Vol.10, Issue 9
October 2018

CANNABINOID CHRONICLES

Medical Cannabis News and Information

CMA's Proposal to End Medical Cannabis Program Draws Criticism

Physician, educate thyself.

The Canadian Medical Association (CMA) made a comment at a recent conference that the medical cannabis program in Canada be phased out once recreational cannabis use is legalized on October 17.

The suggestion was made by a vice-president of the CMA, Dr. Jeff Blackmer, at an annual conference hosted by the non-profit group Canadian Consortium for the Investigation of Cannabinoids. The CMA believes "there is insufficient evidence on risks and benefits, the proper dosage and potential interactions with other medications," according to its website.

"Our recommendation was that once it is legalized, that there really is no reason for a separate medical system," said Blackmer.

"If anyone can go down to the local dispensary and get cannabis, there's really no need for a separate medical authorization system. You really don't need to have people going to their doctors because *anyone who has a medical condition and thinks they might benefit from it can go ahead and try it*," he said. (emphasis added)

Do they treat any other medicine in this manner? Is this a cover-your-ass moment by the CMA? It seems at odds with medical principles that they are willing to allow their patients to get cannabis on their own if they think that they need it.

It's a position many in the medical cannabis community, including doctors who are also a part of the CMA, disagree with because using cannabis to treat illness is not the same as using it just to get high. There are very different issues surrounding cost, access, necessary medical advice, forms of cannabis, and rules around consumption and growing when it comes to the medical community; the government's plan to tax medical cannabis, for example, has sparked outrage amongst patient advocates. Some feel that a single stream is likely to: 1) further promote stigmatization, 2) reduce funding for medical research, 3) limit knowledge transformation of harms/benefits of cannabis, and 4) keep cannabis users away from doctors.

"I feel his statements are unfortunate and I wholeheartedly disagree," Dr. Blue, a doctor in Windsor, Ontario, who prescribes medical cannabis, said. Seeking guidance from a dispensary budtender, would be "no different than pursuing cognitive behavioural therapy and counseling from a local bartender - no offence to bartenders - rather than a clinician who is experienced and clinically trained in treating such conditions."

"A single system for both medical and non-medical cannabis would erode the ability of health care providers to ensure patients receive adequate supply and proper dosages." - Jonathan Zaid, director of advocacy and corporate social responsibility for Aurora Cannabis.

The current medical regulatory system provides discounts for patients who are living off social assistance or disability pay - a benefit that would likely disappear if the medical system were eliminated. And, if the medical framework were eliminated, the government would likely stop covering the cost of cannabis for military veterans who suffer from PTSD and other disorders.

Sources: cmajnews.com/2018/04/17/cma-position-against-separate-regulations-for-medical-cannabis-draws-ire-and-insults-cmaj-109-5594/
www.cbc.ca/news/canada/calgary/canadian-medical-association-cannabis-legalization-1.4772000
www.vice.com/en_ca/article/qvxzg7/doctors-met-up-to-talk-about-weed-and-some-petty-drama-went-down

Image: http://www.cmaj.ca/content/186/12/895

Human: THC reduces neuropathic pain, associated with altered connections between two brain regions

In a placebo-controlled study with 15 patients with chronic neuropathic pain THC reduced pain. This was associated with changes in pain-related networks in the brain. Scientists from the USA, Israel and the UK published data in the journal Neurology. Pain assessments and functional brain scans were performed at baseline and after sublingual THC administration.

THC significantly reduced patients' pain compared to placebo. THC-induced analgesia was correlated with a reduction in functional connectivity between certain brain regions, the anterior cingulate cortex and the sensorimotor cortex. Moreover, the degree of reduction was predictive of the pain relieving response to THC. Authors wrote that the analgesic effects of THC may be mediated "through induction of functional disconnection between regulatory high-order affective regions and the sensorimotor cortex."

Source: https://www.ncbi.nlm.nih.gov/pubmed/30185448

Cells: Cannabis extracts are effective against bacteria resistant to antibiotics

Scientists investigated the antimicrobial activities of three plant extracts, including extracts from cannabis, against MRSA (methicillin-resistant *Staphylococcus aureus*). They found that the "leaf extracts of C. sativa, T. orientalis and P. guajava had potential for the control of both hospital- and community-acquired MRSA."

Source: https://www.ncbi.nlm.nih.gov/pubmed/30120078

Animal: Cannabinoids in combination with standard chemo may improve treatment outcome in brain cancer

Researchers found that the combined administration of CBD and THC and the standard chemotherapy treatment temozolomide produces a strong anti-tumoural effect in glioblastoma multiforme, while the combined administration of these cannabinoids together with BCNU, another chemotherapeutic agent used for the treatment of this brain cancer, did not show a stronger effect than individual treatments.

Source: https://www.ncbi.nlm.nih.gov/pubmed/30125556

Animal: The intake of dietary fibres and starch influences the numbers of CB1 receptors

It is known that dietary fibre supplementation can improve cognition. Rats were fed a high-fat diet, which induced increases in the number of CB1 receptors and other receptors in brain regions involved in cognition and appetite. Addition of dietary fibres and starch reduced this effect. Authors wrote that "increased fiber intake may have beneficial effects on improving learning and memory, as well as reducing excessive appetite" during a high-fat diet.

Source: https://www.ncbi.nlm.nih.gov/pubmed/30152105

Human: Cannabis lozenges reduce pain, observational study

In an observational study with 49 participants with chronic pain cannabis lozenges (Trokie) produced a significant reduction in pain. The study was conducted by investigators of Palliative Care Corporation in Huntington Beach, USA, and further institutions from the Netherlands and Spain. Trokie lozenges are a standardised formulation containing cannabis extracts to deliver cannabinoids by the oral mucosa. Participants were asked to report pain perception before and after 1 to 12 weeks.

A mean reduction in pain scores on the scale between 0 and 10 of 4.9 was observed. Onset of analgesia typically varied between 5 and 40 min, which seems consistent with, at least partial, absorption through the oral mucosa. Adverse events were reported by 16 subjects, the most common being dizziness/unsteadiness, bad taste, and throat irritation/dry mouth. Despite the adverse events, 90% of participants reported being "satisfied" or "very satisfied" with the product.

Source: https://www.ncbi.nlm.nih.gov/pubmed/30154694

Cells: A new mechanism involved in anti-cancer effects of Cannabidiol (CBD)

CBD (cannabidiol) was shown to inhibit the release of certain structures from cancer cells, which are associated with the resistance to chemotherapeutic agents and the transfer of factors, which promote cancer. The structures are called exosomes and microvesicles (EMV). They are structures, released by cells and involved in intercellular communication through transfer of proteins and genetic material. Scientists from the School of Human Sciences of London Metropolitan University, UK, found this novel role for CBD as a potent inhibitor of exosomes and microvesicles release from three cancer cell lines: prostate cancer, hepatocellular carcinoma, and breast adenocarcinoma. CBD significantly reduced exosome release in all three cancer cell lines, and also significantly, albeit more variably, inhibited microvesicle release. These effects of CBD were found to be dose dependent and cancer cell type specific. Investigators suggested "that CBD can be used to sensitize cancer cells to chemotherapy" and "that the known anti-cancer effects of CBD may partly be due to the regulatory effects on EMV biogenesis."

Source: https://www.ncbi.nlm.nih.gov/pubmed/30150937

Annual General Meeting

The Vancouver Island Compassion Society is holding its Annual General Meeting on Sunday, October 14th, at Heart & Hands Health Collective, 851 Cormorant St., from 1:00 to 3:00 pm. Doors open at 12:30 pm.

Study Finds Schizophrenia May Lead to Cannabis Self-Medication

A study published in the journal *Nature Neuroscience* last month found that the evidence supporting the theory that cannabis use can cause schizophrenia was "weak", but found strong support for the idea that schizophrenia can cause or increase cannabis use.

People struggling with schizophrenia may try to alleviate their symptoms by self-medicating with cannabis.

"Our findings may indicate that individuals at risk for developing schizophrenia" experience symptoms "that make them more likely to start using cannabis to cope or self-medicate," wrote the study's authors.

The peer-reviewed report, which included contributions from more than 80 researchers around the world, was based on the largest genetic study of cannabis use ever undertaken. Scientists have long suspected a connection between cannabis use and schizophrenia. But the research remains unclear about a possible causal relationship between the two.

The *Nature Neuroscience* study was based on gene testing of more than 184,000 people, including 22,000 clients of 23andMe, the personal health and ancestry company. The study was coordinated by the International Cannabis Consortium, a project to identify genetic risk variants for cannabis use.

"Previous studies have shown that genetic risk factors for cannabis use and schizophrenia are positively correlated," the authors noted. (See (www.ncbi.nlm.nih.gov/pmc/articles/PMC4382963/)

In general, those studies have indicated that cannabis use by young people doesn't itself cause schizophrenia. The evidence has pointed more to a dynamic where cannabis use can speed up the emergence of the mental disorder among those who have a genetic predisposition to the disease.

In the current genome-wide association study, researchers confirmed a "significant genetic correlation" between cannabis use and schizophrenia. But instead of cannabis causing the early emergence of schizophrenia, the scientists found causation moving in the *opposite* direction: The emergence of schizophrenia, they wrote, led to a greater probability of cannabis use.

Why? One theory is that people struggling with early signs of schizophrenia may try to calm their brain and alleviate other symptoms by consuming cannabis.

The study also found surprising correlations between cannabis consumption and other lifetime attributes. Researchers found positive genetic correlations between cannabis use and: risk-taking behavior; openness to experience; educational attainment; and higher household income.

One of the most intriguing parts of the study, though, indicated a positive correlation between cannabis use, risk-taking behavior, and "openness to experience." Openness to risk and new experiences are also - although the authors don't acknowledge it - traits that can lead to success in education and income.

Although the study was the largest of its kind to date, it also had some significant flaws. People in the study were separated into two overly simplified categories: cannabis users and non-users. Very light consumers and people who may have tried a few puffs in college were lumped together with heavy daily consumers in the "cannabis users" group.

Also, there was no differentiation in types of cannabis use. In the US, medical cannabis is legal in 30 states and used by millions of patients to alleviate serious ailments. Cannabis is also enjoyed as a social intoxicant by millions of non-patients. None of those differences were taken into account.

The study's authors also play loose with terms like "cannabis use disorder" and "cannabis-dependent individuals," as if every person who ever used cannabis is dependent or the victim of a disorder. The study also notes that cannabis use "is associated with various adverse mental health outcomes, including psychosis and schizophrenia," but the authors make no mention of cannabis use and positive health outcomes, including the treatment of chronic pain, PTSD, epilepsy, and many other conditions recognized by many states around the country, and several countries around the world.

Sources: https://www.nature.com/articles/s41593-018-0206-1

https://www.ncbi.nlm.nih.gov/pubmed/30150663

www.leafly.com/news/health/schizophrenia-may-lead-to-cannabis-use-not-the-other-way-around

The Carbon Footprint of Cannabis

How much energy does it take to produce cannabis? What is the carbon footprint? This answer is dependent upon a few factors, one of the most important being where it is cultivated, such as indoors, outdoors, or in a greenhouse. A research paper in 2012 estimated that 1% of US electricity use was from indoor cannabis cultivation operations.

Indoor cultivation results in the highest energy costs. For lighting alone, indoor cultivation, based upon a 10,000 sq. ft. building, uses 290 kWh/sq.ft./year versus the average US home of 6 kWh/sq.ft./year for all uses, not just lighting. This equates to CO_2 emissions = 148 kg/sq.ft/year versus 2.7 kg/sq.ft/year for the average US home. Industrial type greenhouses, which have powered lighting and ventilation, used lighting energy = 96 kWh/sq.ft./year and CO_2 emissions = 49 kg/sq.ft/year. There are greenhouse variations, termed pure greenhouse technology, that use no external energy inputs similar to outdoor cultivation.

It is estimated that one kilogram of dried flower from an indoor operation requires, on average, 5850 kWh electrical lighting energy, and is associated with 4600 kg of CO_2 emissions. This is roughly 4.1 kWh electrical lighting energy per 0.7 gram joint, and is associated with 3.22 kg of CO_2 emissions.

Lighting energy use is a significant part of the carbon and environmental footprint of cannabis, but not the only one. Others include energy for ventilation, heating and/or cooling, dehumidification and transportation, water and fertilizer use, building type, and waste/recycling. Off-grid, fossil fuel electrical power generation also has a large footprint.

Sources: *Maximum Yield* magazine, September 2018, pp.56
https://sites.google.com/site/millsenergyassociates/topics/energy-efficiency/energy-up-in-smoke
http://greeneconomypost.com/marijuana-huge-carbon-footprint-14116.htm#ixzz5SQq47EF6

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Does Legalization = Prohibition 2.0?

For what it's worth, legal recreational cannabis is coming. Starting October 17, 2018, Canadians will legally be allowed to possess and consume cannabis. However, the over-the-top penalties, such as up to 14 years in prison for selling cannabis without a license (which includes passing a joint to a non-adult), the ban on pre-made edibles until at least 2019, the lack of legal places to imbibe (basically your home; renters may be out of luck), closure of strictly medical 'compassion clubs', and how some provinces won't allow citizens to grow their own plants, for example, all point to a warped way to legalize a product and bring it into the mainstream.

It feels a bit like Prohibition 2.0. The black market will not disappear overnight, if ever, at least in its particular form, if, for example, edibles, concentrates and topical products are not included. Will retailers have adequate choice, quality, variety, or even volume, to supply the legal market? Additionally, the advice and wellness features of devoted medical dispensaries may be tossed on the scrap heap. Needless to say, legal challenges are going to happen, and big money will be made by the judicial system and speculators.

It all sounds strangely familiar.

Photo: Bruce Dean

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Health Canada
http://www.hc-sc.gc.ca/dhp-mps/marihuana/index-eng.php

Drug Policy Alliance
www.drugpolicy.org

Media Awareness Project
www.mapinc.org

Together Against Poverty Society
302-895 Fort Street, Victoria
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"Take your life in your own hands and what happens? A terrible thing; no one to blame."

-- Erica Jong (American author and teacher)