SUPPORTING FIRST NATIONS PEOPLE

INTRODUCTION TO CANNABIS

Origins, Stigma, Cannabis Science and Consumption

First Nations Health Authority
Health through wellness

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First Nations Health Authority
Health through wellness

The First Nations Health Authority (FNHA) is the health and wellness partner to over 200 diverse First Nations communities and citizens across British Columbia (BC). In 2013, the FNHA began a new era in BC First Nations health governance and health care delivery by taking responsibility for the programs and services formerly delivered by Health Canada. Since then the FNHA has been working to address service gaps through new partnerships, closer collaboration, health systems innovation, reform and redesign of health programs and services for individuals, families, communities and Nations.

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Introduction

Following the legalization of cannabis in 2018, health care providers working with First Nations communities have been seeking culturally sensitive and evidenced-based cannabis use information and resources to support their practice with individuals, families and communities.

When we are supporting individuals who use cannabis, it's important to be aware of the complexities of the cannabis plant (and its compounds) and how cannabis interacts with the body and mind. It's also important to understand the human endocannabinoid system, which was discovered in the 1990s by researchers examining cannabis compounds. This neurotransmitter system is considered to be responsible for numerous significant bodily functions, from appetite to sleep. Not everyone who uses cannabis is affected by it in the same way, and different consumption methods can have very different impacts.

About this Resource

This resource provides health care providers with an introduction to cannabis, including a discussion of the origins of cannabis, the stigma associated with substance use (and cannabis), cannabis science and consumption methods. Understanding how cannabis interacts in the body and mind can provide a foundation for supporting individuals who use cannabis.

The resource *Care through Connection: Cannabis Use across the Lifespan* complements this guide. It offers in-depth approaches on how to support individuals who use cannabis, with a focus on building relationships based on mutual respect and trust from a strength-based, culturally safe, trauma-informed approach. It specifically provides information and strategies on supporting individuals who are pregnant, breastfeeding or looking to conceive; youth; and older adults (55+).

Origins and Stigma

CANNABIS HISTORICAL AND CULTURAL USES

One of the world's most ancient crops

Hemp, marijuana and cannabis: What's the difference?

- Hemp refers to the full plant (roots, leaves, flowers, seeds), which is primarily used as an agricultural crop, such as for paper and fibre. [1]
- Marijuana refers to the dried leaves and buds from the plant. [1]
- Cannabis is the scientific name for the hemp plant. There are a variety of hemp plants, with the three most commonly known being cannabis sativa, cannabis indica and cannabis ruderalis. [1]

Historical origins of cannabis

The earliest evidence of cannabis cultivation dates to 10,000 years ago during the Stone Age in China. Archaeologists found small pots with patterns of twisted hemp fibre decorating them, and cannabis was also a major food crop and used in textiles, rope, paper and oil. Many Western scholars attribute the origins of cannabis to the Scythians, who used cannabis in daily life during the 7th century BC in and around Siberia and North Central Asia. [2]

Uses of cannabis in North America

Some evidence shows the cannabis plant was primarily used as fibre (hemp) in clothing and ropes before settlers landed in North America. [3]

Throughout the 19th century, cannabis was used along with opium and the coca plant (the source of cocaine) in medical preparations for pain relief. [4]

Accounts from the 1890s suggest that the potency of cannabis was too variable for pain relief, with some doctors recommending opiates and soluble drugs as they could be injected for faster and more reliable pain relief. [4,5]

In the early 20th century, cannabis fell out of favour as a medical drug. After World War II, cannabis became more popular in North America as a recreational hallucinogen. [4]

Uses of cannabis in Canada: Historical timeline

Canada's first cannabis crop was planted in 1606 by Louis Herbert in Port-Royal (in what is now Nova Scotia). Cannabis was brought from Europe to be used to make food, medicine, ropes and sails. [2,3]

Canada's cannabis industry boomed during the 1800s, when cannabis farming and processing was an important part of the Canadian economy for the production of hemp textiles and medicinal cannabis tinctures. [2,3]

Throughout the 1920s, hemp was legal and grown for industrial purposes. [6]

In 1938, cannabis was banned in all its forms, including hemp, across Canada. [6]

World War II saw a rise in popularity of cannabis, and from this point on, cannabis was used for its hallucinogenic properties. [2]

In the early 1950s, a new law marked the end of cannabis medicines, which until this point had still been available by prescription. [7]

In the 1980s, the American War on Drugs influenced the Canadian approach to drug control. [8]

In 2001, Canada adopted a federal system regulating the medical use of cannabis with the introduction of MMAR (Marihuana Medical Access Regulations). [9]

In 2018, the *Cannabis Act* took effect, legalizing non-medicinal cannabis for adult use. [7]

Uses of cannabis by Indigenous peoples

The Indigenous peoples of North America used psychoactive herbs to help with their ceremonies (such as Sundance and vision quests).

According to the National Indigenous Medical Cannabis Association, "Our ancestors extracted and processed cannabis and hemp long before any settlers reached our shores." [6]

Cannabis and hemp were used for clothing, hunting and gathering (mats, nets, fishing line, etc.), selling, trading and exporting. [6]

The Thunderbird Partnership Foundation created a briefing note that includes descriptions from Elders across Canada about how cannabis was used by Indigenous people: [10]

1. Cannabis was prepared in a culturally appropriate way to create a topical solution to treat pain, such as arthritis. It was not ingested or smoked. [10]

2. Cannabis was prepared in a culturally appropriate way and used in ceremony to lessen symptoms such as psychosis (undiagnosed) related to schizophrenia. [10]

CANNABIS AND STIGMA

Reducing unconscious bias and stigma in health care settings

Social values, education, history, the media and cumulative life experiences affect the way each person perceives and communicates about cannabis use. [11]

To provide the highest quality care, health care providers need to minimize the stigma experienced by their clients. Unconscious bias and stigma are deeply ingrained in our culture. Learning how to recognize stigma and mitigate its harms is essential. [11]

Manifestations of stigma

Enacted stigma

When a person is treated unfairly by others, they are experiencing enacted stigma. This may also be considered discrimination. Frequently, the person enacting stigma does not realize that they are doing so.

It may be a learned behaviour that has never been questioned. In health care, people experiencing stigma due to substance use may experience:

- Increased surveillance
- Substandard care
- Longer wait times
- Barriers to accessing care
- Reduced engagement in care
- Case passed off to junior care providers
- High rates of child protective involvement
- Judgment [12,13,14]

Anticipated stigma

The fear of experiencing any form of prejudice, discrimination and stereotyping by others that may happen in the future is called anticipated stigma. It often affects the decisions that a person makes.

Avoidance is a natural reaction to the threat of an unpleasant experience. Anticipated stigma can lead to:

- Concealment of substance use
- Health care avoidance
- Lack of adherence to treatment
- Distrust of health care practitioners [15]

Internalized stigma

A person who begins to believe that they have the negative characteristics attributed to them by others is internalizing the stigma they experience. This person may begin to accept the negative treatment and describe themselves by the terms other people have used.

Internalized stigma can:

- Damage a client's self-esteem
- Reduce a person's confidence in their own abilities [12,16]

Structural stigma

Stigma is perpetuated through societal and organizational structures that systematically stigmatize and disadvantage certain groups of people. Often these disadvantages are difficult to detect and are accepted as the norm until they are overtly challenged. Structural stigma is often rooted in policies and culture developed by the dominant group.

Stigmatizing structures and policies must be identified and require advocacy to change. Eliminating structural stigma requires buy-in from people in positions of authority.

Structural stigma is perpetuated through:

- Laws and enforcement practices
- Institutional structures, policies and culture
- Media depictions
- Economic and class stratification
- Access to resources
- Political decisions
- Economic models [15,17,18]

Minority stigma

In a group of people, the majority hold the power to define the culture and values of the group. People who possess one or more characteristics that are generally attributed to people in the minority are often considered "other" by the majority and treated differently because of these traits.

For example, a person who uses cannabis among a group of friends who also use cannabis is in the majority. This group would likely consider cannabis use to be acceptable behaviour. If the same person who uses cannabis moves to a context in which most people do not use cannabis (which could be the case in the health care sector), they move to a minority position. They may be stigmatized by health workers for their use of cannabis and treated differently because of it. [11,17]

Secondary stigma

People who support, sympathize or advocate for people who experience stigma may experience stigma themselves. This is called secondary stigma.

Because health care providers advocate for patients, including patients who experience stigma, clinicians may experience secondary stigma. Health care providers must work to create a culture of safety in which advocacy for respectful treatment of all people is rewarded. [19]

CANNABIS AND STIGMATIZING LANGUAGE

Why language matters

Stigma is a significant barrier to health and wellness for people who use substances. [20] **Because the goal of health care providers is to improve the wellness of their clients, understanding how language can impact people – positively and negatively - is critical.** [20]

Language shapes our understanding of a concept and, when speaking about cannabis use and cannabis use disorder, respectful language can facilitate self-efficacy, empowerment and wellness. [20]

Why does language matter?

Derogatory, stigmatizing and judgmental language was used throughout the "war on drugs" in an effort to stop people from using substances. [21] By opting to choose language that is respectful, we can begin to break away from the negative stereotypes associated with substance use. [21]

Language to use

Person-first language should be used in all client interactions, especially when working with people who experience stigma.

Avoid labelling a person as their disease. Instead of "drug users," you could say "people who use substances." You can use "people with lived experience" to refer to people who have engaged in substance use in the past.

Person-first language is respectful, maintains a person's dignity and shows compassion. [20,22,23,24]

Words to avoid and alternatives

Stigmatized language to avoid => Alternatives

Clean/Sober	=>	Substance-free
User/Addict	=>	Person who uses drugs
Habit/Abuse	=>	Sustained use/Regular use

Content adapted from: ***The words we use matter. Reducing stigma through language***. [21]

How does stigma hurt people?

Stigma remains one of the biggest barriers faced by clients looking for addiction treatment. [21]

Experiencing stigmatizing language and disrespect have real-life consequences that often lead to people feeling ashamed and hurt. [20]

If a person feels stigmatized, they may not seek medical support in order to avoid being labelled "an addict." [20]

Actions to reduce stigma in practice

Implement Trauma-Informed Care

Trauma informed care is a universal approach that should be used for every interaction with a client.

Any person may have experienced trauma. It is important to be aware of this possibility and avoid re-traumatization. Consider the person's life experiences and their reasons for using cannabis.

Make your practice a safe space for dialogue by creating a nonjudgmental and open atmosphere.

Be an ally to your clients

An ally can use their position of authority and privilege to advocate for people who are experiencing stigma.

Reflect on your position of privilege as a health care provider in your relationship with your clients.

Identify ways that clients may experience stigma and mitigate the harms whenever possible.

Critically examine existing policies and procedures in your everyday practice that may be putting certain groups at a disadvantage.

Report and foster changes to these procedures. Model respectful behaviour in practice and in everyday interactions.

A strong support system for a person experiencing stigma benefits their well-being. Nurses and other health care providers are part of a client's essential support system.

Building a strong, therapeutic relationship can help your clients feel comfortable discussing their cannabis use with you. A trusting relationship may encourage health-seeking behaviour and increase treatment adherence. [25,26]

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Cannabis Science

THE HUMAN ENDOCANNABINOID SYSTEM

How cannabis interacts with the body

The human endocannabinoid system (ECS) is a widespread regulatory system in the human body that affects various functions and processes such as feelings, moods, pain, appetite, sleep, memory, stress response, metabolism and immune function. [27]

The purpose of the human endocannabinoid system

The ECS regulates a number of physiological functions and facilitates the relationship between different neurotransmitter systems, ultimately being a key player in the control of behavioural responses. [28]

If there is an effect to the body or a function that needs to happen, such as pain from an injury or a fever, the ECS is activated to restore biological harmony and bring the body back to its normal state (homeostasis), (i.e., going from a stressful situation to a relaxed state). [29]

How does the ECS work?

The ECS involves three core components: endocannabinoids, receptors and enzymes. [28,30]

1. **Endocannabinoids**: These are substances made by the body. Two key endocannabinoids have been extensively researched: [31]
   a. Anandamide (AEA)
   b. 2-arachidonoyl glycerol (2-AG)

Endocannabinoids are messengers of the ECS and bind to the receptors to produce their effects. [30]

2. **Receptors**: These are present throughout the brain and body. There are two types of these "main message-receivers" [28]:

   a. CB1 (Cannabinoid receptor type 1) is abundant in the central nervous system and is also found in low concentrations in various peripheral tissues.

   b. CB2 (Cannabinoid receptor type 2) is found predominantly in the peripheral nervous system, especially in immune cells. Its possible expression in the central nervous system is being researched. These receptors play a role in pain modulation, inflammation and immune response to pathogens.

3. **Enzymes**: These substances help to activate and break down endocannabinoids once they have completed their function. [27,30]

When endocannabinoids bind to receptors, this activates the ECS response, which could lead to an impact on immunity, sensation, mood and even consciousness. This is when the body is alerted, and it will need help returning to its normal state.

For example:
In response to stress, there is an increase in cortisol, which results in fight-or-flight response in the body, as well as the production of endocannabinoids. Through this response, endocannabinoids bind to the ECS receptors to begin restoring the body to a balanced state. [28]

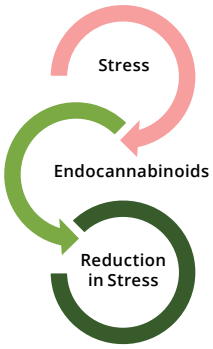

Image courtesy of Ruth Ross's presentation – Demystifying the endocannabinoid system. [27]

ECS and cannabis

In the 1990s, scientists discovered endocannabinoids, natural cannabis-like molecules, such as anandamide, that are produced in the body. Scientists began to realize cannabis exerted its effects, in part, by mimicking our endocannabinoids. [32]

THC (delta-9-tetrahydracannabinol): The interactions of THC (the intoxicating component of cannabis) with the ECS are potentially complex. [30] Many of the effects of THC are similar to those of endocannabinoids: [32]

Hunger

During states of fasting or long periods of not eating, endocannabinoids are released in the brain; this activates CB1 receptors, which alerts the brain of hunger. Similarly, when THC is consumed, it activates CB1 receptors, tricking the brain to think there have been long periods of fasting, commonly known as "having the munchies."

Stress/Anxiety

In response to stress or anxiety, endocannabinoids are released in the brain to help restore normal function. Similarly, THC activates the endocannabinoid receptors, producing an effect of relaxation. In some cases, however, THC may cause paranoia and anxiety.

Pain

In response to pain stimuli, endocannabinoids are released to create a temporary analgesic effect, similar to endorphins.

CBD (Cannabidiol): Research is being conducted to understand how CBD (a non-intoxicating component of cannabis) interacts with the ECS. [32]

- CBD has a low affinity for both CB1 and CB2 receptors.
- CBD studies have shown that CBD can be active at CB2 receptors, through which it exerts anti-inflammatory effects. [33]

CANNABIS USE DISORDER AND WITHDRAWAL

What are the symptoms?

There is a common misconception that people who use cannabis cannot become dependent on it. However, even when authorized to use cannabis by a medical provider, people can develop cannabis use disorder, especially if they use cannabis daily and at high amounts. [34]

Symptoms of cannabis use disorder

In the DSM-5, cannabis use disorder is a diagnosis based on impaired control, social impairment, risky use and pharmacological criteria. [35] Symptoms can include:

- Disruptions in functioning due to cannabis use
- The development of tolerance
- Cravings for cannabis
- Development of withdrawal symptoms [35]

Symptoms of cannabis withdrawal

When cannabis is consumed for prolonged periods or in high doses, the brain develops a tolerance for THC and begins to get accustomed to this new normal. When use is stopped, unpleasant withdrawal symptoms may appear as the brain adjusts again. [34,36]

Withdrawal severity and duration varies widely between individuals and depends on a variety of factors. [37] Cannabis withdrawal is defined in the DSM-5 as having three or more of the following symptoms that develop within one week of abruptly reducing or stopping prolonged cannabis use [38].

CANNABIS WITHDRAWL SYMPTOMS

MENTAL	EMOTIONAL	SPIRITUAL	PHYSICAL
Depressed mood	Irritability, anger or aggression	Not seeking spiritual support	Difficulty sleeping (e.g., insomnia or vivid dreaming)
Anxiety	Nervousness	Not seeking out traditional land-based healing methods	Weight loss or decreased appetite
			Restlessness
			Abdominal pain
			Shakiness or tremors
			Sweating, fever or chills

Approximately one-third of users who consume cannabis once or twice monthly (regular users) and between 50 per cent and 95 per cent of users who consume daily (heavy users) experience withdrawal symptoms. [36,39]

Although withdrawing from cannabis is not considered life threatening, it is clinically significant because:

- Unpleasant symptoms can interfere with daily functioning.
- Negative reinforcement can lead to relapse and a return to using cannabis. [38]

It is recommended that someone who wants to stop using cannabis should do so under the supervision of a health care provider. This is especially important when there is heavy or long-term (5+ years) use, as withdrawal symptoms may be more severe.

Withdrawal timeline

Days 1-2	Symptoms associated with cannabis withdrawal appear within the first few days after stopping use.
Days 2-6	This is typically the peak of withdrawal. Cravings can be strong, and this is when relapse is most likely.
Days 7-14	Most symptoms resolve within one to two weeks. Depressive symptoms may appear as the brain chemistry changes and adapts to functioning without THC.
Days 15+	Most if not all symptoms disappear by week three for most users. However, those with severe psychological addictions have reported feeling depressed and anxious for several months after stopping cannabis use.

Content adapted from [34 and 39].

Supporting clients as they stop cannabis use

There are currently no approved medications for treating cannabis use disorder or withdrawal symptoms. [38] However, current literature from placebo-controlled trials suggests that mirtazapine and quetiapine reduce some symptoms of cannabis withdrawal. [38]

Depending on the severity of the withdrawal symptoms, the following behavioural and coping strategies may be of use:

Education

- Talk with your client about cannabis use disorder symptoms and what happens to their body while they withdraw

Emotional

- Offer supportive psychosocial interventions
- Ask the client to reflect on how they have navigated difficult times in the past and encourage them to use these same strategies
- Refer the client to community mental health supports, such as traditional healers, counsellors, etc.

Spiritual

- Explore non-pharmacological symptom management
- Ask the client if they have someone they can talk to for spiritual support if this is part of their wellness journey
- Encourage the client to connect with local spiritual healing supports

Physical

- Treat comorbid conditions
- Explore outpatient treatment options, such as group therapy or individual therapy

CANNABINOID HYPEREMESIS SYNDROME

A new clinical condition

With increasing rates of cannabis use, a new clinical condition known as cannabinoid hyperemesis syndrome (CHS) has been identified. [40]

What is it?

Cannabinoid hyperemesis syndrome (CHS) refers to cyclic episodes of severe nausea and vomiting, as well as abdominal pain, associated with daily long-term cannabis use. [41] The population most affected by this disorder is primarily young adult and adolescent males. [41] It is currently difficult to quantify the precise amount of cannabis consumed by clients who experience CHS. [41]

Why it happens

Preliminary evidence suggests that CHS is a subset of cyclical vomiting syndrome triggered by daily, high-dose cannabis use, although the distinction between the disorders is often unclear. [42,43] Some limited evidence suggests that CHS results from a dynamic interplay between cannabinoid metabolism and complex pharmacodynamics at the cannabinoid receptor type 1. Individual genetics and variability in components between plants could also play a role. [41]

Symptoms

CHS is a recurrent disorder interspersed with symptom-free intervals. Researchers have identified three different phases of CHS: [44,45]

Early phase

These symptoms may last several weeks to months:

- Nausea
- Fear of vomiting
- Abdominal discomfort leading to acute vomiting

Vomiting phase

These symptoms may last for several hours and continue for days:

- Intense persistent nausea and vomiting
- Retching up to five times per hour
- Abdominal pain
- Compulsive urge for a hot bath or shower

Recovery phase

- Begins when the person stops using cannabis [45]
- It can take a few days to months for all symptoms to resolve and for a return to a normal state of general well-being [40]
- Symptoms resolve faster with 24 to 48 hours of intravenous fluid administration [45]
- Despite inconclusive evidence, pharmaceutical management may relieve symptoms of pain and nausea in some cases [45]

Diagnosis

Patients with CHS usually remain misdiagnosed for a considerable time period. [1] Clinical guidelines for diagnosing CHS do not currently exist. [46]

A systematic analysis of 170 case reviews and case studies published in 2016 identified some common diagnostic characteristics.

Essential criteria to diagnose CHS:

- Long-term cannabis use (more than one year)

Major features of CHS include:

- Less than 50 years of age at onset
- Male predominance
- Daily or weekly cannabis use
- Severe, recurring, cyclic nausea and vomiting
- Abdominal pain resolves after cannabis use stops
- Hot baths or showers provide symptom relief

Other features that support a diagnosis of CHS include:

- Weight loss of more than 5 kg
- Morning nausea and vomiting

Content obtained from *Cannabinoid hyperemesis syndrome* [45,46].

Proposed treatment options

Low-quality and limited evidence suggests the only definitive treatment is abstinence. [41]

Most treatments are targeted at the hyperemesis (vomiting) phase to prevent dehydration and alleviate symptoms of severe nausea and vomiting. [45,46]

In some cases, applying capsaicin cream to the abdomen has led to dramatic or complete symptomatic relief of abdominal pain. [41]

Dopamine antagonists may reduce the effects of THC withdrawal. [41]

Hot showers or baths can provide temporary symptomatic relief during the hyperemesis phase. [47]

CANNABIS INDICATIONS

When cannabis is and is not effective

There is no official clinical indication for cannabis use in Canada at this time. However, cannabis may be prescribed by an approved practitioner for any indication.

As cannabis research to date has focused on possible harms, further research is required to determine the efficacy and benefits of cannabis or specific cannabinoids (e.g., CBD or THC) for various indications. [48]

This section describes the current research and evidence for off-label use of cannabis to treat medical conditions. In brackets are the specific cannabis or cannabinoids compounds found to be effective. [48]

There is conclusive or substantial evidence that cannabis or cannabinoids are effective:

- For the treatment of chronic pain in adults.
- As antiemetics in the treatment of chemotherapy-induced nausea and vomiting (oral cannabinoids).
- For improving patient-reported multiple sclerosis spasticity symptoms (oral cannabinoids).

There is moderate evidence that cannabis or cannabinoids are effective for:

- Improving short-term sleep outcomes in individuals with sleep disturbance associated with obstructive sleep apnea syndrome, fibromyalgia, chronic pain and multiple sclerosis (primarily nabiximols, a pharmaceutical preparation of THC and CBD).

There is limited evidence that cannabis or cannabinoids are effective for:

- Increasing appetite and decreasing weight loss associated with HIV/AIDS (cannabis and oral cannabinoids).
- Improving clinician-measured multiple sclerosis spasticity symptoms (oral cannabinoids).
- Improving symptoms of Tourette syndrome (THC capsules).
- Improving anxiety symptoms, as assessed by a public speaking test, in individuals with social anxiety disorders (cannabidiol).
- Improving symptoms of post-traumatic stress disorder (nabilone; a single, small fair-quality trial).

There is limited evidence of a statistical association between cannabinoids and:

- Better outcomes (i.e., mortality, disability) after a traumatic brain injury or intracranial hemorrhage.

There is limited evidence that cannabis or cannabinoids are *ineffective* for:

- Improving symptoms associated with dementia (cannabinoids).
- Improving intraocular pressure associated with glaucoma (cannabinoids).
- Reducing depressive symptoms in individuals with chronic pain or multiple sclerosis (nabiximols, dronabinol and nabilone).

There is no or insufficient evidence to support or refute the conclusion that cannabis or cannabinoids are an effective treatment for:

- Cancers, including glioma (cannabinoids).
- Cancer-associated anorexia cachexia syndrome and anorexia nervosa (cannabinoids).
- Symptoms of irritable bowel syndrome (dronabinol).
- Epilepsy (cannabinoids).
- Spasticity in patients with paralysis due to spinal cord injury (cannabinoids).
- Symptoms associated with amyotrophic lateral sclerosis (cannabinoids).
- Chorea and certain neuropsychiatric symptoms associated with Huntington's disease (oral cannabinoids).
- Motor system symptoms associated with Parkinson's disease or levodopa-induced dyskinesia (cannabinoids).
- Dystonia (nabilone and dronabinol).
- Achieving abstinence in the use of addictive substances (cannabinoids).
- Mental health outcomes in individuals with schizophrenia or schizophrenia-form psychosis (cannabidiol).

Adopted from *The Health Effects of Cannabis and Cannabinoids: The Current State of Evidence and Recommendations for Research (2017)*, pgs 128-129.

3

Components and Consumption

CANNABIS COMES IN MANY FORMS

Compounds, derivatives and products

Cannabis is a broad term that refers to the products derived from the dried, harvested flowers of a group of three plants: cannabis sativa, indica and ruderalis (hybrid). [49]

Chemical compounds in cannabis

Cannabis has over 400 different chemical compounds, of which more than 140 are cannabinoids.

Cannabinoids interact with the human endocannabinoid system to produce a response.

The two most commonly known and studied active cannabinoids are CBD and THC.

- **CBD** is studied for its medicinal potential.
- **THC** provides pain modulation and also has the potential for dependence due to its euphoria-inducing properties.

Plant derivatives

Cannabis derivatives include bud and hash products:

Bud is the dried flower of the cannabis plant. It contains amounts of THC that are intoxicating (5 per cent to 30 per cent) and is consumed for various desired effects. This is the most commonly used part of the plant due to its high concentration of cannabinoids.

Hash (or hashish) is created from the resin of cannabis flowers, without the plant material of the dried bud. As such, it has higher concentrations of THC (20 per cent to 90 per cent) than the whole bud. It is usually smoked with or without tobacco. [50]

Products

Cannabis products must be heated (decarboxylated) to activate the THC and other cannabinoids when consumed. This is why cannabis is often consumed through smoking or vaping. Eating cannabis raw will not produce any intoxicating effects.

In purchased edibles and some oils and tinctures, the THC has already been activated, which is why these products produce an intoxicating effect when consumed.

Dried buds: Some common forms of cannabis include the dried flower (bud) and concentrates. Dried buds are usually smoked or vaped; they can also be infused in fats to be consumed later as edibles.

Concentrates are procured during the extraction process when the cannabinoids and terpenes are separated from the plant matter. This results in a concentrate with high levels of cannabinoids that is more potent than the bud. Concentrates include hash, kief (non-solvent concentrates), and shatter, wax or oil (solvent concentrates).

Definitions

Terpenes are common constituents of flavourings and fragrances and are responsible for cannabis's aroma. [51,52]

Kief refers to the collection of trichomes (small, hair-like growths found on the cannabis plant [52]) that accumulate when sifted from dried cannabis, sometimes using a grinder. [52]

Shatter, wax and oils are concentrated products that contain a high potency of THC. [53]

CANNABIS CONSUMPTION METHODS

Inhalation (smoking and vaping)

Inhalation is the most common way people have traditionally consumed cannabis. [54] Common delivery methods include hand pipes, bongs, vaporizers, joints, e-cigarettes and hookahs.

The effects of smoking and vaping cannabis

The effects of cannabis inhalation are felt very quickly, with most people feeling a "high" within a few minutes of smoking or vaping. [55]

Primary effects:

- Initial feeling of happiness
- Intense sensations
- Slowing sense of time
- Altered perceptions
- Feeling detached from body
- Short-term memory loss; repeating the same thoughts or words

Secondary effects:

- Drowsiness
- Thirst and hunger

Onset of action (how long it takes to feel the effects) [55]

- Time to onset: 3-5 minutes
- Bioavailability: 5-50 per cent
- Time to peak effect: 10-30 minutes
- Duration of effect: 2-4 hours
- Ease of titration: Relatively easy
- Peak levels: High
- Predictability of effect: Good

Smoking versus vaping

Traditionally, cannabis has been smoked using implements such as joints, pipes and bongs. More recently, vaporizers and e-cigarettes have emerged as alternative inhalation methods for cannabis. [56]

Smoking less often helps reduce smoke and toxins in the lungs. Due to the potential adverse effects of both smoking and vaping, it is recommended that clients reduce the amount of smoking and consider using alternative methods, like edibles. [57]

Smoking

- This is the most common method of non-medical cannabis use. It is not recommended for medical cannabis patients.
- Smoking uses dried plant parts or concentrates.
- Only 50 per cent of the THC is absorbed into the bloodstream when cannabis is inhaled; the rest is lost by heat or in smoke that is not inhaled.

Vaping

- This method heats dried cannabis to a controlled temperature to release cannabinoids. It results in fewer toxic chemicals than smoking.
- Vaping uses concentrated extracts or ground dry herb.
- Vaping results in increased THC absorption compared to smoking.

Content obtained from *Cannabis toolkit: A holistic approach to supporting healthy conversations about cannabis in First Nations communities* [58].

Overconsumption

Whether smoking or vaping, it is recommended to start slowly, take in small amounts and wait before having more. [55]

Symptoms of overconsumption include: [55]

- Extreme sedation; inability to move
- Anxiety
- Paranoia
- Hallucinations
- Delusions
- Rapid heartbeat
- Depression

Counteractions

The following treatment guidelines for THC overconsumption can be shared with clients who may have overconsumed and are experiencing adverse effects: [59]

- Move to familiar surroundings or a quiet place
- Seek help with a safe person
- Hydrate with water
- Lie down
- Expect that effects usually resolve within 30 minutes to six hours
- Anecdotally, some people say to consume CBD as it binds to the receptors in the brain and "kicks off" the THC within about 10 minutes; further research is needed to prove its validity

CANNABIS CONSUMPTION METHODS

Topical (lotions, balms and oils)

Topical preparations include cannabis-infused lotions, balms and oils that contain the active ingredients of cannabis (cannabinoids). Topicals are absorbed through the skin for a localized effect. [60]

Types of topical products

Balms, oils, rubs, personal lubricants, suppositories, salves, creams. [60]

Effects

There is currently very limited evidence to support the use of topical cannabis products for medical conditions. The few existing studies tend to be unblinded, lack a control group and provide only subjective outcomes. [61]

Some evidence suggests that the onset of action for topical preparations is from five minutes to two hours. The duration of action may be longer than 12 hours. [61]

Some of the symptoms topical cannabis can treat are: [60]

- Pain relief
- Muscle soreness
- Tension
- Inflammation

There are claims that topical cannabis can provide potential benefits for conditions that include psoriasis, dermatitis, headaches, cramping and eczema. [60]

A small study observed analgesic outcomes when patients applied an ointment of topical medical cannabis. However, further research is needed to validate these early findings and identify the health impacts of topicals when used regularly and over long periods. [62]

Application

As the topical preparation is applied to the skin, the effects of the cannabinoids are localized. With this application method, the intent is to provide localized relief from pain or inflammatory conditions. [60]

These products tend to contain low levels of cannabinoids, making it difficult for THC to penetrate the skin. It is possible that if the topical product contains large amounts of cannabinoids and is spread over a large area of broken or damaged skin, it could deliver amounts of cannabinoids significant enough to produce psychoactive effects, however, further research is needed to validate these findings. [63]

Some evidence suggests that the topical administration of CBD ointment, without any THC, is safe and effective, especially in treating inflammatory conditions. [64]

Adverse effects

Currently, adverse effects of topical cannabis products have not been studied or reported. However, cannabis used in this way appears to have little to no serious side effects or causes no harm. Some reports say individuals could develop a skin rash and itching. [61]

CANNABIS CONSUMPTION METHODS

Tinctures (under the tongue and orally)

Tinctures are the most common way of consuming cannabis orally. Tinctures are applied under the tongue or sprayed into the mouth and are absorbed through the oral mucosal lining. [73]

Effects

There is limited information on the effects of using cannabis tinctures. The onset of effects is faster with tinctures than edibles, with some people stating (anecdotally) that they feel the effects within 20-30 minutes of consumption. [73]

The effects of tinctures are not as prolonged when compared to edibles. The effects of tinctures tend to peak at 90 minutes and can last two to three hours, depending on the amount consumed, the person's tolerance for cannabis and the strength of the tincture. Those who consume cannabis regularly may find that the effects have a shorter duration, whereas those who do not consume cannabis regularly may find the effects last longer. [73,74]

Although products tend to vary in their THC and CBD levels, most tinctures and sprays tend to have more CBD than THC. [74,75]

Consumption methods

Under the tongue: With this method, cannabis is absorbed into the bloodstream through the inner linings of the mouth. This results in a faster onset of effects compared to edibles, which are absorbed through the digestive tract and metabolized by the liver. Sublingual use can cause some irritation if the drops are held for too long, as most tinctures are alcohol based. Some people have said that they hold the tincture under their tongues for 15 seconds before swallowing for best results (this has not been scientifically proven), although effects can vary depending on the person. [74,75]

Orally: With this method, cannabis is absorbed through the digestive system, by either adding a few drops (if using a tincture) to a drink or spraying the liquid directly into the mouth (if using a spray). When consumed orally, the effects are similar to edibles and can take longer to appear. [74]

Benefits of sublingual consumption

Effectiveness: Sublingual delivery is a convenient way to ingest cannabis as the cannabinoids are absorbed by the oral mucosal membranes in the mouth. [75]

Does not require smoking or inhaling: The sublingual method provides rapid effects, similar to smoking or vaping, without exposing the lungs to heat, tar or other harmful chemicals. [75]

Easier to control and deliver a safe amount: By using a tincture, individuals can administer their desired dosage drop by drop, allowing them to titrate a precise amount. Tinctures also allow individuals to learn their minimum effective dose. It is recommended that consumers begin with 2.5-5.0 mg of THC, and then titrate up drop by drop until the minimum effective dose is reached, waiting at least 60 minutes between doses. [75]

CANNABIS CONSUMPTION METHODS

Edibles (beverages, chocolate, chews and candy)

Cannabis edibles are food items made with cannabis or cannabis oils that are consumed as an alternative to smoking or vaping. Cannabis edibles are infused with cannabis, THC and or CBD.Edible products include: beverages, chocolate, chews and candy. [65]

Safely storing edibles

Children and Pets

Children can mistake cannabis edibles for regular food and consume them unintentionally. Small children are at higher risk of intoxication based on their weight and size. [66]

Certain pets, like dogs and cats, have more cannabinoid receptors in their brains than humans, making cannabis effects more pronounced and potentially more toxic. This specifically applies to dogs, who are proportionally more sensitive to THC. [67]

Containers

Use a lockable container or location. Although products are sold in child-resistant packaging, for extra security, store edibles in a lockable container or location, such as a medicine cabinet, box or drawer.

Airtight containers are best, as the odours will not escape. If a child or pet cannot smell the product, they are less likely to access it.

Location

Keep cannabis products out of sight and out of reach. If a child or pet cannot see the product, they are less likely to try and access it.

Cannabis edibles can be appealing to children and pets as the edibles may look similar to their own food or treats. Keep all cannabis products in a separate part of the house, away from regular food or treats. [69]

Environment

Store cannabis products in a cool dry environment away from sunlight. Do not store cannabis products in the fridge or freezer. The constant change in humidity may cause mold or mildew growth.

Content obtained from *Thunderbird Cannabis Toolkit* (pg. 16) [69].

The effects of ingesting cannabis

Cannabinoids are absorbed through the digestive tract and metabolized by the liver. Because the digestive system takes a while to break down the compounds, the onset of action (i.e., how long it takes to feel the effects) can be up to two hours. This can sometimes be a surprise to the individual, who may decide to consume additional cannabis products because they haven't experienced the effects.

Onset of action:

- Time to onset: 30-90 minutes
- Bioavailability: 6-10 per cent
- Time to peak effect: 2-3 hours
- Potential effects: Increased appetite and loss of inhibition. CBD can have some therapeutic benefits, like decreased pain and inflammation, or a sensation of feeling more relaxed. Further research is needed to validate these findings.
- Duration of effect: 4-12 hours

- Potential adverse effects: Feelings of paranoia, weakness and hallucinations
- Ease of titration/control of dose ingested: Difficult
- Predictability of effect: Poor

Content obtained from *GDS2019: Cannabis edibles – Booming business and harm reduction?* [70] and *Webinar: Consumption, risk factors and food safety of marijuana edibles* [71].

Amount of THC in edibles

The amount of THC in edibles can be inconsistent between the producer, product and across batches created at different times. This makes it hard to predict the amount of THC in any particular product. [72]

Consumers may have to calculate a safe amount of the product to consume based on their past experience with the product, their past experience with edibles and the amount of THC in the product as indicated on the package. For example, if an edible gummy contains 10 mg of THC, a typical starting dose might be a quarter of the product, or 2.5 mg THC. [68]

Recommendations

The recommended amount of edibles to consume varies between individuals, as THC affects people differently.

- *Start low, go slow* [68] is the advice provided in a campaign by the British Columbia government.
- Start with products that contain no more than 2.5 mg THC, before moving to higher quantities of THC.
- Let clients know that there will be an elapsed period of time between when they consume the edibles and when they feel the onset of effects. This period of time is longer than that associated with smoking or vaping cannabis, where the effects are felt more quickly.

Symptoms of over-consumption include: [71]

- Extreme sedation/inability to move
- Anxiety
- Paranoia
- Hallucinations
- Delusions
- Rapid heart beat
- Depression

Counteractions

The following THC over-consumption treatment guidelines can be shared with clients who may have overconsumed edibles and are experiencing adverse effects: [71]

- Move to familiar surroundings or a quiet place
- Seek help with a safe person
- Hydrate with water
- Lie down
- Expect that symptoms should resolve within 30 minutes to six hours
- Anecdotally, some people say to consume CBD as it binds to the receptors in the brain and "kicks off" the THC within about ten minutes, however, further research is needed to prove its validity

4

Conclusions and References

Conclusion

This resource has provided a summary of a large amount of information around cannabis. The legalization and regulation of non-medical cannabis has had a significant impact on how people use cannabis, and it's important that we approach cannabis education by building relationships that are based on mutual respect and trust, from a strength based, culturally safe and trauma-informed approach.

See all interactions with clients as an opportunity to build relationships and develop a circle of care as determined by the person's goals.

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INTRODUCTION TO CANNABIS:

Origins, stigma, cannabis science and consumption

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