as utilizing a two-eyed seeing approach, a concept developed by Elder Albert Marshall which he suggested one uses the strengths of Indigenous knowledge and the strengths of Western knowledge so one may come to see the world more comprehensively and for the benefit of all [10]. Evidence is clear: culture is a foundation of Indigenous health, from prevention initiatives to healing from substance use and trauma [11].

In Nova Scotia, there are some services provided to Indigenous people in Indigenous communities that use a two-eyed seeing approach. For example, Eagle Nest Recovery House in Sipekne'katik First Nation, Nova Scotia provides "best practices and community based culturally relevant programs which are delivered by certified addictions counsellors" [12].

Activities

1. Research two-eyed seeing[13]
2. How can two-eyed seeing help you as a Social worker?
3. Can two-eyed seeing be used beyond an Indigenous lens? How?
4. How can you ensure cultural respect/responsiveness when learning about Indigenous treatments?

It is important to reiterate that each Indigenous group in Canada is unique, and not all interventions would be appropriate. The culture-based intervention and healing may include any or all of spirit, ceremonies, language, values and beliefs, stories and songs, land-based activities, food, relations, nature, and history, among others.

For More Information:

- Traditional Health and Wellness?[14]
- What is Cultural Competence – AFN It's Our Time Toolkit[15]

The Medicine Wheel

What is a medicine wheel? McCormick [16] provides the following overview of the medicine wheel:

The Aboriginal medicine wheel is perhaps the best representation of an Aboriginal world-view related to healing. The medicine wheel describes the separate dimensions of the self– mental, physical, emotional, and spiritual – as equal and as parts of a larger whole. The medicine wheel represents the balance that exists between all things. Traditional Aboriginal healing incorporates the physical, social, psychological, and spiritual being. [17] [18]

The medicine wheel has many iterations and is used differently by different practitioners as noted by Jeff Ward in the video below[19]. It is important to note that the teachings of the medicine wheel can be used as part of a two-eyed seeing approach to health.

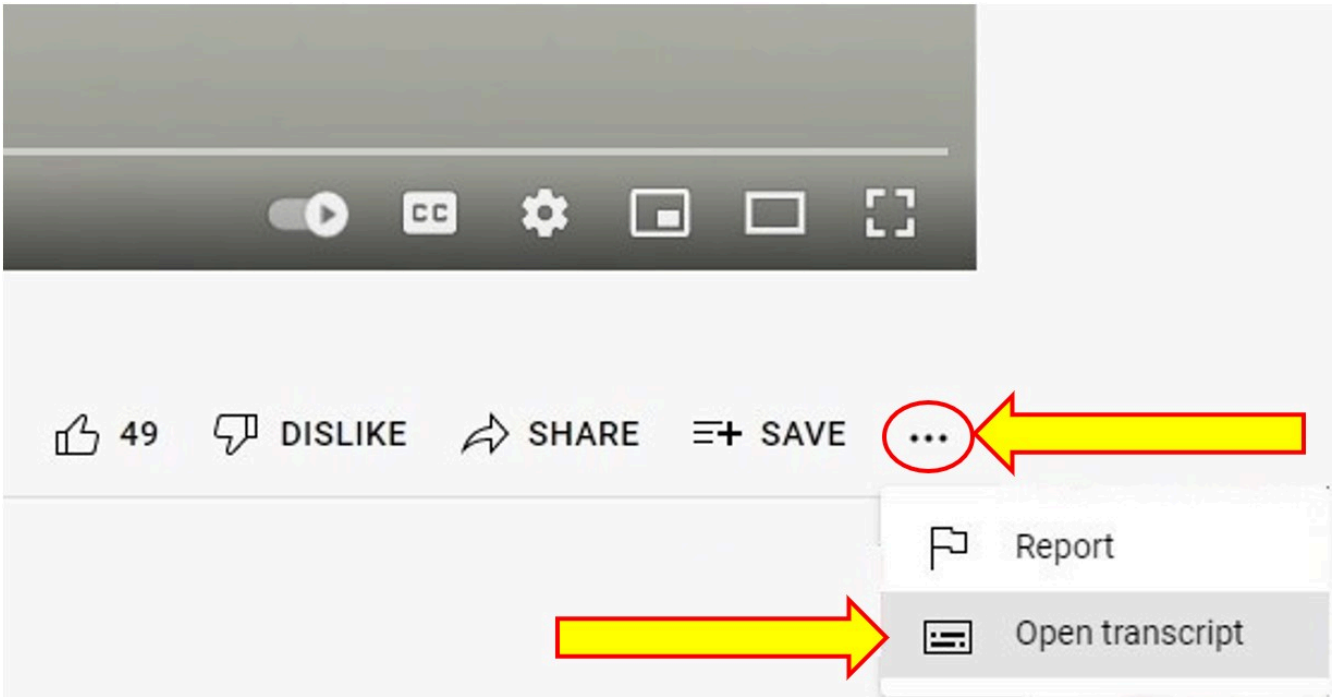
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1647#oembed-2

What is the Medicine Wheel? Teachings by Jeff Ward. By The Preservation Project. Jeff Ward, From Membertou, First Nation teaches us some lessons about the Medicine Wheel.[19]

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



Food For Thought

- How can you learn more about medicine wheels?
- Where can you go for culturally appropriate information?
- How can you incorporate the medicine wheel into your life? Your work?

Elders

What is an Elder? The term Elder "refers to someone who has attained a high degree of understanding of First Nation, Métis, or Inuit history, traditional teachings, ceremonies, and healing practices" [20] and is not defined by their age. Elders do not belong to just one family, they are part of the community, and respect should be given to Elders from all, both Indigenous and non-Indigenous peoples. Elders have a revered place among Indigenous communities in Canada. "Elders were the carriers of knowledge of both physical and spiritual reality and that they have been educated through the oral tradition" [21]. The role of Elders in Indigenous communities cannot be stressed enough. They are the keepers of knowledge and are honoured and respected.

Please watch the video below to deepen your understanding of Elders[22].

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1647#oembed-3

The Elders: Getting to know some of the most honoured members of First Nation. By CBC/Radio-Canada. Elders from Mi'kmaw, Wolastoqi and Peskotomuhkati communities shared their stories for this five-part weekly series.

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
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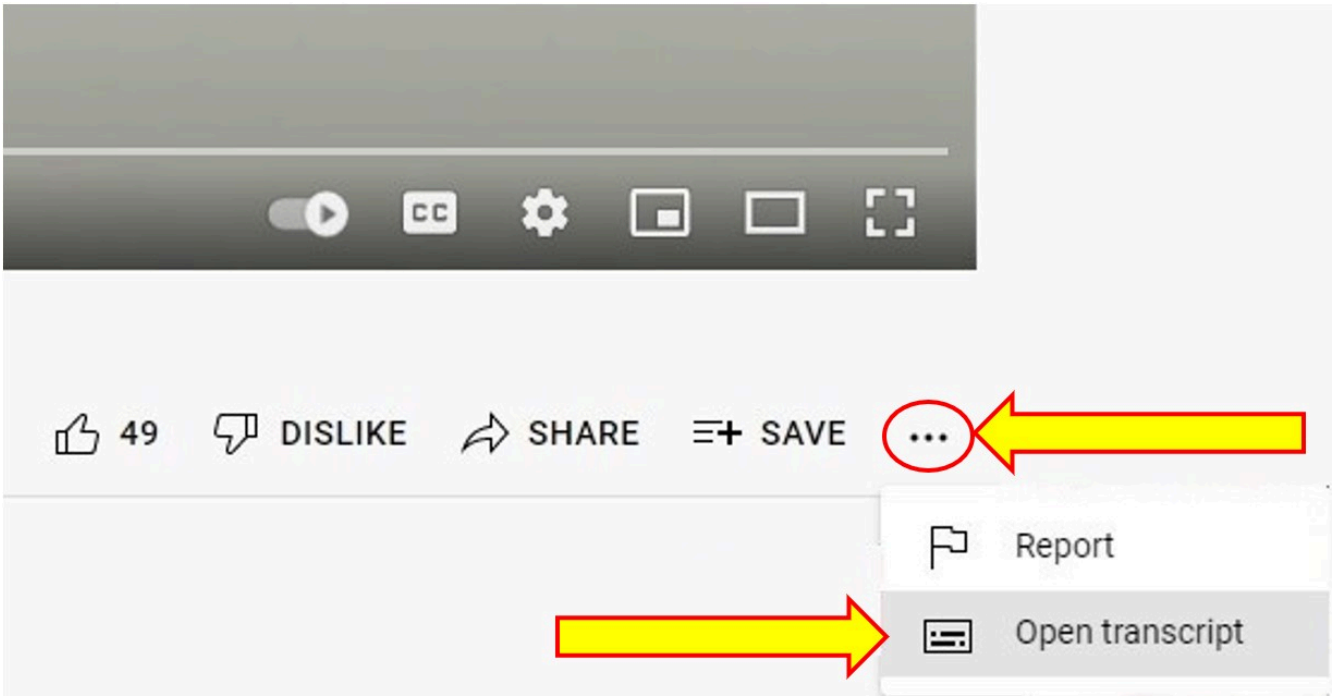

Food For Thought

- What did you learn about Elders?
- What would you like to know more about?

Land based treatment

Nature is a powerful force and how we engage with nature depends on many factors, where we live, access to wilderness, finances, ability, safety and more. One of the social determinants of health is environment; consequently, where we live plays a role in our health. The earth takes care of us, it is where we build our homes, grow/hunt/fish our food, drink our water, and we live, work, and play on the land.

Food For Thought

- Have you ever taken a walk in a forest? A beach? Your neighbourhood?
- What did it feel like? Were you present in this moment?

Taking time to honour the earth is important, and Indigenous communities have a deep sacred relationship with the land, with the earth. The land plays a critical role in substance use treatment for Indigenous people. Carrier Sekani Family Services "offers a land-based healing program that uses culture and the natural environment to encourage its participants to return to their First Nations' culture to assist in combating addiction [(23),] Utilizing the land allows a path to healing for communities who have been removed from the land and traditional teaching due to colonization. This type of programming includes both traditional teachings as well as Western interventions, utilizing the concept of two-eyed seeing which honours the best of Indigenous and non-Indigenous treatment philosophies and interventions.

Chief Bob preparing to smudge. Credit: 2017 Anishinabe Naming Ceremony at Springwater Park, ON by antefixus21 CC BY-NC-ND 2.0

READ

The Carrier Sekani Family Services Addictions Recovery Program wepage for an example of a First Nations approach to addiction recovery[23].

Smudging

Figure 9.4.2 – Photo by Content Pixie Unsplash

What is smudging? The smoke from burning sweet grass, cedar, or sage, is brushed toward one's body to cleanse the spirit. The smudging is usually done before a person involves themselves in a traditional ceremony [24].

The Seven Sacred Teachings with Dr. Lottie Johnson

Watch *The Seven Sacred Teachings with Dr. Lottie Johnson* via Vimeo.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1647#oembed-4

LISTEN

Did you know that NSCC has smudging rooms on all of the campuses? NSCC establishes smudging rooms at all campuses via CBC NS.

Food For Thought

Watch the CBC news video: NSCC establishes smudging rooms at all campuses

1. Did you know that NSCC has smudging rooms on all of the campuses?
2. Have you ever seen smudging?
3. Have you ever participated in a smudge?
4. What did that feel like?

Sharing circles have an important role in Indigenous healing. They are "an Indigenous method used to explore a topic (e.g. health) and co-create solutions (e.g. how to restore balance) in a safe and protected space where each individual's thoughts, experiences, feelings and ideas are respected".(25)

READ:

To learn more about sharing circles read Sharing Circles by a blog post by Raven on her Silence of the Season website.

Drumming

Excerpt from "Interview with Morning Star River Singers" November 7, 2004, Toronto, ON[26]

The drum is circular; Mother Earth is circular and that's what that drum represents. It represents Mother Earth. When the singers sound the drum that is the heartbeat of Mother Earth and we give thanks for everything that she gives us. She has been taking care of us from the beginning of time, taking care of us with food, water, medicine, everything. She has never turned her back on us. So when the singers are sounding that drum and the dancers are coming around that drum, they are dancing in time with that drum to show that connection to her. While they are dancing they are thinking about those things that Mother Earth provides for us, but as well they are thinking about all their friends and family that have helped them along the way in their life. Every one of us has been through trying times and we needed our relatives for support. We need our friends for support and they've been there for us no matter how down we have been; they have been there for us. So we need to acknowledge and remember all those people because that drum there represents life, represents all of the seasons, represents all of those things – like the medicine wheel teachings on that drum.

Brian Knockwood of Sipekne'katik First Nation is a local drum maker who has been making drums for more than two decades.

READ

The healing powers of a hand drum: Brian Knockwood's lessons in drum making help people along road to recovery by Logan Perley posted January 27, 2020 to CBC News New Brunswick.(27)

Learn more about Brian and how he uses drumming in his work as a substance use counsellor.

Activities

1. Choose one of the following films about Indigenous drumming.
    1. https://www.nfb.ca/film/first_stories_his_guidance_okiskinotahewewin/ (28)
    2. https://www.nfb.ca/film/poundmakers_lodge_healing_place/ (29)
2. What stood out for you? Why?
3. Have you ever experienced drumming?
4. What about taking photographs when people are drumming?
5. When does drumming happen?
6. Can anyone participate in drumming?
7. How does drumming help heal?

Substance use treatment centres for First Nations and Inuit

First Nations communities with problematic substance use challenges have access to services funded by the Government of Canada.

For information on residential treatment programs, contact a treatment centre near you. You can also contact your local regional office at the number provided below.

For information on community-based prevention programs, contact your community nursing station, health centre, band council or local regional office.

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9.5 COVID-19 PANDEMIC - AN UNPRECEDENTED GLOBAL HEALTH, SOCIAL AND ECONOMIC CRISIS AND HOW IT AFFECTED SO MANY COMMUNITIES

Figure 9.5.1 – Photo by Kyle Glenn on Unsplash

The COVID-19 pandemic is an unprecedented global health, social and economic crisis. Throughout the pandemic governments around the world have responded with a series of measures to assist. Creating new programs and assistance as the pandemic continues.

As the effects of COVID-19 have been unfolding over the last 3 years, there has been growing attention paid to the intersectionality of COVID-19 and substance use, abuse, mental health, addictions, behaviours and the related harms.

There are many theories, and limited empirical evidence to guide investigations, creating solutions, supporting the many different areas of substance use, mental health and other new as well as existing challenges that create harm.

It has impacted worldwide on people's livelihoods, health, food systems, medical systems, increased poverty, jobs, social structors, accessibility to necessary everyday items, food security, public health, employment and education.

COVID-19 in Canada: A One-year Update on Social and Economic Impacts – Stats Canada[1]

Activities

1. Brainstorm a list of things you did to cope with the isolation from the pandemic.
2. Did you increase your substance use?
3. How important is social connection in your life?
4. Did technology help?

Health Tips World wise

14 October 2021

Message of the WHO (World Health Organization) Regional Director for Africa, Dr Matshidiso Moeti[2]

Global Handwashing Day is celebrated every 15 October, because handwashing is one of the most important ways to prevent disease and save lives.

Figure 9.5.2 – Photo by CDC on Unsplash

The theme this year is "Our Future is at Hand – Let's Move Forward Together" recognizing the global movement promoting handwashing as a key way to prevent COVID-19 transmission, and the need to keep building on this momentum even after the pandemic.

Despite the global attention to hand hygiene, too many people around the world still lack access to soap and water. For example, in African countries only around one in four households have handwashing facilities with soap and water.

As part of the response to COVID-19, countries, partners and communities are investing so that more people can wash their hands frequently. In most countries, authorities have placed handwashing facilities at bus stations, markets and health-care facilities. Zambia has gone a step further, introducing mobile handwashing stations with ramps and levers that can be operated by knees, feet or hands for people living with disabilities.

Homegrown solutions have popped up across Africa. In Ghana, for instance, a taxi driver fitted an automated handwashing machine on his car for passengers to use. In Kenya, nine-year-old Stephen Wamukota invented a hands-free washing facility that uses a foot-operated lever. The challenge now is to scale-up these and other innovations, and this is where public-private partnerships and funding incentives can play a key role.

Through cooperatives or similar institutions, governments could make available small loans to households

for indoor plumbing and washbasins. This would help to drive progress towards the global target of hand hygiene access for all by 2030.

In June 2020, UNICEF and WHO launched the Hand Hygiene for All (HH4A) initiative, thanks to which 40 countries, including 22 from Africa, have developed roadmaps towards universal hygiene coverage. Partnerships with the private sector and civil society will be critical in successfully implementing these roadmaps.

So today as we celebrate Global Handwashing Day, I encourage governments, partners and communities to intensify strategies to increase access to safe water and sanitation, as indeed handwashing with water and soap is among the most cost-effective interventions for reducing the transmission of diseases. I urge everyone to remember "each second, save lives – wash your hands" to prevent the spread of COVID-19 and other diseases.

(WHO)- World Health Organization

- WASH and COVID-19, UNICEF, July 2021
- Global Handwashing Partnership
- WASH in Health Care Facilities, UNICEF Global baseline report, 2019
- UNICEF, WHO – 1 in 4 Health Care Facilities Lack Basic Water Services, 2019
- WHO course on Hand Hygiene

Travel

Travel is now different than we've ever experienced in the past. Whether it is leaving your home and heading out of town, out of Province, out of Canada, there are so many things that now must be taken into consideration that was not something we've thought about previously.

Figure 9.5.3 – Photo by yousef alfuhigi on Unsplash

COVID-19 has polarized peoples thoughts around travel and safety.

We also need to take into consideration that things can change from when you first looked into the protocols, bought your tickets and went to a destination, that can impact you when you are ready to return home. This may or may not be the same protocols as when you originally departed and can impact you possibly getting stranded at your location, part way home or any number of other possibilities that could create a number of new and unexpected challenges.

Figure 9.6.4 – Photo by Simone Secci on Unsplash

So many new things to take into consideration:

- Destination – Domestic or International
- Return or Travel to Canada
- Provincial or Territory requirements
- Vaccination for Travellers
- Testing and Quarantine Requirements
- Boarding flights, trains or cruise ships
- Transportation
- How to travel safely
- Travel Insurance
- New Outbreaks – different variants of the COVID-19 virus

Travel Tips for COVID-19:

- COVID-19 Travel Recommendations by Destination
- Coronavirus Travel Tips for 2020 Vacation
- Government of Canada – COVID-19: Travel, testing and borders

Mental Health

Figure 9.5.5 – Photo by Fernando_cferdophotography on Unsplash

COVID-19 is having a negative impact on Canadians' mental health, where people are seeing their stress levels double since the onset of the pandemic. People are struggling with fear, uncertainty about their health

& their loved ones health, social isolation, quarantining, and finances to name a few. Canada has had both federal and provincial governments creating new programs to assist in multiple areas to assist those impacted by COVID-19.

People with SUD (Substance Use Disorder) are at greater risk of worse COVID-19 outcome. There is a surge of behavioural & addictive behaviours (both new and relapse), and mental health currently emerging throughout Canada. Due to COVID-19 accessing the healthcare system has become a larger challenge then ever before for anyone, and this is making those who have addiction or mental health issues more prone to procuring drugs by illegal means. Many surgeries have been put off due to: considered elective, overburdened hospitals, burnout of specialized professionals (EMS, Doctors, Hospital Workers etc), medical staff being used elsewhere as needed. Many health issues have not been addressed due to lack of services at this time such as: diagnosing illnesses, bloodwork, CT scans etc. Some of those surgeries can be critical as well such as cancer treatment or replacement surgeries.

The impact of COVID-19 has left many people with feelings of stress, anxiety and depression who have never experienced it before. For those with preexisting mental health issues symptoms are worsening in this time of uncertainty. Substance abuse and mental health have long been linked, with 50% of people with severe mental disorders being affected by substance abuse. When someone has both mental health issues and a substance abuse disorder, it is called a co-occurring disorder.

More information:

- CTV – Due to COVID rise in Anxiety & Depression
- COVID 19 Perspectives on Health & Well-Being in Black Communities in Toronto

Physical Health

Figure 9.5.6 – Photo by Kelly Sikkema on Unsplash

The shift by not just Canadians but worldwide to a more physically distance lifestyle, has assisted in reading the goal of reduction in transmission of COVID-19, but at what cost. It is well known the benefits of being active which assists in lowering health issues such as diabetes, depression, anxiety, dementia, cancer and many other conditions. When COVID Pandemic happened things were forced to change with social distancing, lockdowns, isolation, change of physical activity, or socializing, there has been an unintentional increase in the risk of chronic diseases such as cardiovascular disease, obesity, diabetes and cancer.

It is important to note that physical activities and exercise not only maintain physical and psychological health but also help our body to prevent negative consequences of several diseases such as diabetes, hypertension, cardiovascular diseases, and respiratory diseases.

For some gyms and people they have created online exercise, gyms in their house, walking or running outdoors at off hours with a mask, exercising in their yard, electronic exercise (fitness, boxing, dancing), working out with others to get motivated or many other innovative ways to continue to exercise. The challenge of course for many it is not that simple of an option.

Connect with a friend / friends and create a fitness support groups who can work out together or just

connect to discuss ideas and options of what can work out. I know a family who has 1 sibling who lives in Australia, 1 in Edmonton, 1 in Toronto, 1 in Trenton and parents live in Toronto. They do an online fitness together at least once a week including the parents, and yoga as well.

We are only limited by our imaginations.

Examples of impact of COVID on our physical health:

- CTV News – Exercise and mental health: Canadian study finds the pandemic increased stress and lowered physical activity
- Impacts of the COVID-19 Pandemic on the Health and Well-Being of Young Adults in British Columbia

Examples of Easy At-Home Exercise (for adults / seniors / youth / children):

- Yoga
- Meditation
- Sit-Ups. Basic, but effective. ...
- Crunches
- Bicycles (whether a exercise cycle or lie on your back feet in the air, knees bent
- Planks. ...
- Squats. ...
- dancing
- Lunges. ...
- Squat Jumps. ...
- High Knees
- walking up & down stairs
- working with dumbbells or weights
- finding online exercise that work for you

- electronic games to assist – workouts / dancing / boxing / jumping

Emotional Health

Symptoms of mental health disorders over the course of the COVID-19 pandemic have increased, which is not a surprise. With all the lockdowns, limitations, shut down of stores, communities, churches, schools, gyms and many other facilities it is not a huge surprise that there has been an impact of Canadian & worldwide emotional health.

Figure 9.5.7 – Photo by Dollar Gill on Unsplash

Many people have been hospitalized for health issues (new & pre-existing), babies, some with extended stays, someone passing away and surgeries to name a few. Many planned surgeries have been postponed as they were considered "elective" and could be postponed for another time. One of the toughest challenges has been that for many, these hospitalizations have been without support as protocols had changed and there were limits put in place for safety reasons. This meant that many have had to do it alone or with a time limit on the 1 visitor. We have all been impacted by the loss of people/family or known people/family that we've considered family and due to the COVID Pandemic could not visit or spend time with. These were not always because of having complications due to COVID, but from COVID protocols for safety.

Many of us have seniors in our family who are experiencing a whole new level of isolation, someone who lives alone and can't connect with others due to transportation limitations, or those with mental health becoming more complicated because of isolation. Some family members we haven't been able to see in years due to travel restrictions that impacts everyone's health. We've been to many online funerals, weddings, introduction to new family babies, or a small wedding in the park (when allowed) to name just a few.

Education of all levels has been online, and for many that lack of connection has also deeply affected their learning, their emotional health, compromised they're already complicated challenges that they daily live with. There is a steep learning curve for everyone businesses, individuals, seniors, including families to work with

this. There is an assumption that all families can easily do this (1 parent – 3 school age children & the 1 parent has to work at the same time), that there is enough electronics that each child an use one and be supervised, and of course they have access to technology (wifi) to do this successfully.

It is easy to see how Globally everyone's mental health has been impacted with COVID 19.

"Findings released today from the Survey on COVID-19 and Mental Health (SCMH) indicate that one in four (25%) Canadians aged 18 and older screened positive for symptoms of depression, anxiety or post-traumatic stress disorder (PTSD) in spring 2021, up from one in five (21%) in fall 2020".

Veterans

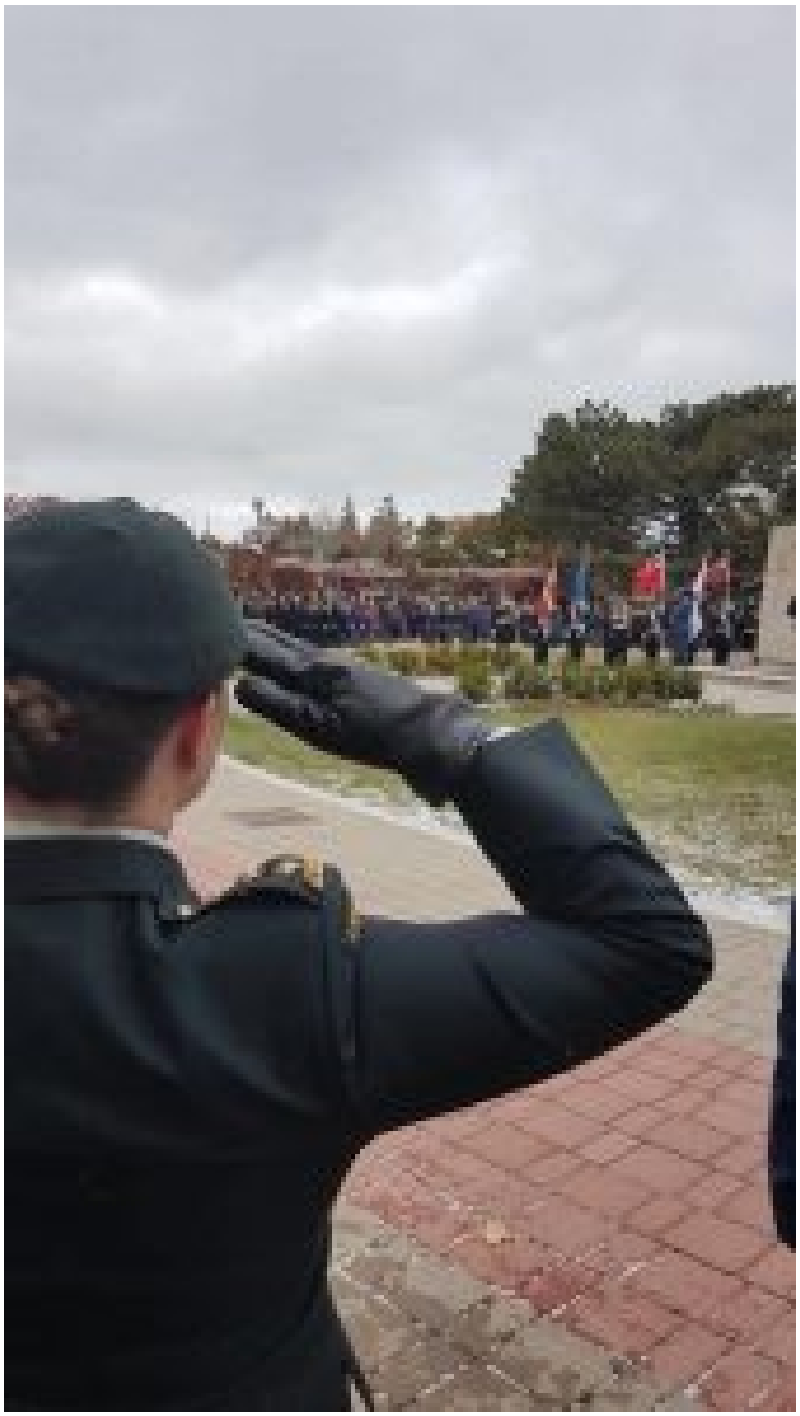

Figure 9.5.8 – Captain Donna Franks, Memorial Day – Toronto, Ontario – saluting the flag and The Veterans. Photo by Denise Halsey (Mom to Captain Franks)

Treatment benefits during the COVID-19 pandemic for Veterans.

Since the beginning of COVID-19 measures in early 2020, just like so many other in-person healthcare services, Veterans have been impacted by the COVID-19 pandemic. There have been many temporary changes to the VAC Treatment Benefits program. See link below to get all the information including Answers to many questions.

VAC offices are not open to the public due to the outbreak of coronavirus (COVID-19).

To speak to a mental health professional now, please call the VAC Assistance Service[3]:

If you are experiencing an urgent financial need, emergency funding may be available. Call Veterans Affairs Canada – Government of Canada [4](tel:18665222122).

Treatment Benefits during COVID for Veterans – Questions & Answers – Government of Canada[5]

More Information for Canadian Veterans

- Serving Veterans during COVID-19 Flyer
- COVID-19 information and assistance for Veterans – Government of Canada
- COVID-19 – Government of Canada

Seniors

Figure 9.5.9 – Photo by Eduardo Barrios on Unsplash

Seniors (age 65+) have been greatly impacted by COVID in so many different ways. When we look at seniors we need to look at all areas which include: health, social and financial impacts. Depending on where the seniors live with affect these areas differently. Social isolation is such a tough piece of seniors and its not a simple task to get them medical support or vaccinations. Many programs have extended or began new programs to be able to support seniors in different environments.

There was a huge increase in deaths during COVID which statistics stated that "Between the end of March 2020 and mid-May 2021, seniors aged 65 and over accounted for 64% of excess deaths and for 93% of the deaths attributed to COVID-19. Seniors were more likely than younger Canadians to be concerned about their health and to take precautions as a result of the pandemic."

There has been many changes put in place, but there is still much work that needs to get done, so that seniors are getting the support they deserve and need. The learning curve has been very steep. There are many new programs that have been put in place to support Seniors.

Programs – Created and Adapted for Virtual Accessibility

Figure 9.5.10 – Photo by Elizabeth McDanield on Unsplash

Figure 9.5.11 – Photo by Paulo Silva on Unsplash

Many programs have adapted their programs to allow for virtual accessibility, whereas new programs have also been created to meet the new demand. Virtual care or remote monitoring isn't new in many Healthcare Networks, larger city hospitals or medical practices (like Telehealth), but it has expanded exponentially over the last couple of years during the pandemic. Many have incurred a very steep learning curve.

These include medical, education, physical, recreation, mental health, relaxation, gaming to name a few. They are not meant to replace face-to-face therapy, and it's not a forum for crisis situations, but it's an option for those out there who (for whatever reason) don't have access to emotional supports. This can be due to accessibility, distance, availability, covid restrictions or many other challenges.

These include but not limited to:

- medical appointments (check-in, bloodwork, vaccinations to shut-ins)
- remote care at home (seniors, children, special needs, all ages)
- education (primary, elementary, high school, colleges, and universities)
- education where in-class is mandatory, there have been new programs created to allow the hands-on

clinical courses to become virtual (i.e. labs, medical etc) or create new safety protocols to allow a safe in-class environment

- business meetings, trainings
- trainings – youth, adults, seniors
- AA, CA, NA support groups
- Mental Health support groups
- support groups of many kinds
- Treatment Centres (outpatient & virtual)
- Psychiatry
- workouts (Gyms create online classes – specializing in youth, women, seniors etc)
- Fitness Trainers
- Guiding / Scouting / Karate / online board games / painting
- APPS: (meditation, AA, CA, NA supports, support groups, games to relax, mindease (anxiety ease), DARE (anxiety & panic relief), CBT, wisa (anxiety therapy chatbox).
- gaming (individually or online / electronic or boardgames) – families & friends creating online activities for youth, family, friends or groups worldwide or in the same city
- painting, crafting, etc. and how-to sessions (all ages), puzzles, adventures
- online faith based services (for whatever your spiritual beliefs are)

Resources

All Provinces and Territories in Canada created supports for mental health and addiction. Here are some of them:

- Mental Health and Wellness Support during COVID – Yukon
- Government of Nunavut
- Northern Territories – Mental Wellness and Addictions Recovery
- CAMH: Mental Health and the COVID-19 Pandemic
- Mental health and substance use during the Hospital News: COVID-19 Pandemic: Implications for healthcare
- The Addiction and COVID-19 connection
- How thousands of COVID-19 patients have been getting remote care at home

- Resources for Canadian Social workers

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Figure 9.6.8 – Halsey, D. (2018, November 11). *Remembrance Day with Veterans* [Photograph].

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9.6 CURRENT WITHDRAWAL MANAGEMENT PROGRAMS

Learning Objectives

By the end of this chapter you should be able to:

1. Describe withdrawal management
2. Understand the role of withdrawal management programs
3. Summarize withdrawal management practices in Canada
4. Identify 3 different withdrawal management programs
5. Explain what services RAAM Clinics offer
6. Describe the importance of OAT (Opioid Agonist Treatment) / MMT (Methadone Maintenance Treatment) including Suboxone
7. Summarize the MAP (Managed Alcohol Program)

Withdrawal Management Programs

Figure 9.6.1 – Medication, Gordon Johnson, Pixabay License

In this chapter we examine a variety of **Withdrawal Management Programs (WMS)** that include Harm Reduction Programs such as **RAAM clinics**, OAT **(Opioid Agonist Treatment)** / **MMT (Methadone Maintenance Treatment)** including Suboxone, **MAP (Managed Alcohol Prevention)** and Peer Supports.

WMS provide short-term care for voluntary patients with severe and persistent concurrent Disorders who are not medically stable to do a program as an outpatient. Some who access WMS are in a medical crisis and need a higher level of support and care. This would include physical crisis, mental crisis or multiple other components that will only allow WMS once the person has been medically cleared for the next stage.

Think of someone who is in crisis with many different components occurring at the same time. Now think of them as someone on a massive highway with many different lanes, so many choices of on or off ramps, many different drivers, vehicles all around them, and everyone in a hurry to get somewhere. This can be very overwhelming.

Figure 9.6.2 Photo by Jared Murray on Unsplash

When you work with WMS there are many areas to take into consideration. This takes into consideration established and emerging medication and psychosocial treatments in a recovery-oriented mix. This will look

different to each person, as many areas must be taken into consideration including diversity, equity (including health equity), and inclusion.

Types of Treatment and Services Offered include:

- inpatient stay
- comprehensive withdrawal management support from a multidisciplinary team
- participation in therapeutic activities
- care planning and referral for the next stage of recovery

Rapid Access to Addictions Medicine (RAAM) Clinics

The RAAM Clinic is an easy to access walk-in/drop-in clinic that people can visit to get help for substance use without an appointment or formal referral. RAAM Clinics are attached to hospitals and have a multi-disciplinary team. RAAM Clinics are situated in most provinces across Canada. Services are provided on a first come, first served basis, with some prioritization by clinic staff based on urgency. Contact the closest clinic to find out what their hours and days are.

What is a RAAM clinic and who is it for?

RAAM clinics are for:

- people looking to get help with high risk substance use and addictions
- interested in trying medical assistance to reduce or stop their substance use
- experience frequent intoxication or overdose symptoms, as well as unpleasant withdrawal symptoms when attempting to reduce or stop their substance use
- people who have substance-related health issues, such as hepatitis, pancreatitis, or infections, among others.

RAAM clinics are not for people who:

- need urgent medical attention for urgent physical problems or mental health symptoms such as psychosis (paranoia, delusions, hallucinations) or agitation
- active risk of harm to self or others
- requiring police/security involvement.

The people working at these clinics know how difficult it is to ask for help. You don't need an appointment to go to the clinic – just show up during clinic hours with your Health card.

It is that medical treatment for problematic substance use is safe and effective.

What happens when you go to a RAAM clinic?

Figure 9.6.3 – Photo by KOBU Agency on Unsplash

The clinic team will ask you about your history of substance use:

- when and how you started using
- how much and how frequently you use
- how it may impact your life and responsibilities

The RAAM clinic team then recommends some options around what treatment will likely work best for you, and allow you to decide.

There are four options:

1. **Advice** – Many people who have to go to the hospital for a substance-related problem are injured as a result of using too much. In these cases, the RAAM clinic team will provide you with advice on how to

make choices that will minimize the risks of substance use, such as tips on how to pace your use and situations to avoid.

2. **Counselling –** The RAAM clinic team may refer you to counselling as part of your treatment. Counselling programs can include education on substances and healthy lifestyle choice, group and individual therapy sessions, help with developing coping skills, cognitive behavioural therapy, and peer support groups. The team will work with you to determine what form of counselling would be most helpful for you.
3. **Medications –** Addiction to some substances, such as alcohol or opioids, can be treated with a medication that will help to lessen cravings, as well as the withdrawal symptoms that may accompany your early days of sobriety. Medication usually makes other types of treatment much more effective and reduces the risk of relapse. These medications are safe, effective, and non-addictive. The team will discuss your options with you.
4. **Support –** If you're feeling anxious or hesitant about going to the RAAM clinic, consider bringing a supportive person with you. Changing your substance use can be very difficult, and having someone with you while you speak to the team may make you feel less overwhelmed and less alone.

Figure 9.6.4 – Photo by Joshua Hoehne on Unsplash

IMPORTANT – If you are seeking treatment for opioid addiction, abstinence (including withdrawal management/detoxification) is NOT recommended. Opioid Agonist Treatment (OAT) (the use of long-acting medications to treat withdrawal and prevent relapse) is recommended as a safe and effective way to treat your opioid addiction.

When you begin your recovery from opioid addiction, abstinence can place you at higher risk of overdose, medical harms and death. You are welcome to attend a RAAM clinic or contact other OAT providers to discuss your options.

YOU SHOULD KNOW

Individuals do not have to be substance-free for any length of time to access RAAM services. However, they must be able to have an informed conversation about treatment, understanding the risks and benefits of treatment options. If a person is too intoxicated to have an informed conversation, they may be asked to return at a later date or referred to another community service.

If an individual with **opioid use disorder** is to receive **Opioid Agonist Treatment (OAT)** with buprenorphine/naloxone (Suboxone), the time from last opioid use will factor into the decision on how to safely start the medication.**There is no specific timeframe of required abstinence from opioids before attending RAAM**

Harm reduction supplies, including Naloxone (a medication to counter an opioid overdose) are available at all RAAM clinics.

OPIOID AGONIST THERAPY (OAT)

Figure 9.6.5 – Photo by Towfiqu barbhuiya on Unsplash

How does Opioid Agonist Therapy (OAT) Work?

(OAT) is an effective treatment for addiction to opioid drugs such as heroin, oxycodone, hydromorphone

(Dilaudid), fentanyl and Percocet. The therapy involves taking the opioid agonists methadone (Methadose) or buprenorphine (Suboxone). These medications work to prevent withdrawal and reduce cravings for opioid drugs. People who are addicted to opioid drugs can take OAT to help stabilize their lives and to reduce the harms related to their drug use

When a person is addicted to shorter-acting opioids, a long-acting opioid (methadone and buprenorphine) are used. The long-acting means that the drug works for a longer period of time by acting more slowly in the body. This prevents withdrawal for 24 to 36 hours without causing a person to get high. OAT reduces or eliminate cravings for opioid drugs. When combined with support, such as individual or group counselling, there are best outcomes.

More Information:

- CAMH: Opioid Agonist Therapy

MMT (Methadone Maintenance Treatment)

Figure 9.6.6 – Photo by Towfiqu barbhuiya on Unsplash

Methadone is a medication primarily used to treat chronic pain and as a treatment for opioid use disorder. It is a controlled substance that is regulated under the Controlled Drugs and Substances Act (CDSA)(1), and the Narcotic Control Regulations (NCR).[2]

In the past, practitioners were required to obtain an exemption from Health Canada before they could prescribe, sell, provide or administer methadone.

Methadone [3] is a long-acting opiate, which is substituted for short acting opiates like fentanyl, Percocet, oxycodone, and heroin. This type of OAT manages the withdrawal symptoms a person experiences as withdrawal from opiates can be physically painful. It can also be emotionally distressing, particularly if the substance is being used as a coping tool. Evidence from research around the globe has demonstrated that methadone is an effective treatment; it can help people with an opioid addiction in more ways than one Suboxone (Buprenorphine/Naloxone).

Figure 9.6.7 – Photo by Danio Alvesd on Unsplash

Buprenorphine/naloxone, sold under the brand name Suboxone among others, is a fixed-dose combination medication that includes buprenorphine and naloxone. It is used to treat opioid use disorder, and reduces the mortality of opioid use disorder by 50%. It relieves cravings to use and withdrawal symptoms.

Is Suboxone legal in Canada?

Health Canada [(4)] has **authorized 2 dosage forms** of SUBOXONE (buprenorphine and naloxone), a sublingual tablet and soluble film, that are not bioequivalent at all doses and routes of administration.
Many Treatment Centres in Canada are now accepting residents / clients into their facility who are on MMT and also have an Opioid Replacement Doctor on staff that have that specialty. They also have an onsite Withdrawal Management that is onsite with the necessary medical support 24/7.

Methadone, along with buprenorphine and suboxone, other opioid agonists, have changed

lives. Opioid agonist does not work for every person; it may be offered as an option.

Regulations Amending the Narcotic Control Regulations and the New Classes of Practitioners Regulations (Diacetylmorphine (Heroin) and Methadone): SOR/2018-37.

Important Information

Suboxone

- Ontario expands use of Suboxone as part of new provincial opioid strategy
- Important Safety Information on SUBOXONE (buprenorphine and naloxone) and the Risk of Overdose or Underdose when Switching Between Dosage Forms or Routes of Administration

MAP (Managed Alcohol Prevention)

Figure 9.6.8 – Photo by LOGAN WEAVER on Unsplash

The MAP Program originally was considered withdrawal management but is now considered a Harm Reduction model. Originally when MAP were created it was to be harm reduction. It was quite controversial and created polarized views on the reasoning for such a program. The goal was to support an individual where they were at on the substance use continuum. It was important to assist with the withdrawals of Alcohol as one of the most widely used substances in Canada; alcohol use is on a spectrum.

You may think of a broader health perspective than substance use when you hear the word detoxification; in this context, detoxification or the preferred term, withdrawal management, is a medically assisted/managed program. Medications and devices can be used to manage withdrawal symptoms, prevent relapse, and treat co-occurring conditions. Withdrawal management is not in itself "treatment," but only the first step in the treatment process.

In-Patient Withdrawal Management

Figure 9.6.9 – Photo by Kinga Cichewicz on Unsplash

In-patient withdrawal management is an important component of treatment, particularly for substances that are life threatening to withdraw from, like alcohol. Substances like opioids are painful to withdraw from, in which case some individuals may be prescribed opiate replacement therapy, including methadone or buprenorphine, which we will discuss below.

Many treatment centres are now offering withdrawal management with medical support. It is important when someone is medically fragile to make sure that they get the support that they need.

Activities

1. Compare and contrast a program at a private facility with a provincially funded program.
2. Are privately owned facilities allowed in Canada?
3. Who licenses these facilities?
4. What does the presence of private clinics indicate about healthcare?

Outpatient Withdrawal Management

Along with in-patient withdrawal management, people living in any province will need a health card may have access to out-patient withdrawal management. This program "combines functions of an outpatient (day program) withdrawal management (detox) and structured treatment, providing the support of a team-based approach" .

Food For Thought

- Why do you think someone might choose out-patient withdrawal management instead of in-patient? Think about intersectionality and the social determinants of health.
- What is the difference between the two?

Outpatient Treatment

For people who have completed a withdrawal management program, this is often not the end of their journey; it may be just the beginning. In many provinces and territories, options exist for people who are choosing to engage with a health care provider about their substance use. Each Health Authority provides a variety of outpatient treatment programs in various locations, from two-week full day programs to weekly appointments. Each province and territory have many different options.

Many withdrawal managements or Treatment facilities will also offer a outpatient option or community services so that it is an option for many, that wouldn't have been able to access it before.

Medication Assisted Treatment (HAT – Heroin Assisted Treatment)

When we talk about using medication to treat substance use disorders, some people suggest it is not different, that in fact we are swapping one substance for another. This is a myth. For some individuals, using a different medication or a similar medication may reduce some of the harms of the substance.

This approach to treating substance use allowed individuals, in partnership with their healthcare provider, to manage their substance use like a chronic illness. For some, this was a novel approach to treating substance use; for others, it was a clear example of how programs based on a public health approach can change/save lives.

At one time in Canada there was a HAT program, but at this time there is not any offered in Canada.

Food For Thought

- Take a moment and think about how you feel about treating heroin use with medical-grade heroin.
- What does the evidence say about the safety and effectiveness of medication assisted treatment?
- What do you want to know more about?
- What are some of the challenges with programs like these?

Activities

1. Review the following Centre for Addiction and Mental Health pamphlet on opiate agonist

treatment.

2. How long can someone use methadone or bupenorphine?
3. Are there side effects of these medications?
4. What are the positive aspects of OAT? Negative aspects?
5. Create a poster for OAT. Include three main facts that you believe would help reduce the stigma of OAT.

Drug Court Programs (DCP)

Figure 9.6.10 – Photo by Tingey Injury Law Firm on Unsplash

Many people who use substances are incarcerated. Drug Treatment Court Programs (5) & Drug Treatment Court Services (6) are very active and productive in Canada.

In Toronto Drug Treatment Court Services are in Old City Hall downtown. They meet several times a week in court. Although through the pandemic the mandatory court attendance was done by zoom.

The program offers alternative criminal sentences for people who have been charged with crimes that occurred due to substances. There are different mandatory programs that those who access this program participate with, and have many other different options that are possible for them even if they are actively using. This can include counselling, medical support, housing, treatment, psychiatric and many other supports. Most people involved in these programs are involved for a year, but can request an extension if they feel they need to.

Through the years there are many amazing successes through this program, where some still volunteer in this area or become peer supports.

PEER SUPPORT

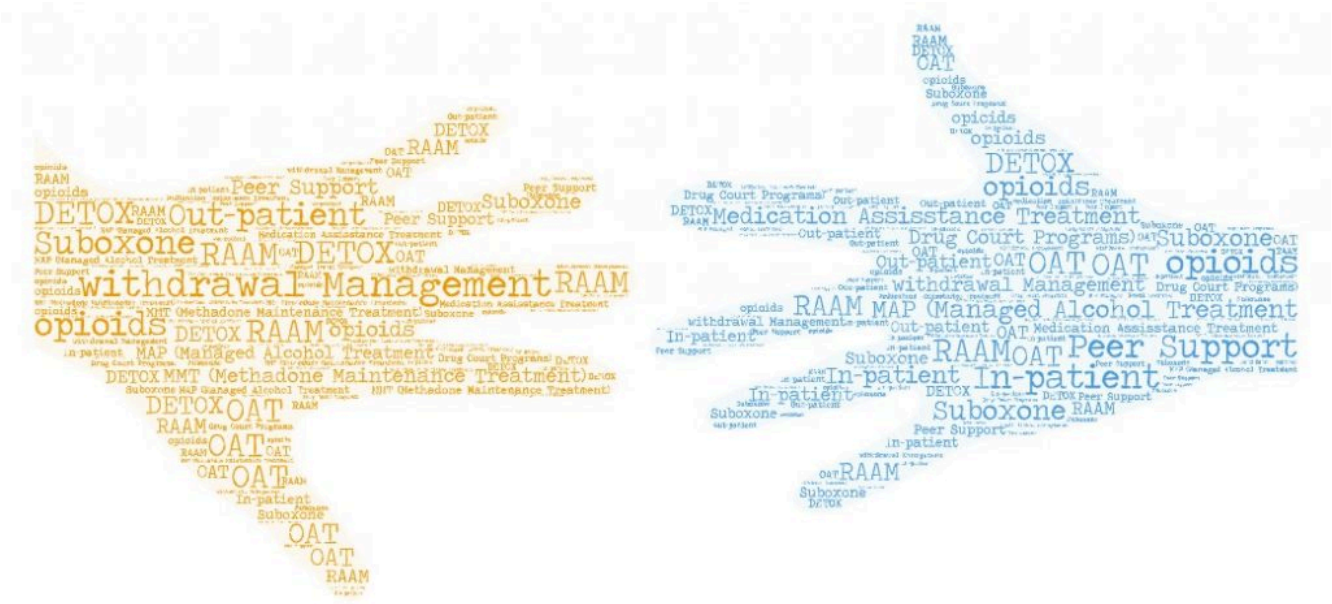

Figure 9.7.11 – WordArt Created by Denise Halsey

Who is on your team? What is a friend? Who can you trust and say anything to? For many this is not an option or something they're familiar with. It is important to know who is on your team as a peer, friend, professional and knowing what their role actually is. It can be someone you can count on or trust to talk about problems or a bad day. Peer support builds on the concept of friendship, but a peer supporter is different than a friend.

Depending on the role, the peer support can be someone who's had similar journeys, or at times, someone who is still on the journey, but perhaps a little further along. This can assist in both giving and receiving nonprofessional, nonclinical assistance from individuals with similar conditions or circumstances to achieve

long-term recovery/health and wellness from many different lens or areas of concern, such as psychiatric, alcohol, and/or other drug-related problems.

Peer support is not only multi-faceted but it is different for everyone. Their journey with substance, mental health, crisis and many other areas are so individual, and it may be a surprise for many that they may not have known anyone else who've had the similar experienced. To be able to share with someone and to realize that there are others who've experienced that journey and found some healing, is such a powerful experience.

Peer support plays a role at all stages of substance use. It can be a long journey, or a short one, depending on the person. By having an informal peer support worker, it can happen in many different places or around many different situations such as discussing substances used, paraphernalia, safeties, clean supplies or almost anything you'd like to discuss.

This is called informal peer support, peer helping or natural helping.

Peer Support available:

- AA – Alcoholics Anonymous
- Active Aging Canada
- Aids Groups
- Al-anon – people caring about family/friends who are alcoholic
- Ala-teen -is a peer support group for *teens* who are struggling with the effects of someone else's problem drinking
- ACA – Adult Children of Alcoholics
- any 12 step programs (can look up local meetings)
- Celebrate Recovery
- CMHA (Canadian Mental Health Association)
- CA (can look up local meetings)
- CoDA – Co-Dependents Anonymous
- Indigenous Groups
- GA – Gamblers Anonymous
- NA – Narcotics Anonymous
- Racialized peoples and communities
- Refuge Recovery – Buddhist Path to Recovering from Addiction
- 2SLGBTQIA+ peoples and communities
- Youth
- Seniors

Benefits of peer support groups in the treatment of addiction

Principles of Effective Treatment

The following key principles should form the basis of any effective treatment program:

- Substance use disorders are complex.
- No single treatment is right for everyone.
- People need to have quick access to treatment.
- Effective treatment addresses all of the individuals needs, not just their substance use.
- Staying in treatment long enough is critical.
- Counselling and other behavioural therapies are the most commonly used forms of treatment.
- Medications can be an important part of treatment, especially when combined with behavioural therapies.
- Treatment plans must be reviewed often and modified to fit the individuals changing needs.
- Treatment should address other possible mental health disorders.
- Treatment should address the social determinants of health.
- Medically assisted withdrawal is only the first stage of treatment.
- Substance use during treatment must be monitored continuously, to prevent overdose.
- Treatment programs should encourage individuals to test for HIV, hepatitis B and C, tuberculosis, and other blood borne illnesses as well as sexually transmitted infections if they engage in risky behaviours. This way individuals will have a more complete picture of their health.
- Treatment programs should teach individuals about steps they can take to reduce their risk of these illnesses (harm reduction).

For More Information on Withdrawal Management

- Provincial Guidelines for Biopsychosocial Plus Withdrawal Management Services in BC
- Medical Withdrawal Unit – CAMH
- Withdrawal Management Services in Canada: The National Treatment Indicators Report (2015-2016 Data) – CCSA
- Modernizing Withdrawal Management Services – The Canadian Journal of Addiction: June 2021 – Volume 12 – Issue 2 – p 33-38

Attribution:

ATTRIBUTION: This chapter is not covered by the adaptation statement, it is an original work, except where noted.

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9.7 CURRENT OVERDOSE PREVENTION PROGRAMS

In this chapter we examine a variety of Overdose Prevention Programs.

Overdose Prevention Programs Learning Objectives

- What is Overdose Prevention
- Explain what increases the risk of an opiate overdose
- Discuss how communities can help prevent overdose
- Know where you would go for naloxone in your community
- Explain what some of the strategies are for Overdose Prevention
- Discuss the difference between a supervised consumption/supervised injection site (SIS) and an overdose prevention site (OPS)

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=252#oembed-1

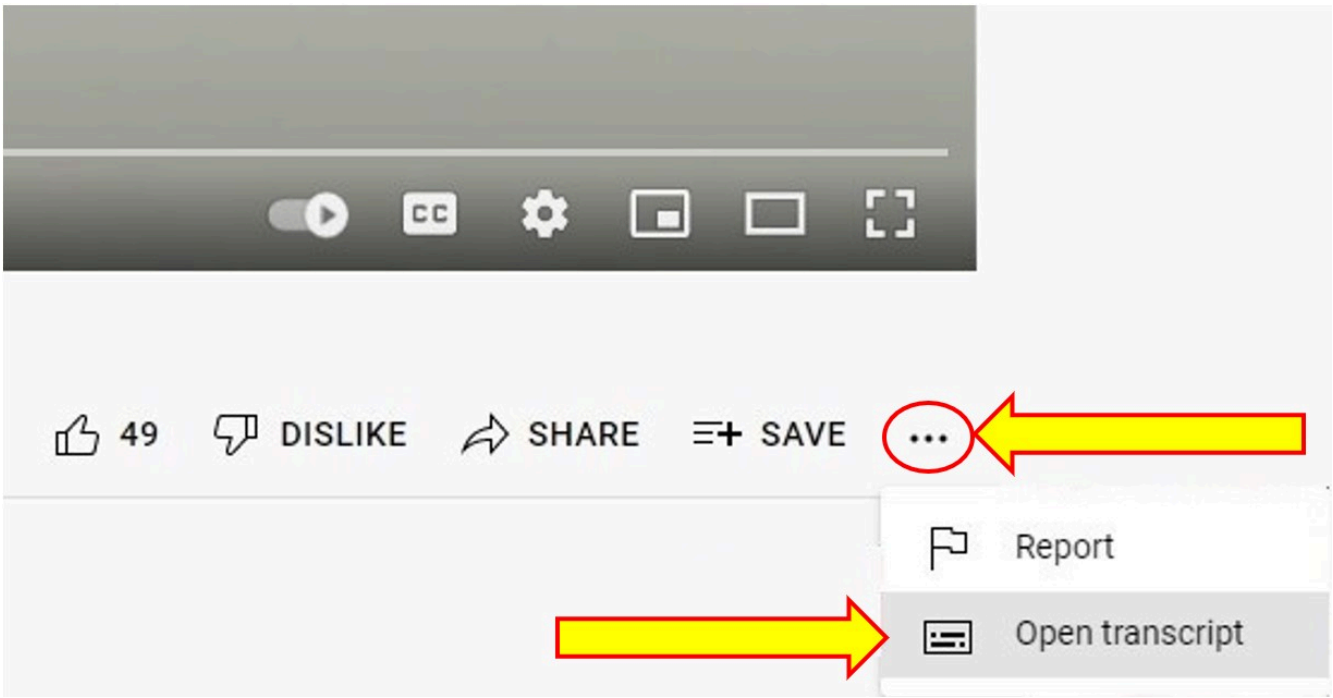
End the Stigma. By Healthy Canadians. Stigma is making it harder for people to get help. Transcript: https://www.canada.ca/en/health-canad...(1)

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.

2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



As part of Opioid Overdose Prevention and Response in Canada – Canadian Drug Policy Coalition(2) has had to develop comprehensive strategies to prevent the number of overdose deaths. This is a critical nature of the opioid crisis in both Canada and North America.

Globally, overdose has become the leading preventable cause of death among people who inject drugs. By offering simple program and policy changes, it will prevent many unintentional deaths and injury from opioid overdoses.

It is important to have a comprehensive public health approach to reduce harm reduction both globally and in Canada. Using strategies that do not require stopping using drugs, but instead allowing them to participate in harm reduction with their drug use, it allows them to identify and get strategies, solutions and support for their health and safety needs, which has a huge impact on economic implications as well in Canada.

The Canadian Drug Policy Coalition at Simon Fraser University has created five key components.

1. Make naloxone kits readily available to everyone and as cost effective as possible with minimum barriers. The Canadian government has implemented free naloxone kits that anyone can get from a pharmacy upon request.
2. Engage communities with education and training on how to use naloxone kits including families, using peers and health care workers.
3. Good Samaritan Legislation (Good Samaritan Act) that would allow and encourage someone to call 911 in case of overdose without fear of legal reprisal.
4. Create better guidelines to prescribe opiates for the management of pain and ensure there is no

discrimination against people who use drugs.

5. Track overdose events and provide data publicly to help awareness in the using population. [2]

Figure 9.7.1 – Photo by NEXT Distro on Unsplash

Figure 9.7.2 – Photo by NEXT Distro on Unsplash.

Staying at the scene of an overdose is important to help save the life of the person experiencing an overdose. The *Good Samaritan Drug Overdose Act* [3] provides some legal protection for individuals who witness an overdose and call 911 or their local emergency number for help.

Figure 9.7.3 – WordArt Created by Denise Halsey

Overdose Prevention Sites (OPS)

What is the difference between a supervised consumption/supervised injection site and an overdose prevention site (OPS)? An overdose prevention is less formalized than SCS (Supervised Consumption Sites) / SIS (Supervised Injections Site). Anecdotal evidence suggests OPS are lower barrier than supervised consumption/ supervised injection site and offer the expertise and direct experience of experiential peer workers, filling a much needed service in the tapestry of harm reduction (Pivot Legal Society, 2020)[4].

Overdose Prevention Sites (OPSs) developed in a similar way as supervised injection sites, from grassroots activism by people who use substances pushing the agenda. Many different agencies across Canada helped create "pop-up" unsanctioned sites in a few locations in BC Health Impacts on a scaled-up of SIS Injection Services in a Canadian Setting (BC)[4] In 2017, Health Canada announced a new strategy to address the opioid crisis with the exemptions of OPS's. The OPS applies for an exemption under Health Canada, then applies to the province for a three to six month exemption under the Controlled Drug & Substances Act.

The OPS can address an "at-risk" community (an area where there is high substance use and overdose death) by providing space (sometimes a tent, sometimes a store front location) for people to consume their substance

of choice (including inhalation) with sterile equipment, in settings where they can be observed, and others can quickly intervene in the event of an overdose.

They are generally staffed by peers and harm reduction workers. OPS are not required to have health care professionals on staff and are considered "pop-up" as they are a mobile response to overdose prevention. There are many challenges for these types of programs, which are individual depending on what area, city, province/territory they are in.

For More Information on Supervised Consumption /Overdose Prevention Sites:

This map shows supervised consumption sites (SCS) across the country and overdose prevention sites (OPS) in BC. Click on the icon for information about each site. Click the button in the top righthand corner of the map to view a larger map.

- Canada's Supervised Consumption and Overdose Prevention Sites
- Street Health in Toronto (OPS)
- List of SCS & OPS in Canada
- SisterSpace: Canada's first and only overdose prevention site for women is saving lives
- Overdose Prevention Sites – Addictions and Mental Health Ontario Conference
- Alberta in talks to open OPS – CBC news – March 2022

More Information on Overdose Prevention Programs in Canada

- St. Paul's Hospital's overdose prevention site marks its first year – BC
- Atlantic Canada's 1st overdose prevention site opens in Halifax – Global News
- N.S. to find two overdose prevention sites – Global News
- VIDEO: An inside look at Nelson's overdose prevention site (BC)
- Alberta in talks to open overdose prevention sites – CBC
- Timmins Ontario Overdose – CTV

- StreetHealth in Toronto Overdose Prevention Site (OPS)
- CATIE Supervised consumption services/Overdose prevention sites

What's the difference between an SCS and an OPS?

Supervised consumption sites (SCS) and overdose prevention sites (OPS) share many features, but they are **legally and practically** very distinct.

SCS are facilities that have been exempted by Health Canada under section 56.1 of the *Controlled Drugs and Substances Act*.(5) Inside an SCS, people can use their own illicit drugs (and staff can witness them) without being prosecuted for drug possession. In addition to witnessed injection and emergency overdose response, SCS typically offer a range of other support services to clients, including referrals to treatment programs and access to housing supports. Procedurally, establishing a SCS is laborious and time-consuming: It can take several years get an approval, since the exemption application must include information about the site's policies and procedures, personnel, financial plan, local conditions, and community consultation. Though SCS afford a degree of stability and longevity, operators must still apply to extend an exemption periodically (usually annually).

OPS were established as a community-based response to overdose deaths and the sluggish bureaucracy associated with SCS applications. OPS tend to be peer-run, barer-bones facilities (sometimes consisting of a tent in a public park) where people can use their own illicit drugs, access sterile harm reduction equipment, and receive emergency overdose response as needed. Many people prefer OPS to SCS, and OPS fill a critical gap in the spectrum of harm reduction: OPS are lower-barrier than SCS and offer the expertise and direct experience of experiential "peer" workers. Oftentimes, they allow modes of consumption that are prohibited in most SCS, such as drug inhalation. Unlike SCS, OPS do not require an exemption from Health Canada. They began as "pop up" sites led by people who use drugs.

Now in BC, they usually run via an Overdose Prevention Services – BC(6) from the Minister of Health, which requires Emergency Health Services and the Health Authorities to ensure OPS are available throughout the Province. However, in some other Provinces (i.e. Ontario), OPS run via a temporary, Province-wide exemption from the federal government. OPS are nimble and can be set up quickly to respond to the immediate needs of people who use drugs. Despite the huge success of OPS in saving lives (and the existence of a Ministerial Order), many municipalities and Health Authorities have failed in their responsibilities and remain hostile to folks who courageously set up OPS in their communities.

Read CAPUD's important guide to setting up an OPS(7)

We owe the existence of SCS and OPS to the direct action of people who use drugs. Long before Insite(8) became the first sanctioned SCS in North America, people who use drugs were running their

own injection rooms and needle exchanges to save lives in the face of government inaction and the War on Drugs. As is always the case, folks had to save their own lives first, at tremendous personal risk, before government came around to the idea of supervised injection. In Canada, the provision of OPS is sorely inadequate, and people who use drugs continue to shoulder the burden of saving lives as municipalities and health authorities stand by idly and, at times, with hostility. **SCS and OPS save lives: no one has ever died at either type of facility.**

Naloxone

To prevent overdose deaths, having a comprehensive harm reduction strategy, is important. The Canadian Pharmacist Association has created a site where you can go to find access to Naloxone across Canada. This is to ensure individuals and communities have access to naloxone, an opioid antagonist to an opioid overdose.

Access to Naloxone across Canada

ENVIRONMENTAL SCAN Access to naloxone across Canada – Canadian Pharmacists Association[9]

Food For Thought

- Why would some pilot projects on substance use disorders do not get funded?
- What is the role of media in sharing information?
- What is the role of activism/advocacy?

Naloxone kits are just one component; helping individuals understand the risks of using a substance alone is another arm of naloxone.

There are many forms of harm reduction and many harm reduction programs in Canada. Harm reduction is an important pillar in healthcare for people who use substances

Incarcerated Good Samaritan Act

The *Good Samaritan Drug Overdose Act* provides some legal protection for individuals who seek emergency help during an overdose.

The Act became law on May 4, 2017. It complements the Canadian Drugs and Substances Strategy,[10] our comprehensive public health approach to substance use. Harm reduction is a key part of the strategy alongside prevention, treatment, and enforcement.

We hope the Act will help to reduce fear of police attending overdose events and encourage people to help save a life.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=252#oembed-2

Call, stay and help. By Healthy Canadians. The Good Samaritan law can protect you from simple drug possession charges. Transcript: https://www.canada.ca/en/health-canad... (11)

Suspect an Overdose?

- Stay and Call 911 or your local emergency number
- The Good Samaritan Drug Overdose Act can protect you from simple drug possession charges.
- Learn more at Canada.ca/Opioids
- Together we can **#StopOverdoses**

For more information:

- Opioid Overdose Prevention and Response in Canada – Canadian Drug Policy Coalition
- Good Samaritan Poster

- Good Samaritan Law Video – Government of Canada

Chapter Attribution:

This chapter is not covered by the adaptation statement (original)

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9.8 CURRENT HARM REDUCTION PREVENTION PROGRAMS

Harm Reduction Learning Outcomes

In this chapter we examine a variety of Harm Reduction Prevention Programs

- What is harm reduction
- Discuss the purpose of harm reduction
- Explain the challenges in harm reduction
- Discuss 3 different harm reduction strategies or programs

What is harm reduction

Harm reduction, based on the definition by the International Harm Reduction Association (2021) is stated as "policies, programmes and projects that aim to reduce the health, social and economic harms associated with the use of psychoactive substances. It is an evidence-based and cost-effective approach – bringing benefits to the individual, community and society" [(1)]. In Canada, harm reduction programs are heavily dependent on community-based agencies and reliant on provincial and federal government funding for service provision, so lack consistency. In 2015, "only two jurisdictions in Canada had current provincial-level, stand-alone harm reduction policies" [(2)], which confirms what many individuals working in harm reduction in Canada have suggested, that a harm reduction philosophy is not embedded in policy or funding at any governmental level.

Figure 9.8.1 – WordArt Created by Denise Halsey

Harm Reduction is applied different for everyone

There are a variety of agencies that address substance use, from the Government of Canada, correctional facilities, Public Health, Canadian Centre on Substance Abuse, The Centre for Addiction and Mental Health, National Native Alcohol and Drug Abuse Program, and various health authorities, private agencies, and businesses as well as non-governmental organizations across the country. Each of these agencies have a mandate to address substance use in some way, from individual treatment through to incarceration. Each of these agencies focuses on substance use differently, some recognizing the intersectionality of substance use while

others do not. Part of the work of Social workers is to address the stigma associated not only with substance abuse but also with harm reduction. How can this be done?

Why is harm reduction important? Effective harm reduction programs seek to serve some of the most marginalized individuals in our country. Please watch the video below to further understand harm reduction in Canada. We have explored, substance use is frequently misunderstood and stigmatized; therefore it stands to reason that harm reduction strategies that help support individuals who use substances would be concurrently maligned and perhaps not overtly supported in Canada. Part of your work, as Social workers, is to address the stigma associated with not only substance abuse, but harm reduction. How will you do thy is harm reduction important? Effective harm reduction programs seek to serve some of the most marginalized individuals in our country.

According to the Canadian Mental Health Association

Harm Reduction is an evidence-based, client-centred approach that seeks to reduce the health and social harms associated with addiction and substance use, without necessarily requiring people who use substances from abstaining or stopping.

CMHA – Harm Reduction [3]

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=256#oembed-1

#SupplyOrWeDie – Toronto Harm Reduction Alliance. By Toronto Harm Reduction Alliance. Join the movement for a safe supply of drugs (4)

Transcript

To Access the Video Transcript:

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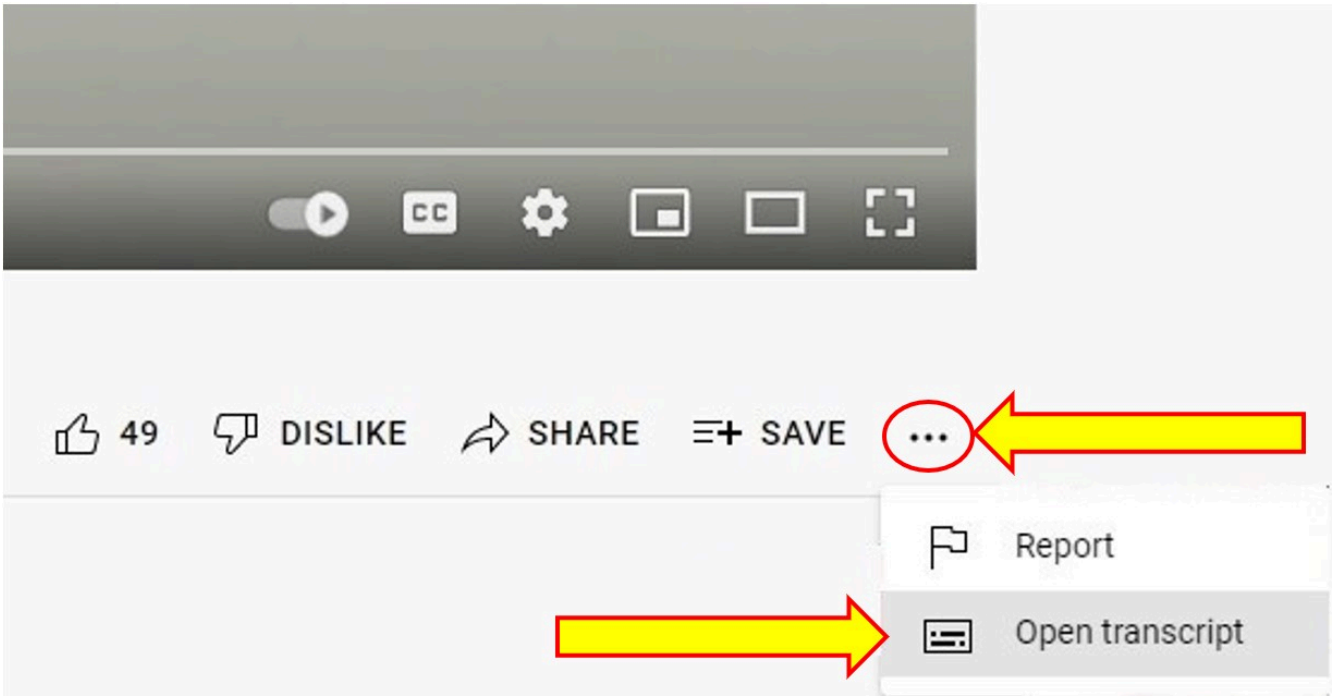
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



Please watch the video below to further understand harm reduction in Canada.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=256#oembed-2

The Merits of Harm reduction | Melissa Byers | TEDxGrandePrairie. TEDx Talks. Melissa shares her family's personal story of addiction and how harm reduction plays a much more significant role to recovery than people realize. She works in the trenches of the current opioid epidemic and her perspective to the issue. Melissa Byers is the Executive Director of Northreach Society, a harm reduction focused organization supporting vulnerable populations in Northern Alberta.[5]

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
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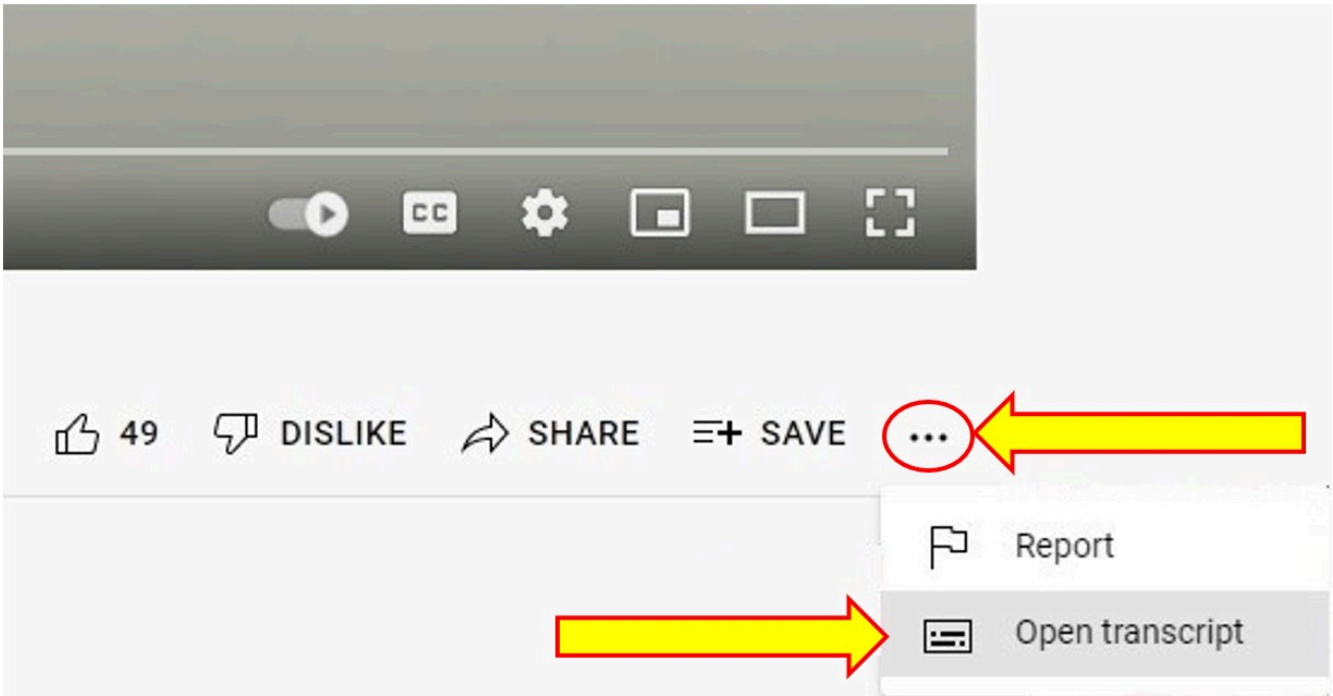


Harm reduction is a philosophy that can humanize the way we see/engage with and support people who live with a substance use disorder and a way we can reduce stigma and help educate the public.

Harm Reduction Services in Canada

Harm reduction strategies can involve any of the following: safer use information, syringe distribution programs, education programs, opiate substitution programs, withdrawal management, safe consumption sites, peer helping and community development. Harm reduction access in Canada depends on the area in which one lives, for example, living in an urban area increases the chances to access harm reduction programs. Research suggests harm reduction services in Canada lack consistency as they are heavily dependent on the provincial governments; organizations lack continuous funding, must participate in a difficult application process for funds, and provinces and territories share different values when it comes to harm reduction [(6) (7)].

EXPLORE

Please review the interactive Opioid crisis map created by the Government of Canada which indicates harm reduction services focusing on the opioid crisis. Use the map to find locations of opioid-related activities taking place in communities across Canada.

It is not only service providers that are on the front line of harm reduction; it is also critical to acknowledge the work that has been done by the people who use substances. They have advocated for themselves, their peers, and their communities in the face of significant public backlash, threats of incarceration, and inaction on the part of federal, provincial and municipal governments. They have led the harm reduction movement in Canada; they deserve our gratitude: **To those who have come before: we are in your debt.**

In this section, we will look at some of the more well-known harm reduction programs in Canada. This is by no means a comprehensive list of all harm reduction services across Canada; however, it offers Social workers a snapshot of programs that exist.

Managed Alcohol Programs

Figure 9.8.2 – Photo by Julia Nastogadka on Unsplash

Abstinence is not the goal of harm reduction; the goal is to support an individual wherever they may be on the spectrum of substance use. Alcohol is one of the most widely used substances in Canada; alcohol use is on a spectrum. Long term alcohol use has risks, for example average long-term consumption levels as low as one or two drinks per day have been causally linked with significant increases in the risk of at least eight types of cancer and numerous other serious medical conditions including pancreatitis, liver cirrhosis and hypertension [(8)]. Does this mean that everyone who drinks alcohol will develop one of these issues? No, however it increases

the risk and when we include the intersectional factors including gender, race, trauma, and add disability, lack of affordable housing, incarceration, and other social determinants of health, we increase the health risks again.

The Canadian Institute on Substance Use Research along with the University of Victoria are currently undertaking a review of harm reduction programs that support individuals with a dependency on alcohol, in particular Managed Alcohol Programs (MAPs). People with severe alcohol dependence who engage in unsafe consumption (amount and consumption of non-beverage alcohol, like hand sanitizer or mouthwash) and a lack of housing are vulnerable to multiple harms [(9)]. Managed Alcohol Programs aim to reduce the harms to individuals who are at risk by providing a safe source of alcohol coupled with services which may include housing, counselling, healthcare, and peer support. "MAPs are harm reduction programs intended to reduce harms of high-risk drinking or severe alcohol use disorder often coupled with ongoing experiences of homelessness or poverty" [(10)].

There are many different MAP programs in Canada "including community day programs, residential models located in shelters, transitional and permanent housing and hospital-based programs" (11). Every program has different criteria, some address intersectional issues and are gender, race and age specific; nonetheless, all programs have the common goal of preserving dignity and reducing harms of drinking while increasing access to housing, health services, and cultural connections. MAPs have become an important part of harm reduction in Canada.

Click here for a list of MAP sites in Canada ([12]).

This documentary by CBC highlights some of the individuals who utilize MAPs as well as the healthcare and shelter staff who support these individuals. The Pour [(13)].

Heroin Assisted Treatment (HAT)

Figure 9.8.3 – Photo by Pretty Drugthings on Unsplash

Opiate use disorders may be managed by heroin assisted therapy (HAT). The first HAT in Canada began in 2005, North America Opiate Medication Initiative (NAOMI) which ran simultaneously in Vancouver and Montreal from 2005-2008 [(14)]. Many participants were living in unstable housing and over 90% of participants had been engaged in some criminal activity during their lifetime [(15)]. Participants were given daily doses of prescription opiates and services to support their other health needs, a comprehensive range of psychosocial and primary care services [(16)]. There was also a control group which received Methadone Maintenance Therapy. The results showed a reduction in average spending on substances, a reduction in illicit-drug use or other illegal activities, an improvement in medical and psychiatric status, improvement in employment satisfaction, and family and social relations [(17)]. There was advocacy to continue the trial for compassionate reasons; however, this was denied by the Canadian Government. "After a year of receiving HAT, participants entered a three-month transition when they were offered a range of traditional treatments, including MMT and detox. After the three-month transitional period, no further treatment or supports were offered" [(18)].

Opiate use in Canada has been called a crisis [(19)] and in April 2016, a public health emergency was announced in British Columbia. According to the Government of Canada, there were 22,828 apparent opioid toxicity deaths between January 2016 and March 2021. Since the onset of the COVID-19 pandemic, 6,946

apparent opioid toxicity deaths occurred (April 2020 to March 2021), representing an 88% increase from the same period prior to the pandemic [20]. The National Harm Reduction Coalition (2021) [21] suggests there are between 75,000-125,000 people in Canada who are injecting substances, which increases risks of HIV/ Hepatitis as well as other blood borne illnesses, bacterial infections, abscesses, and vein collapse. There is much information on safe injection use; however, the risks still exist.

People who have an opiate use disorder come from all walks of life. Opiate use disorder is "a chronic relapsing disease and is often accompanied by abuse of other psychoactive drugs, physical and mental health problems, and severe social marginalization".[22] For some individuals, abstinence is not an option. Though there are programs like methadone maintenance therapy (MMT), as discussed in Chapter 8, these programs are not universally accessible and not universally successful [23].

A network of individuals who had participated in NAOMI gathered in 2011 to discuss their experiences and this work was collected by Dr. Susan Boyd, culminating in the creation of NAOMI Research Survivors: Experiences and Recommendations [24].

- NAOMI Research Survivors: Experiences and Recommendations.

The recommendations from NAOMI participants are listed here:

1. When experimental substance maintenance programs are over, clients (research subjects), for compassionate reasons should receive the drug they were on as long as they need it.
2. An ideal study would provide an umbrella of support and services including

- housing (most important)
- access to medical treatments all under one roof (nurses, doctors, dentists)
- access to welfare workers (who are familiar with the area and the people who live there) and ministry representatives
- access to nutritious food for self and family
- support to move life forward (school, trade, family unification)
- access to lawyers
- education/advocacy skills and access to advocates
- diverse routes of administration available – oral, smoking form, injection. Not all people want to inject their drug.

This project and the subsequent recommendations helped many working in harm reduction gain a

deeper understanding of the research process and the ethics of studies on individuals who use substances.

Providence Health in British Columbia continued this work and launched the Study to Assess Longer-term Opioid Medication Effectiveness (SALOME), which concluded in 2016. This was a clinical trial that tested alternative treatments, specifically prescription opiates, for people with chronic opiate use disorders who were not benefitting from currently known treatments [25]. From the success of participants during both the NAOMI and SALOME studies, the courts decided that those who were continuing to benefit from HAT could continue receiving their treatment, though the research was concluded in 2016 (26) (27). ***There is no current HAT program in Canada.***

Syringe Distribution Programs (SDP)

Syringe distribution programs offer clean syringes, alcohol swabs, cookers, water, cottons, all the materials one would need to inject more safely. They also provide safer injection information including safer injection places on the body, vein care, and when to get help. They provide condoms and safer sex information to reduce risks of sexually transmitted infections. They provide a safe space to build relationships, and for those who want to move towards a reduction in use or abstinence, staff at SDP can make referrals to various treatment options. Being a first point of contact has a tremendous amount of responsibility; Social Service workers should have a good understanding of services in their community.

Figure 9.8.4 – Photo by John Cameron on Unsplash

In Vancouver, the epicentre of the HIV crisis in the 1990's, individuals and agencies were advocating for the development of safer injection. Syringe distribution programs (SDP) began to reduce the spread of blood borne illnesses, including HIV, and since 2018 the Canadian Government has endorsed syringe distribution programs as an effective harm reduction strategy through the pillars of the Canadian Drug and Substances Strategy. Research continues to support the benefit of SDP including a reduction in HIV transmission [28]. Syringe distribution is more than just reduction of HIV; through providing a clean needle, it may be the first point of access to a non-judgmental health service for an individual.

Supervised Injection Sites (SIS)

Figure 9.8.5 – Photo by Henna Stander on Unsplash

Internationally more than 65 Safe Injection Sites (SIS) have been opened as part of harm reduction strategies associated with substance use [29]. Also known as safe consumption sites (SCS), these facilities have been an important part of the harm reduction landscape, particularly in Western Canada since the advent of the HIV crisis and most recently the ongoing public health crisis of opioid overdoses and death [30]. SIS are places where people can more safely inject substances using clean equipment under the supervision of medically trained personnel which reduces the risk of overdose and blood borne illnesses. It also allows individuals who may not have had any positive connection to healthcare or other support services to build relationships if they choose.

Most SIS have expanded their mandate to include various forms of consumption. What if substance use is hidden? In rural areas substance use is not always seen in public, which may challenge communities to acknowledge the substance use of its residents.

A common question is whether the site provides the substances. The answer is a resounding no, the

substances are not provided by anyone at the facility but are brought there by the individuals who use the service. Most SIS are located in areas where there is a high prevalence of substance abuse and researchers suggest SIS should be developed in areas where injection use and overdose are common [31]. The SIS workers help to create a safer space for individuals to use their substance, providing safe equipment, referrals to support services, and in the case of an overdose, medically trained staff to treat the overdose. Many SIS provide "peer assistance."

Peer assistance refers to one person providing assistance to another in the course of preparing and consuming drugs. Those requiring peer assistance often include women, people with disabilities or illness, and other vulnerable populations. Friends or other clients may help assist, but employees of a supervised consumption site do not directly administer the drugs. [32]

Beyond the services provided regarding preventing overdose and illness, people who use substances are at risk when using in a public area; these risks include being caught by police, being physically or sexually assaulted, or robbed [33]. Having a safe place to go reduces those risks. One of the ways SIS are helping to reduce the risk of accidental overdose is using testing kits. People can bring in their substance, have it tested, get information on what is in their substance, which helps them make a more-informed decision about what they use [34]. This is a necessity in Canada when substances are bought and sold in the black market. Without regulation, there is risk when you purchase a substance. SIS provide testing kits to prevent overdose and illness.

To learn more, please read the following article about testing kit expansion in Saskatchewan. Province expands testing kits.

InSite, a service of PHS Community Services Society, a large non-profit organization in British Columbia, is one of the best known SIS facilities in Canada. InSite was the first safer injection site in Canada. Since its inception, InSite has provided 6,440 overdose interventions without any deaths [35]. InSite has also expanded their services to provide safer consumption, which includes more than just injection but the safer consumption of substances that can be taken by other routes of administration, for example, inhalation. InSite has also developed OnSite, a withdrawal management and recovery program.

Please watch the video below and take a virtual tour of InSite.

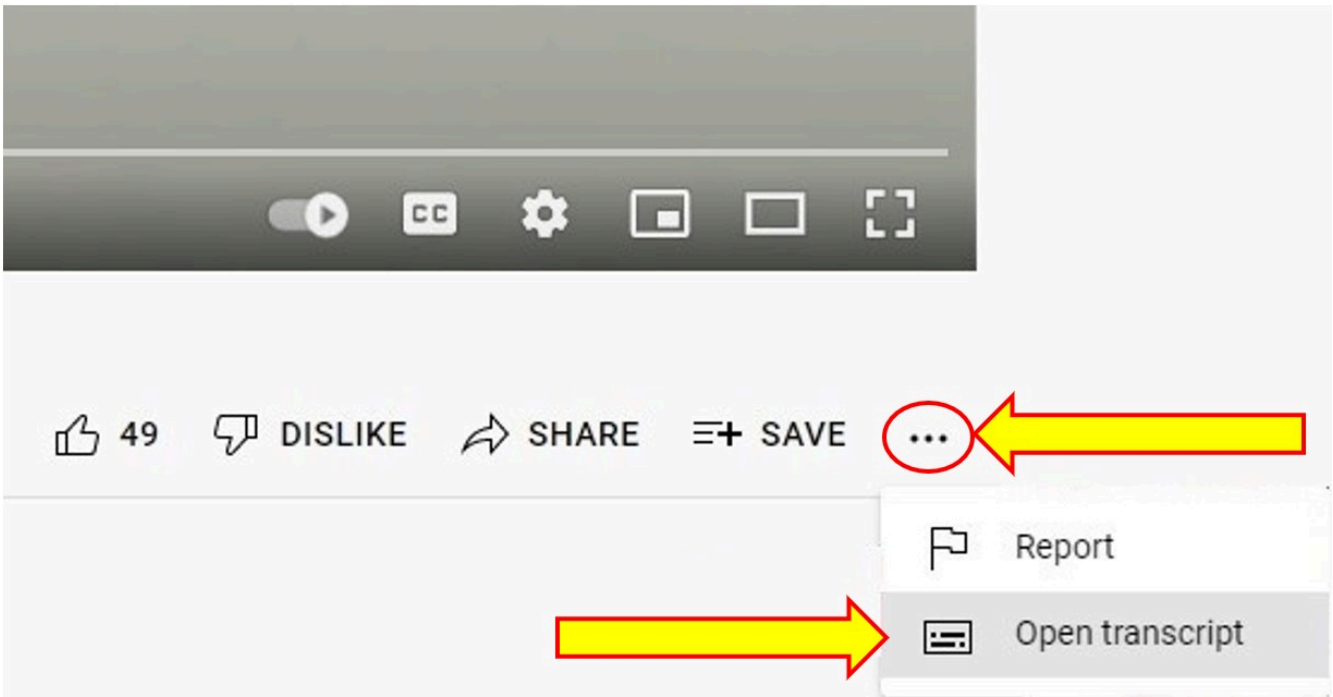
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=256#oembed-3

Inside Insite. NFB (The National Film Board (NFB) is Canada's public film producer and distributor). To combat Canada's increasing number of drug overdoses, the federal government introduced legislation that makes it easier to open supervised drug-injection sites. Watch this 360° video to discover more about these life-saving facilities, and step into Canada's first — and the world's busiest — supervised drug-injection site. [36]

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



Overdose Prevention Sites (OPS)

What is the difference between a supervised consumption/supervised injection site and an overdose prevention site (OPS)?

An overdose prevention is less formalized than SCS/SIS. Anecdotal evidence suggests OPS are lower barrier than supervised consumption/supervised injection site and offer the expertise and direct experience of experiential peer workers, filling a much needed service in the tapestry of harm reduction.

Internationally more than 65 Safe Injection Sites (SIS) have been opened as part of harm reduction strategies associated with substance use.[37] Also known as safe consumption sites (SCS), these facilities have been an important part of the harm reduction landscape, particularly in Western Canada since the advent of the HIV crisis and most recently the ongoing public health crisis of opioid overdoses and death[38]. SIS are places where

people can more safely inject substances using clean equipment under the supervision of medically trained personnel which reduces the risk of overdose and blood borne illnesses. It also allows individuals who may not have had any positive connection to healthcare or other support services to build relationships if they choose. Most SIS have expanded their mandate to include various forms of consumption. What if substance use is hidden? In rural areas substance use is not always seen in public, which may challenge communities to acknowledge the substance use of its residents.

They are generally staffed by peers and harm reduction workers [39]. OPS are not required to have health care professionals on staff and are considered "pop-up" as they are a mobile response to overdose prevention.

At the South Riverdale Health Centre in Toronto [40] in Toronto they have a SOS (Safer Opiate Supply) Program. They are one of 4 sites in Toronto that offer the SOS program. The goal is transition people from using toxic and contaminated street opioids and using pharmaceutical grade opioids.

The program is run by 2 Nurse Practitioners, a Community Health Worker, a Program Manager and a Registered Nurse.

All programs are funded by Health Canada's Substance Use and Addictions Program (SUAP) [41]. Referrals for potential clients are received through community partner agencies such as Moss Park OPS, Fred Victor, etc. Self-referrals are not accepted at this time

Naloxone

During the first year of the pandemic, there was a 95% increase in apparent opioid toxicity deaths (April 2020 – March 2021, 7,224 deaths), compared to the year before (April 2019 – March 2020, 3,711 deaths). Since then, deaths have remained high. (42)

Figure 9.8.6 Photo by Pharmacy Images on Unsplash

In Canada, two types of take-home kits are available [43] :

- **Naloxone nasal spray** is sprayed directly into the nose, where it is absorbed. It starts to take effect in 2 to 3 minutes. Learn how to give naloxone spray (video).
- **Naloxone injectable** is injected into any muscle in the body, such as the arm or thigh. It starts to take effect in 2 to 3 minutes. Learn how to give a naloxone injection (video).

One way to prevent overdose deaths, as part of a comprehensive harm reduction strategy, is to ensure individuals and communities have access to naloxone, an opioid antagonist to an opioid overdose.

Where to get naloxone in your province or territory [43]

Take-home naloxone kits are available at most pharmacies. A prescription is not needed. Ask the pharmacist.

Some provinces offer free take-home naloxone kits. Consult your province to see where these kits are available.

- Alberta
- British Columbia
- Manitoba
- New Brunswick – Naloxone kits are available at pharmacies.
- Newfoundland and Labrador
- Northwest Territories
- Nova Scotia
- Nunavut
- Ontario
- Prince Edward Island
- Quebec
- Saskatchewan
- Yukon

Food For Thought

- Why would some pilot projects on substance use disorders do not get funded?
- What is the role of media in sharing information?

- What is the role of activism/advocacy?

Naloxone kits are just one component; helping individuals understand the risks of using a substance alone is another arm of naloxone.

Please watch the following video on never using alone.

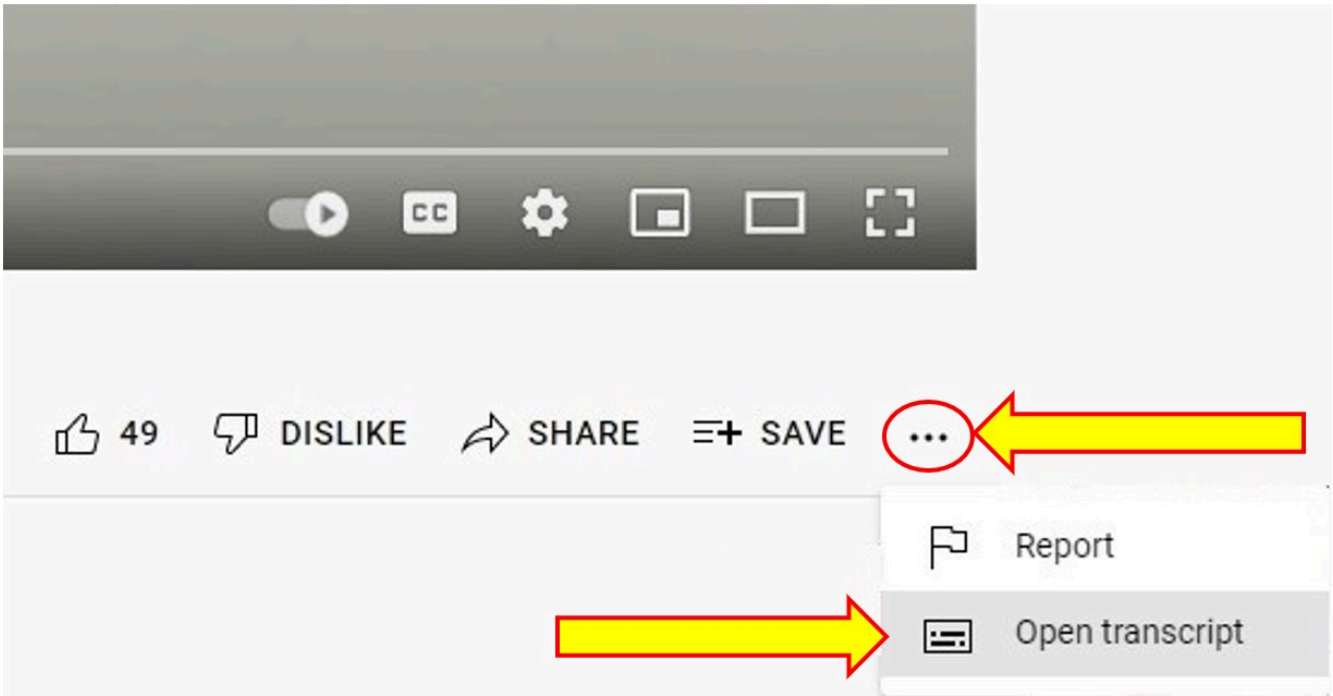
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=256#oembed-4

How to Spot Someone so They Never Use Alone. By Canadian Association of People Who Use Drugs (CAPUD). This is the launch of an educational animation about spotting – an overdose prevention method done by phone or video call. This new resource from CAPUD is available in both official languages and provides an step by step guide about spotting. [44]

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



There are many forms of harm reduction and many harm reduction programs in Canada. Harm reduction is an important pillar in healthcare for people who use substances.

For information on all Harm Reduction Programs in Toronto, visit a student run organization called Harm Reduction TO. They also have great ways for students who are looking to become involved in changing the approach to substance use by "ending the war on drugs."

https://harmreductionto.ca/[45]

***Crackdown* is a monthly podcast that aims to explore drugs and drug policy. It was created by drug users, to tell their stories .Garth Mullins, the show's host and a drug user and activist, wants the podcast to highlight the insight that users can bring to the discussion on drugs.**

- New podcast made by drug users aims to change how you think about addiction – CBC

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9.9 CURRENT PREVENTION PROGRAMS, NEW INITIATIVES, AND FOOD FOR THOUGHT

Prevention Programs

Figure 9.9.1 – WordArt Created by Denise Halsey

When we look at prevention programs and education – we need to look at how it's implemented. There are many questions that we need to look at which include: what community is it for, diversity for different cultures, accessibility, universal learning styles, how it is applied, is it effective, language that's used, the information (knowledge), is it cognitive, affective, psycho-motor, is it current, the many different ways its applied and evaluated.

We're going to look at different programs that are existing, some are new, some are being realigned for current times. Preventive Program Competency should always be changing/growing/adjusting as needed. We will never have absolute Preventive Program Competency, it should always be a work in progress.

The most effective and efficient way to address co-occurring *mental health and substance abuse* disorders is to stop them before they start. When these have already occurred, then it is important through learning, support and education ways of preventing further challenges around mental health and substance abuse.

Legal Issues

Drug Treatment Court – CAMH[1]

Figure 9.9.2 Photo by Tingey Injury Law Firm on Unsplash

An intervention model combining drug addiction treatment with supervision of a "problem-solving" court, as an alternative to incarceration for individuals facing charges from non-violent criminal activities related to substance abuse.

This program is meant for individuals facing charges from substance abuse related non-violent criminal activities. Those who are interested can self-refer (voluntary) through their lawyer and/or duty counsel. The DTC Crown attorney screens all applicants for eligibility.

Program is a structured outpatient program offering programs such as: random urine screens, frequent court appears, thorough assessments, extensive case management services and addressing social determinants of health and social reintegration. Program lasts minimum 1 year, upon successful completion of the program will receive a non-custodial sentence, rather than incarceration.

The DTC is a partnership between CAMH, the Ontario Court of Justice, the Ministry of the Attorney General and many community agencies.

There are many DTC across Canada.

For more information on Drug Treatment Court :

- CAMH Drug Treatment Court Services
- Beyond recidivism: changes in health and social service involvement following exposure to drug treatment court
- Steps to Justice – how to Participate in Drug Treatment Court
- Drug Treatment Court – CCSA / CCLAT
- Drug Treatment Court – Man missing who was active in Program
- Drug Treatment Court of Vancouver (BC)
- Calgary Drug Treatment Court
- Drug Treatment Court – Newfoundland & Labrador
- Drug Treatment Court – Saskatchewan
- Drug Treatment Courts – United Nations Office of Drug & Crime
- Drug Treatment Courts – Canadian Bar Association – Alberta – Supports
- CBC – Alberta man says 'drug treatment court' pulled him out of life of addiction and crime
- Mr. Justice Kofi Barnes – People, Places and Things: Inspirational Voices from Canada's Drug Treatment Courts (Book)

Gladue Court (Indigenous People's Court)[2]

Figure 9.9.3 – Hazelton Reserve (BC) Gitanmaxx Band – First Nations by Denise Halsey

A Gladue report is **a written document that weaves together your story with information from interviews with family, Elders, and community members**. It can also include relevant documentation to support the judge in making an appropriate decision.

Gladue Court is a special court for people charged with a crime and who self-identify as Indigenous, Métis, First Nations, or Inuit. Gladue Court is also called Indigenous Peoples Court.

Gladue Courts deal with all criminal offences. Usually they only handle bail hearings and sentencing hearings. Gladue Courts don't handle trials or preliminary hearings.

Gladue Courts are Canadian courts that apply Canadian law. They often try to incorporate Indigenous cultural practices and understandings of justice. For example, a Gladue Court might start with a smudging ceremony or have Elders or Knowledge Keepers start with a song or prayer.

Some courthouses have only one day or a few days that Gladue Court is available each week. But **every** court must apply the Gladue principles even if it's not a Gladue Court.

Gladue principles

Even if you're not in a Gladue Court, the Gladue principles apply.

Gladue principles require all courts to take into account:

- your Indigenous background, and
- the impact and history of discrimination against Indigenous people by Canada and the criminal justice system, also called systemic discrimination.

This means at sentencing hearings, all alternatives to jail must be considered before a jail sentence is given. Jail is a last resort. And when a jail sentence is given, the court must apply Gladue principles to the length of the sentence.

And in Ontario, at bail hearings, all types of releases must be considered. Detention, or holding an accused without bail, is a last resort.

With your permission, your lawyer will tell the court about your Indigenous identity. Your background information is sometimes called Gladue factors. Your lawyer must also make arguments, called Gladue submissions, based on how the Gladue principles apply to your case.

Courthouses might have different practices in their Gladue Court. Speak to your lawyer, duty counsel, or an Indigenous court worker to find out more.

Participants from eight jurisdictions (Alberta, British Columbia, Nova Scotia, Nunavut, Ontario, Saskatchewan, Yukon, and Northwest Territories) stated that there was at least one specialized court for Aboriginal accused/offenders in their jurisdiction that satisfies the criteria established by the researchers.

Gladue Practices in the Provinces and Territories – Including names of the courts cited by the participants and their locations[3]

For More Information on Gladue Courts

- A court of our own – More on the Gladue Courts
- Gladue Principals – Legal Aid BC
- Gladue Principles: Indigenous Peoples and the Canadian Criminal Justice System – Wilfred Laurier University
- Aboriginal Courts in Canada – The SCOW Institute
- What is Gladue – Native Women's Association of Canada (NWAC)

Elizabeth Fry Society

Figure 9.9.4 – Photo by Vonecia Carswell on Unsplash

Operates **regionally in communities throughout Canada and nationally** through the Canadian Association of Elizabeth Fry Societies. Each regional society is self-governing. Twenty-four affiliate societies exist in cities across Canada. They assist some of the most vulnerable populations – women, girls and children at risk, involved in or affected by the Justice System. The goal is through advocating, education and support to break the cycle of poverty, addiction, mental illness, homelessness and crime.

The Elizabeth Fry Society now helps women with the process of applying for a record suspension. A record suspension will seal the criminal record increasing employment, school and volunteer opportunities. Once a record suspension is awarded it helps increase self-worth, self-esteem and women generally feel this is a new beginning for them.

Each Province has supports for this:

Alberta

Manitoba

New Brunswick

Ontario

For more information: Elizabeth Fry Society – Canada[4]

John Howard Society

Figure 9.9.5 – Photo by Nicholas Green on Unsplash

Operates **regionally in communities throughout Canada and nationally.** Currently there are branches and offices in over 60 communities across Canada, provincial offices in all 10 provinces and the Northwest Territories and a national office in Kingston.

Effective, just and humane responses to the causes and consequences of crime.

- works with people who have come into conflict with the law,
- reviews, evaluates and advocates for changes in the criminal justice process,
- engages in public education on matters relating to criminal law and its application
- promotes crime prevention through community and social development activities.

For more information: John Howard Society – Canada[5]

New Initiatives

Incarcerated – Corrections Canada – Education

All Federal and Provincial Institutions offer High School Education. Each Institution runs their education system. Some offer college courses.

Grand Valley Institute for Women[6]– is unique when it comes to post-secondary education in Canada. There are currently about 125 federally-incarcerated post-secondary students in all of Canada and 25 of those are at GVI. Typically they have 20-25% of the post-secondary students in Canada, even though they only have about 1% of the overall offender population. They offer the most substantial program. GVI's offerings should not be seen as "typical" for incarcerated people but more of a "best practices" situation (based on current funding/technological limitations).

They offer a few print-based correspondent program and University of Ottawa offers correspondence courses through a print/video hybrid model.

"Walls to Bridges (W2B)[7] is an innovative educational program that brings together incarcerated ("Inside") and non-incarcerated ("Outside") students to study post-secondary courses in jails and prisons across Canada. The National Hub for the program is based out of the Lyle S. Hallman Faculty of Social Work, in partnership with **Grand Valley Institution for Women in Kitchener.**

Centennial College[8] for the last 2 years in partnership with **Grand Valley Institution for Women** has been using an innovative educational program that brings the classroom into GVI by Internet, to work with the incarcerated students to do the Addictions Work Certificate program (5 courses). Many of the women when discharged have continued with the Addictions Work Continuing Education mainstream and completed the certificate course. There have been 15+ graduates complete the Certificate.

Amadeusz[9] work with young people who are incarcerated to create positive change in their lives through access to education, community programs and supports, mentorship and exceptional care. They have 10+ incarcerated students that they work with Centennial College through print-based programs as well when they are no longer incarcerated. These students are in Vanier, Toronto South and Toronto East facilities.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=198#oembed-1

A Canadian's prisoner's perspective. By Toronto Star originally published in July 2008 gives the perspective of Greg Simmons on his perspective of being in a

Canadian Prison.[10]

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
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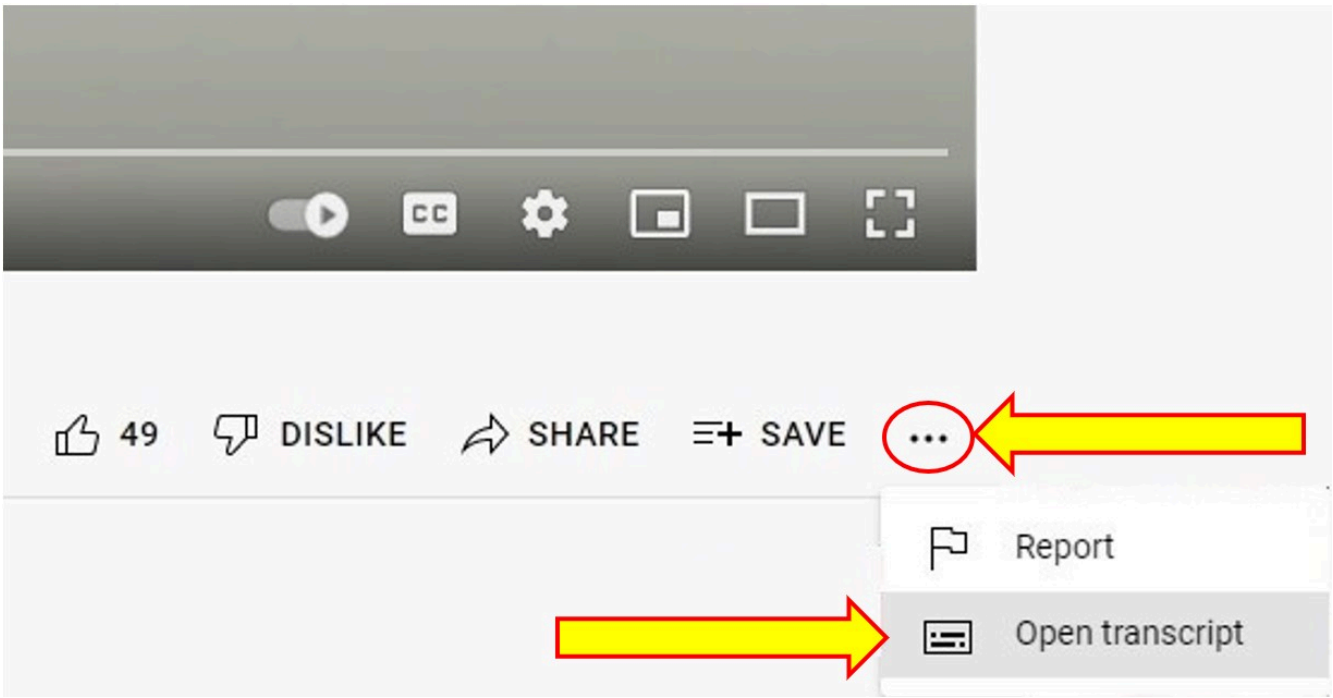

Food for thought

New Initiatives – Many programs over the last 3 years, during the ***Covid pandemic*** have gone through many changes. Some have expanded, some have closed, some have evolved into something new and some new ones were created. All programs have had to look at meeting the changes and delivery of those services.

Reflect on these changes:

1. Reflect for a moment on how these changes impacted the community you work with?
2. What is the value of expanding, evolving or creating changes to agencies?

3. Can you think of any programs that you know of that have expanded, evolved, changed or closed?
4. What are some examples?
5. How could you help others understand the changes?
6. What training is involved in updating skills as a service provider?

Changing policies require updated prevention messages. Listen to this 4-minute podcast report for the effort to change tactics from "fear to facts."

"With The Rise Of Legal Weed, Drug Education Moves From 'Don't' to 'Delay'" NPR National Radio – Carrie Feibel (Host)(11)

Food for Thought

Providing resources for parents and educators, as well as involving teenagers, is a key component of prevention. Explore current prevention programs and the video competition to create prevention messages for and by teens

- Operation Prevention https://www.operationprevention.com/#about
- The 1-minute video competition 2018 finalists https://www.operationprevention.com/competition/video/archives/2018

Additional Information

- Resources for Parents, Educators, and Caregivers
- Resources for children and teens Mental Health
- Resources for children and teens Addictions
- Drugs Free Kids Canada

Gaps in the System

Figure 9.9.6 – Photo by Kristopher Roller on Unsplash

Food for Thought

Gaps in the System – there are many services that are needed and can't be found. Reflect on these questions. There have many changes over the last 3 years during the ***Covid pandemic.*** This has created a lot of changes. Some have expanded, some have closed, some have evolved into something new and some new ones were created. All programs have had to look at meeting the changes and delivery of those services.

Pieces to be aware of:

- Accessibility is **the practice of making your programs, websites, support, activities usable by as many people as possible**. It is not just about people with disabilities, but the practice of making programs accessible to everyone, online, in person, using mobile devices, or those with slow network connections or no network connections
- Stigma – **Refers to the discrediting, devaluing, and shaming of a person because of characteristics or attributes they possess which leads to reluctance to seek help or treatment**. – stigma leads to negative social experiences such as isolation, rejection, marginalization, and discrimination. Can affect individuals, families and communities. It can be influenced by cultural and contextual value systems that differ over time and across contexts.
- language – **is it offered in many languages.** Three types of languages are written, oral and nonverbal.
- culture awareness – **able to support cultural awareness –** being aware the cultural awareness is **the understanding that our own culture differs from one individual and group to the next, and specifically from our target language**. Understanding this enables us to communicate more effectively, beyond words and grammar, by understanding their culture.

Our awareness of these GAPS can make the difference between communicating and not communicating.

Street Voices[12]

A social enterprise and media platform with an online directory that provides access to free and subsidized services in the Greater Toronto Area.

The organization was initially established as a magazine in 2014 to empower street-involved and at-risk youth. Over the past six years, the magazine has broadened into a digital media platform that publishes journalistic articles, podcasts, and visuals.

In November 2021, Street Voices expanded from a media platform to include a directory that offers a variety

of programs and services throughout the GTA. The website also provides aggregated news of the trending stories.

Ultimately, our aim is to empower marginalized voices, no matter who they are. As we continue to increase our reach as a platform, we hope to expand the directory Canada-wide while telling the stories of our communities.

Amadeusz[9]

Amadeusz offers a variety of programs and supports with a focus on education, community support, research and case management.

The Amadeusz education program supports young people aged 18 to 35 in working towards their educational goals. The goal of this program is to provide young people who are incarcerated with the opportunity, resources, and support to complete their high school education and to explore, prepare for, and attend post-secondary schooling.

For more information on agencies

- Amadeusz – supports young people who are incarcerated to create positive change in their lives through education, community programs and supports
- Oasis – Addiction Recovery and Employment Services
- Street Voices – is a social enterprise and media platform with an online directory that provides access to free and subsidized services to empower street-involved and at-risk youth
- Abrar – Trauma and Mental Health Services – dedicated to providing affordable, trauma informed, art based, and culturally sensitive mental support for diverse newcomers and immigrant populations.

Attribution:

Original Chapter

This chapter is not covered by the adaptation statement

References:

Figure 9.19.3 – Halsey, D (2022, March 30) Painting of Hazelton Reserve (BC) Gitanmaxx Band – First Nations. Painted in 1962 and given to Denise Halsey who lived on the reserve.

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9.10 KEY TERM STUDY GUIDE

Figure 9.10 – Image by Arek Socha from Pixabay

The material we explored in this chapter were very multi-faceted areas of recovery, prevention of substance abuse and addiction. It is important to understand that recovery from addiction, looks different for everyone and this can include many different doors to health and wellness. No journey is the same for 2 different people.

You may be familiar with these terms, but If you are not familiar with the terms below, I recommend you download this study sheet, add more spaces to write in definitions and relevant information (or make flashcards) as you read the chapter and watch videos.

1. Biological Theory
2. Biological Dimension
3. Biopsychosocial Plus Model
4. COVID-19
5. Cultural Dimension
6. Drug Court Programs (DCP)
7. Drug Treatment Court (CAMH)
8. Early Intervention Programs

9. Elizabetg Fry Society
10. Harm Reduction Prevention Programs
11. Harm Reduction Importance of Health Promotion
12. Health Promotion
13. Incarcerated Corrections Canada – Education
14. Incarcerated Good Samaritan Act
15. Indigenous Treatment Options
16. John Howard Society
17. Managed Alcohol Prevention (MAP)
18. Methadone Maintenance Treatment (MMT)
19. Moral Theory
20. Naloxone Kits
21. Opioid Agonist Therapy (OAT)
22. Overdose Prevention Sites (OPS)
23. PEER Support
24. Prevention
25. Prevention & Early Interventions
26. Prevention Programs
27. Psychological Theories
28. Psychological Dimension
29. Rapid Access to Addictions Medicine (RAAM) Clinics
30. Social Theories
31. Social Dimension
32. Spiritual Dimension
33. Substance Use and Youth
34. Supervised Consumption Sites (SCS)
35. Supervised Injection Sites (SIS)
36. Syringe Distribution Programs (SDP)
37. Theories of Substance Use / Addiction

ATTRIBUTION: This chapter is not covered by the adaptation statement, it is an original work.

9.11 SELF-CARE

This module's self care builds on our learning about trauma, through a trauma-sensitive mindfulness. Dr. David Treleaven suggests knowing people may have experienced trauma can make mindfulness even more powerful.

READ & LISTEN

Please review David Trelevan's website and choose one of the podcasts to learn more about trauma, mindfulness and the topic of your choice.

Attribution:

Reference:

David Treleaven | Learn Trauma-Sensitive Mindfulness. (2022, November 10). David Treleaven. https://davidtreleaven.com/

ADDITIONAL RESOURCES

Videos

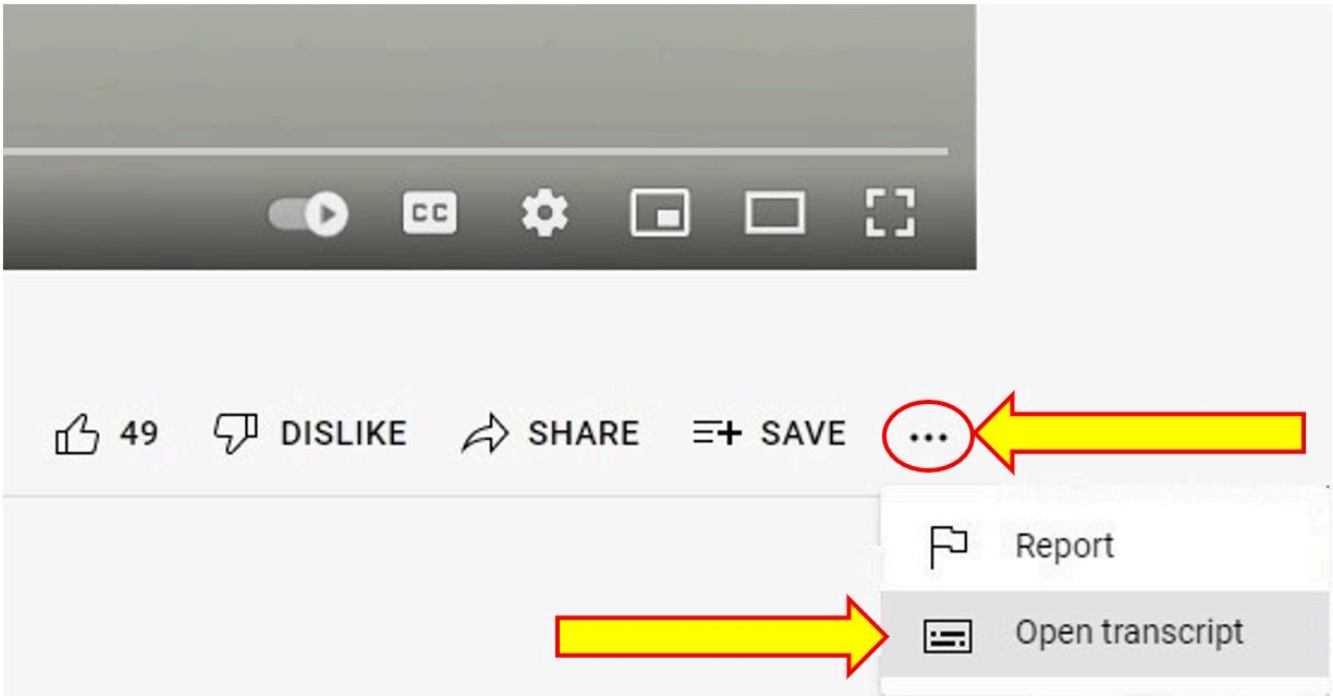
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/centennialdrugshealthaddictionsbehaviour/?p=1639#oembed-1

PBS Newshour. (2021). Fatherhood, addiction and recovery: an Indigenous man's story from Canada's Yellowknife. By PBS NewsHour. There is a series of short stories from the Indigenous community in Yellowknife, Canada exploring alcohol use, addiction, resilience and healing. The "Turning Points" project, from the Global Reporting Center, is a series produced, directed and authored by Indigenous people who wanted to share their stories. On this Father's Day, William Greenland reads a letter he wrote to his son about his life, struggles, addictions, and what he's learned.[1]

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



Everything you think you know about addiction is wrong | Johann Hari – Ted Talk

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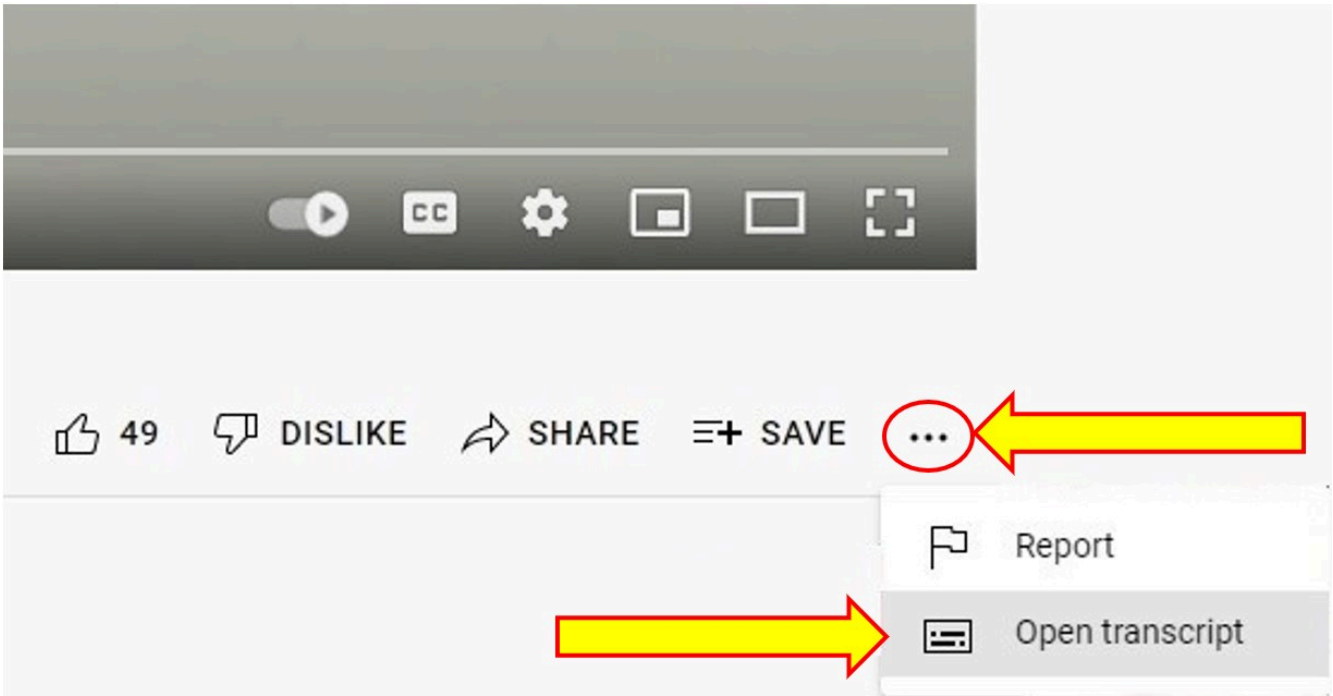
Everything you think you know about addiction is wrong | Johann Hari – Ted Talk. What really causes addiction — to everything from cocaine to smart-phones? And how can we overcome it? Johann Hari has seen our current methods fail firsthand, as he has watched loved ones struggle to manage their addictions. He started to wonder why we treat addicts the way we do — and if there might be a better way.[2]

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



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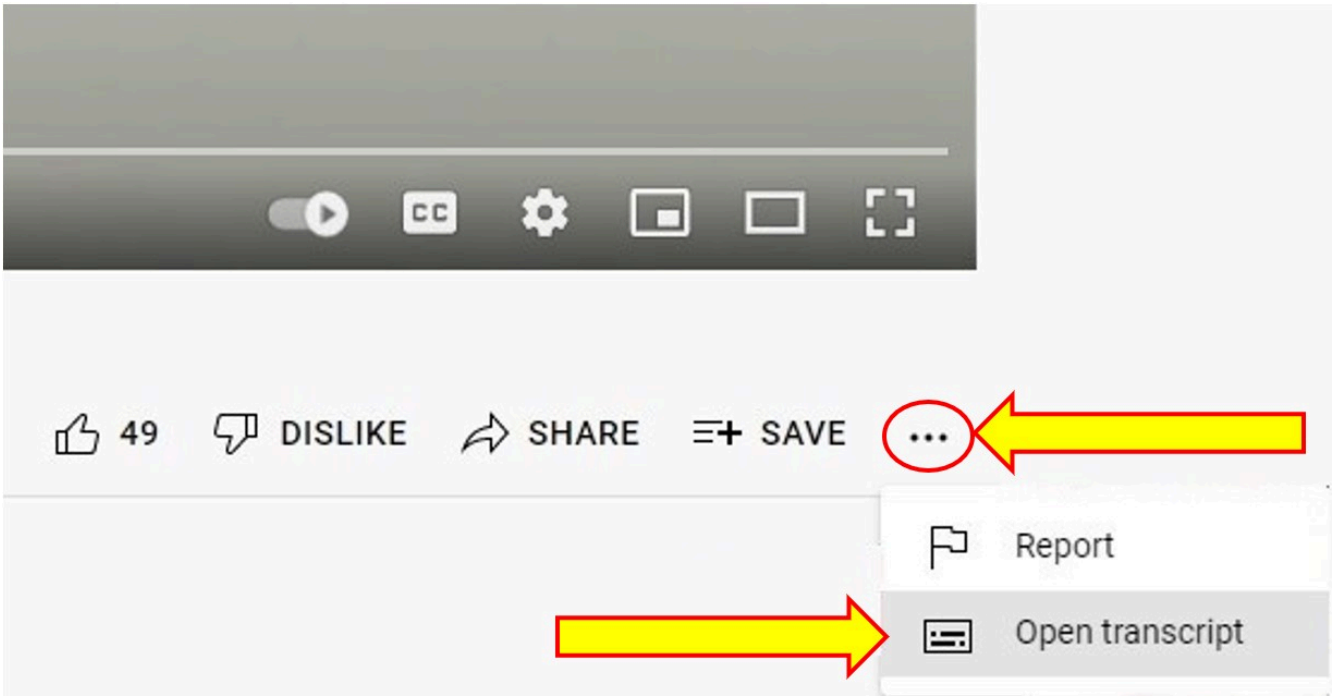
I Died Six Times … Let's End the Stigma of Harm Reduction | Guy Felicella. By TedTalk. Giving people perspective from a lived experience that no matter what the odds are against an individual struggling in addiction, people do get better. People do get their lives and families back and do become productive members of society. When we remove the stigma of addiction and harm reduction and look at the individual with compassion, amazing things can happen![3]

Transcript

To Access the Video Transcript:

1. Click on **"YouTube"** on the bottom-right of the video. This will take you directly to the YouTube video.
2. Click on the **More Actions** icon (represented by three horizontal dots)
3. Click on **"Open Transcript"**



Podcast

Crackdown

Crackdown is a monthly podcast that aims to explore drugs and drug policy. It was created by drug users, to tell their stories . Garth Mullins, the show's host and a drug user and activist, wants the podcast to highlight the insight that users can bring to the discussion on drugs[(4)].

- New podcast made by drug users aims to change how you think about addiction – CBC

Harm Reduction Podcasts

- Listen to The Gold Standard ... National Harm Reduction Coalition's Medical Director Dr. Kim Sue

Miscellaneous

- Benefits of peer support groups in the treatment of addiction
- Life In Recovery from Addiction Addiction Report

https://www.farcanada.org/family-support/support-yourself/embed/#?secret=FENd5NNWed

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EPILOGUE: FOOD FOR THOUGHT - FUTURE OF ADDICTIONS

The field of addiction studies is a new one. Addiction treatment and addiction professionals did not exist prior to the mid-1900's. There was a stigma around addiction and with a lack of research, this meant that those struggling with addiction were limited in the choice of options at the time.

Over the past several decades, our understanding & knowledge of this illness has increased significantly, and we expect that it will continue to grow tremendously in the coming years. A couple of decades from now we'll look back and see how limited our knowledge, research and options as an addictions professionals were. Such an interesting opportunity to be in the addictions field as it continues to grow and change expedentially.

In closing this book, let's discuss a few of the significant issues we see facing the field of addictions in the coming years. These topics are food for thought for anyone currently in the field or considering a career that deals with addictions.

1. One of the trends we have noticed in recent years is an increased emphasis on the use of medications to treat addiction. The gold standard of opioid treatment is now rooted in medication-assisted therapy such as Suboxone or methadone. We believe that this trend will continue as further research uncovers medications that help support recovery from drugs such as cocaine and marijuana, which currently have no such options.
2. Other developments may arise through new ways to treat chronic pain. The opioid epidemics of the early 21st century have created concern and awareness among elected officials and the general public about the overuse of prescription pain medicines. Scientists are now attempting to find ways of managing pain that do not have the same risk of abuse and addiction that come with traditional opioid medications. Such a breakthrough could be a major public health milestone, as opioid overdose has become one of the leading causes of death in the Canada, United States and globally.
3. In terms of treatment approaches, we also see creative methods being used to offer improved services, such as case management, therapy, psycho-education and coaching models. Managed care remains a struggle for treatment providers, with an emphasis on evidenced-based, well-documented treatment. Agencies have also begun emphasizing case management approaches that connect clients with a myriad of community resources to support the recovery process.
4. Recovery coaching and Sober coaching is still a fairly new model that utilizes a paraprofessional who can guide someone in recovery. Such an individual would have some training but would not serve in the role

of a clinical staff member. In many ways, this harkens back to the roots of the field, when most counsellors were themselves in recovery and often newly-minted graduates of the very treatment program where they worked. Addictions treatment has become more medically-based and now requires higher levels of education, which are positive developments. At the same time, the importance of peer support cannot be underestimated. After all, it is one of the foundations of 12-step recovery, which has a longer history of success than any other approach. A recovery coach or Sober coach might fill this need while supporting the work of treatment professionals.

5. One last issue we wanted to raise here is that the cultural norms around drug use are shifting. This is something that has changed as medicinal and even recreational use become the norm. Meanwhile, traditional tobacco products such as cigarettes are on the decline, even though e-cigarettes may be quickly taking their place, this presents it's own challenges. As we continue to learn more about the dangers of alcohol, we don't know if its prominent place in society will remain unchanged, or will it experience the same fate as cigarettes? These issues may have different answers from one year to the next, and even from one part of the country to the next.

We hope you have enjoyed this book and expanded your knowledge about the field of addiction studies. At the same time, the more we learn, the more we learn we don't know. We realize the contents here barely scratch the surface when it comes to the ocean of information about addiction. Whether you are considering a career in addictions or another mental health profession, or you are the friend or loved one of someone suffering from addiction, or you find yourself wondering about your own drug use, please keep learning and searching for answers.

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We are working to create a new, collaborative model for publishing open textbooks. It is important to our success in reaching this goal is to ensure that all books produced meet the needs of all students who will use them. To be accessible, means our textbook needs to be inclusive in all areas.

We are working with accessibility experts and others in the OER community to develop best practices for creating accessible open textbooks. We hope to ensure that all books we produce are accessible by default, and require an absolute minimum of remediation or adaptation to meet any individual student's needs.We are working on implementing accessible content, to ensure this textbook meets accessibility standards wherever possible, and to highlight areas where we know there is work to do.

We are using a checklist of eight key areas that has been drawn from the BCcampus Open Education Accessibility Toolkit. While a checklist such as this is just one part of a holistic approach to accessibility, it is one way to begin our work on embedded good accessibility practices in the books we support. Wherever possible, we have identified ways in which anyone may contribute their expertise to improve the accessibility of this text. We also welcome any feedback from students, instructors or others who encounter the book and identify an issue that needs resolving. This book is an ongoing project and will be updated as needed. If you would like to submit a correction or suggestion, please do so using the Accessibility feedback for Drugs, Health, Addiction & Behaviour

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Organizing Content	Headings and subheadings are used sequentially (e.g. Heading 1, Heading 2, etc.) as well as logically (if the title is Heading 1 then there should be no other Heading 1 styles as the title is the uppermost level)	Yes
Images	Images that convey information include Alternative Text (alt-text) descriptions of the image's content or function	Yes
Images	Graphs, charts, and maps also include contextual or supporting details in the text surrounding the image	Yes
Images	Images do not rely on colour to convey information	Yes
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VERSIONING HISTORY

This page provides a record of changes made to Drugs, Health, Addictions & Behaviour. Each set of edits is acknowledged with a 0.01 increase in the version number. The exported files for this toolkit reflect the most recent version.

If you find an error in this toolkit, please fill out the Feedback Form for Drug, Health, Addictions & Behaviour.

Version	Date	Details
1.0	March 23, 2022	Drugs, Health, Addiction & Behaviour – 1st Canadian Edition
1.01	May 16, 2023	Drugs, Health, Addiction & Behaviour – 1st Canadian Edition – Updated images and links throughout publication.