Sex, Gender & Cannabis: Pain and its Management

This information sheet offers a snapshot of how sex, gender and equity-related factors influence the health effects of cannabis. It can be used to guide practitioners in providing care and facilitating health literacy.

SEX, GENDER, CANNABIS, AND PAIN MANAGEMENT

Females experience more chronic pain and are more sensitive to pain than males [1]. There are several sex related factors contributing to this. For example, while estrogens have a complex effect on pain sensitivity, testosterone seems to be more protective [3]. Brain imaging studies show that there are sex-related differences in how females and males process pain [5, 6].

Sex: refers to biological attributes such as hormones, anatomy, physiology, metabolism, and genetics, that affect how bodies respond to health factors.

Gender: refers to socially constructed factors that affect how people experience life, such as norms, roles, identities, relations and institutional practices [2].

When using cannabis for pain management, important sex related factors include biological differences in sensitivity to cannabis, differing levels of pain thresholds after using cannabis, and the utility of cannabis to relieve pain. Animal studies have revealed mixed results with THC being linked to reduced pain sensitivity in females, compared to males [7-9]. A recent study found that among female rats, THC was not an effective treatment for inflammatory bowel disease [10].

CBD and THC are psychoactive compounds found in cannabis.

THC: Δ-9-tetrahydrocannabinol (THC) is the psychoactive compound in cannabis that affects the body, including the feeling of being intoxicated or 'high'.

CBD: Cannabidiol (CBD) is another psychoactive compound in cannabis but it does not induce the feeling of being intoxicated or 'high' and is often used for therapeutic purposes such as pain relief.

We include information on the distinctions between these compounds when available.

For more information visit: Health Canada (2018) *About Cannabis*. Available here: www.canada.ca/en/health-canada/services/drugs-medication/cannabis/about.html [4]

In human studies, cannabis use, and specifically inhaled THC, has been associated with decreased pain sensitivity in males, but not in females [11] despite women reporting the use of cannabis to reduce pain at higher rates than men [11, 12].

More evidence is needed to determine the nuanced intersections of pain, cannabis, sex and gender, such as the effects of routes of administration, strain and quantity of cannabis, and frequency of cannabis use.

GENDERED EXPERIENCES WITH USING CANNABIS TO RELIEVE PAIN

There may be gendered differences in how cannabis is used to relieve pain. For example:

- Men have found relief from some symptoms of chronic prostate inflammation from smoking or vaping cannabis, as well as for management of HIV-related side effects including nausea and headaches [12, 13].
- Young women have found CBD drops help relieve body pain following HPV vaccination [14].
- Women who visited a cannabis dispensary in the US who used cannabis more frequently had more chronic conditions, including hypertension, diabetes, and arthritis, when compared with those who used cannabis less frequently [15].
- In a sample of Canadian bisexual women, using cannabis was identified as a way to cope with pain, anxiety, stress, and biphobia [16].

RESEARCH SNAPSHOT: WOMEN USE CANNABIS TO MANAGE PELVIC PAIN AND REPRODUCTIVE HEALTH CONDITIONS

Cannabis use has been documented in treating pelvic pain symptoms and sexual and reproductive health conditions with varying results, often shifting if and how other medications are used to treat the same pain symptoms.

A Canadian study of 3,426 women with chronic pelvic pain found that severe pain and worse mental health outcomes (i.e., depression, anxiety) were associated with using cannabis. The study also found that women with chronic pelvic pain who were using cannabis recreationally were more likely to use multiple medications and substances compared to those who did not. However, the use of other medications decreased after cannabis legalization [17].

In a New Zealand study of 213 women with endometriosis and/or polycystic ovary syndrome (PCOS), a majority of respondents (79.8%) currently used cannabis. Cannabis was often used for pain relief (95.5%), improved sleep (95.5%), increased ability to cope (80%), and nausea and vomiting (78.5%). The majority (67.8%) reported inhaled forms (pipe, joint, bong) to be the most effective, though 93% said they would use a vapourizer if a general practitioner or a pharmacy provided it. Most (81.4%) indicated that cannabis use had changed their normal medication usage, with 59% completely stopping a medication, 45% reducing a medication by at least half of the total dose, and 19% reducing a medication by less than half of the total dose. The most common class of medication stopped was opioids (40%), followed by non-steroidal anti-inflammatory drugs (NSAIDs) (17%), antidepressants (16%), and benzodiazepines (15%) [18].

A global survey of 1,634 women with endometriosis revealed that 51% reported consuming cannabis, and 55% of this group reported using cannabis for symptom management only [19].

MEDICAL CANNABIS, CHRONIC PAIN CONDITIONS, AND GENDER

Men and women describe experiences of using medical cannabis for chronic pain conditions, and differing levels of support they receive from prescribers.

- A qualitative study with Australian women with primary dysmenorrhea (severe period pain) reported that medical practitioner bias against cannabis for medical purposes was a perceived barrier to access [20].
- In a US study, men reported higher levels of perceived physician support compared to women for medical cannabis from both specialist and primary care physicians. Women were significantly more likely to increase their use of cannabis after acquiring a medical cannabis card and to discontinue prescription medications to treat pain and inflammation related to severe fibromyalgia, post-traumatic stress disorder (PTSD), rheumatoid arthritis, spinal cord injury, cancer, multiple sclerosis (MS), Crohn's disease, spinal cord disease, traumatic brain injury, and lupus [21].
- In another US study, both men and women who were using prescription pain medications and medical cannabis were more likely to use cannabis as a substitute for their prescription pain medication, compared to those who used cannabis for non-medical purposes. However, substitution rates were slightly higher among women, compared to men [22].

REFLECTION QUESTION

- How might an understanding of sex-related pain mechanisms and gender-related practices influence how you share information and deliver health promotion, harm reduction, or addiction treatment services?

KEY MESSAGE

There are sex related factors associated with the experience of and sensitivity to pain, and the benefits received from using cannabis to manage pain. There are gender related factors associated with the use and prescribing of cannabis for pain management.

Sex, Gender & Cannabis Hub

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The Sex, Gender & Cannabis Hub is Canada's resource for reliable and up-to-date information on sex and gender related factors affecting cannabis use. Developed by the Centre of Excellence for Women's Health, this initiative is funded by Health Canada's Substance Use and Addiction Program. The views expressed herein are not necessarily those of Health Canada.

Visit the Sex, Gender & Cannabis Hub at www.sexgendercannabishub.ca

The Centre of Excellence for Women's Health respectfully acknowledges the First Nations, Inuit, and Métis peoples as the first inhabitants of the traditional custodians of the lands where we live, learn, and work.

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