



Vol. 8, Issue 9  
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# CANNABINOID CHRONICLES

## Medical Cannabis News and Information

### Cannabis and Diabetes Mellitus

Diabetes mellitus, or diabetes, is a group of metabolic conditions (affect the ability of the cell to perform critical biochemical reactions) in which the body does not produce enough insulin or has become resistant to its effects. The hormone insulin is needed to convert food into energy; without it, cells cannot absorb sugar (glucose) which results in elevated blood sugar levels. Over time, diabetes can cause damage to blood vessels and other tissue, resulting in heart disease, stroke, blindness, and kidney and nerve damage.

Of the two most common types of diabetes, type 1 diabetes is typically diagnosed in children. In this type, the pancreas does not produce insulin which leads to a lifetime of insulin therapy. Type 2 diabetes, typically diagnosed in adults but now rising in children, is associated with dietary and genetic factors. In this type, the body becomes resistant to the effects of insulin allowing glucose levels to rise to dangerous levels. Diet, weight control and exercise are typical ways to treat type 2 diabetes; some people may need insulin or medications to lower blood glucose levels.

Cannabis provides symptomatic relief to many diabetics with appetite loss and neuropathy, but studies have yet to show whether it can halt disease progression.

Recent research suggests that CBD could protect against the development of diabetes. Researchers working with Raphael Mechoulam, who isolated the THC molecule, found that CBD “ameliorates the manifestations of the disease” in mice with latent or early diabetes. This effect appears to be due to CBD’s ability to simultaneously reduce the inflammation-causing compounds and to increase the amount of anti-inflammatory compounds in the mice. Further research has found that CBD protects the health of diabetic patients’ hearts. CBD can also lower inflammatory proteins in the blood and protect against retinal degeneration.

A 2012 study discovered that the prevalence of diabetes mellitus was reduced in cannabis users ([www.ncbi.nlm.nih.gov/pmc/articles/PMC3289985/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3289985/)). A study from U. of Nebraska found that cannabis users had significantly higher levels of insulin, as well as less insulin resistance than non-users. Flavonoids isolated from a strain of Mexican cannabis were found to inhibit the formation of an enzyme linked to the development of cataracts in diabetic patients.

GW Pharmaceuticals studies have found cannabis extracts to be effective against diabetic neuropathy. They are also studying the cannabinoids THCV and CBD to treat fatty liver disease and high cholesterol in type 2 patients.

Once again, much more research is needed.

**Sources:** Backes, Michael (2014). *Cannabis Pharmacy - The Practical Guide to Medical Marijuana*. NY, NY: Black Dog & Leventhal Publishers.

Gieringer, Dale., E. Rosenthal and G.T. Carter (2008). *Marijuana Medical Handbook*. Oakland, CA. Quick American.

Werner, Clint (2011). *Marijuana, Gateway to Health*. San Francisco, CA: Dachstar Press.



### *The VICS AGM 2016*

Thanks to all who attended our 17<sup>th</sup> Annual General Meeting, and thanks to all our members over the past year. We welcome two new board members, and thank the other three board members for carrying on. And many thanks to the creator of the delicious brownie!

## **International Association for Cannabinoid Medicines (IACM) Bulletin**

### ***Human: Tetrahydrocannabivarin may be beneficial in type 2 diabetes according to a clinical study***

The plant cannabinoid THCv (tetrahydrocannabivarin) decreases glucose levels and may have further beneficial effects in patients with type 2 diabetes. This is the result of research by scientists from Nottingham, London and Oxford in the UK, published in *Diabetes Care*. They included 62 patients with noninsulin-treated type 2 diabetes in a placebo-controlled study with CBD (100 mg twice daily), THCv (5 mg twice daily), a combination of CBD and THCv (5 mg of both cannabinoids twice daily), and a 20:1 ratio of CBD and THCv (100 mg/5 mg, twice daily).

Compared with placebo, THCv significantly decreased fasting plasma glucose and improved the function of cells in the pancreas, which are responsible for insulin production (HOMA2 beta-cell function). It also improved the values for adiponectin and apolipoprotein A. There was no difference between CBD and placebo.

None of the combination treatments had a significant impact on end points. CBD and THCv were well tolerated. Authors concluded that “THCv could represent a new therapeutic agent in glycemic control in subjects with type 2 diabetes.”

**Source:** <https://www.ncbi.nlm.nih.gov/pubmed/27573936>

### ***Human: Cannabis may be useful in adults with epilepsy according to a survey***

The use of cannabis may improve seizure control in adult patients with epilepsy. Scientists of the Department of Clinical Neurological Sciences of Western University in London, Ontario, Canada, published a survey with 292 patients suffering from epileptic seizures, from psychogenic non-epileptic seizures (PNES), and with both epileptic and PNES. Their age ranged from 27 to 49 years, and 57.2% were women. Epilepsy was documented in 190, PNES in 64, and both types of seizures in 26.

Overall, 166 (57%) had tried cannabis, and 36.2% used it over the past year. Improvement in seizures was perceived by 84% in those with epilepsy and 72.7% in those with PNES. In the 2 groups, stress was decreased in 84.9% and 88%, sleep improved in 77.3% and 88%, and memory/concentration was better in 32% and 28%, respectively. Antiepileptic drug side effects were decreased in 53.2% of cannabis users.

Authors wrote that “patients with uncontrolled epilepsy or non-epileptic events had a high rate of marijuana use with associated perceived improvements in seizure control, stress, sleep, and drug side effects.”

**Source:** <https://www.ncbi.nlm.nih.gov/pubmed/27568641>

### ***Human: Gliomas in children may be destroyed by endocannabinoids***

Low-grade gliomas consist of a mixed group of brain tumours that correspond to the majority of tumours of the central nervous system in children. A new study suggests that they may spontaneously disappear, which may be caused by endocannabinoids. In these spontaneously disappearing tumours, there were higher concentrations of CB1 receptors than usual.

Ann and Robert H. Lurie Children's Hospital, Hospital of Chicago, USA.

**Source:** <https://www.ncbi.nlm.nih.gov/pubmed/27613640>

### ***Human: THC was effective in symptoms after stroke in a case report***

Brain lesions can be a rare cause of difficult to treat psychiatric symptoms. Scientists presented a case of an obsessive-compulsive syndrome after infarct of the thalamus, a certain brain region, which improved by treatment with THC.

Department of Psychiatry and Behavioral Neuroscience, University of Chicago, USA.

**Source:** <https://www.ncbi.nlm.nih.gov/pubmed/27539378>

### ***Human: Heavy cannabis users may have lower bone density***

In a study with 56 moderate and 144 heavy cannabis users heavy cannabis use was associated with low bone mineral density.

Western General Hospital, University of Edinburgh, UK.

**Source:** <https://www.ncbi.nlm.nih.gov/pubmed/27593602>

### ***Human: Cannabis users are less obese***

In a study using data of the National Longitudinal Survey of Adolescent Health (13,038 participants in wave III and 13,972 in wave IV) scientists demonstrated that female cannabis users had a lower body mass index (BMI) of about 3.1% compared to non-users, and male users had 2.7% lower BMI compared to controls.

Department of Sociology, University of Miami, Coral Gables, USA.

**Source:** <https://www.ncbi.nlm.nih.gov/pubmed/27593602>

### ***Cells: CBD inhibits growth in cervical cancer cells***

Researchers investigated the effects of a cannabis extract and cannabidiol (CBD) on cervical cancer cells. CBD inhibited cell growth and induced apoptosis (programmed cell death) in the cancer cells.

North-West University, Potchefstroom, South Africa.

**Source:** <http://www.ncbi.nlm.nih.gov/pubmed/27296774>

**For more info visit: [www.cannabis-med.org/](http://www.cannabis-med.org/)**

## International Cannabis Research Society Teams Up with Liebert Publishers

The International Cannabis Research Society (ICRS) has teamed up with Mary Ann Liebert, Inc. Publishers to bring us *Cannabis and Cannabinoid Research*, an open access journal for the cannabinoid sciences.

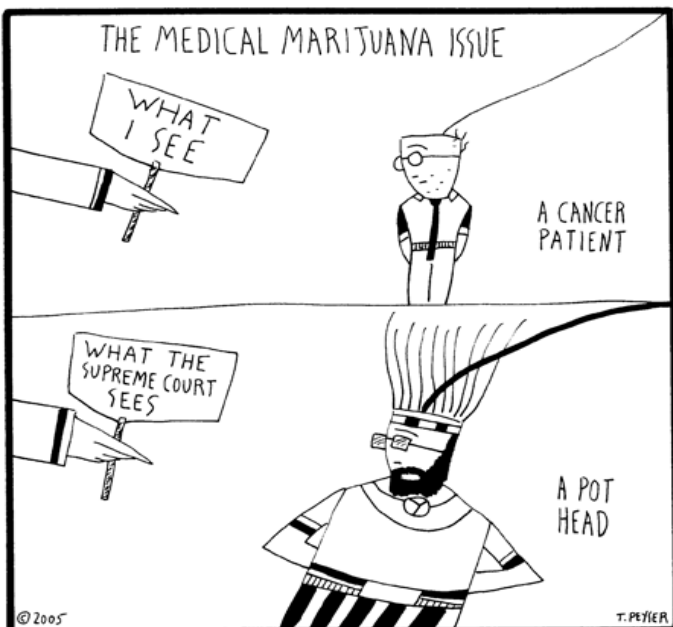
Visit: <http://www.liebertpub.com/overview/cannabis-and-cannabinoid-research/633/>

Below are a couple of abstracts:

### *Identification of Psychoactive Degradants of Cannabidiol in Simulated Gastric and Physiological Fluid*

In recent research, orally administered cannabidiol (CBD) showed a relatively high incidence of somnolence in a pediatric population. Previous work has suggested that when CBD is exposed to an acidic environment, it degrades to D9-tetrahydrocannabinol (THC) and other psychoactive cannabinoids. To gain a better understanding of quantitative exposure, we completed an in vitro study by evaluating the formation of psychoactive cannabinoids when CBD is exposed to simulated gastric fluid (SGF). Materials included synthetic CBD, D8-THC, and D9-THC. CBD was spiked into media containing 1% sodium dodecyl sulfate (SDS). CBD in SGF with 1% SDS was degraded about 85% after 60 min and more than 98% at 120 min. The major products formed were D9-THC and D8-THC with less significant levels of other related cannabinoids. The first-order kinetics observed in this study allowed estimated levels to be calculated and indicated that the acidic environment during normal gastrointestinal transit can expose orally CBD-treated patients to levels of THC and other psychoactive cannabinoids that may exceed the threshold for a physiological response.

Source: <http://online.liebertpub.com/doi/10.1089/can.2015.0004>



### *A Cross-Sectional Survey of Medical Cannabis Users: Patterns of Use and Perceived Efficacy*

An anonymous online survey was developed to query medical cannabis users in Washington State about the conditions they use cannabis to treat, their use patterns, perception of efficacy, and physical and mental health.

Of 1429 participants, the most frequently reported conditions were pain (61.2%), anxiety (58.1%), depression (50.3%), headache/migraine (35.5%), nausea (27.4%), and muscle spasticity (18.4%). On average, participants reported an 86% reduction in symptoms as a result of cannabis use; 59.8% of medical users reported using cannabis as an alternative to pharmaceutical prescriptions.

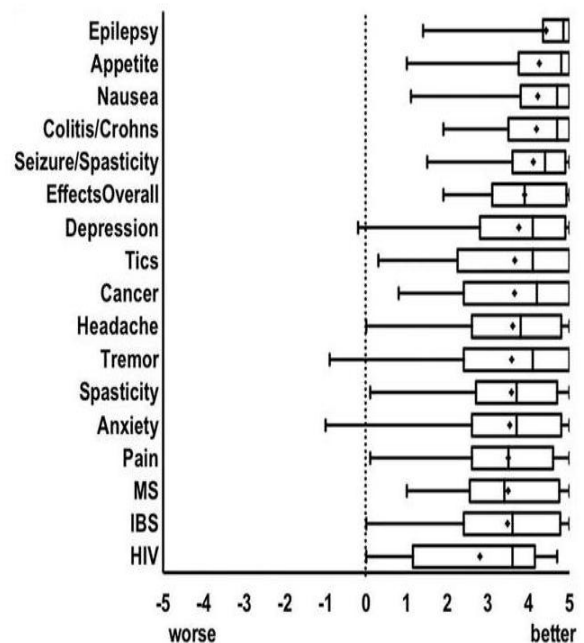


FIG. 1. Patient-reported outcomes: participants subjectively scored change in symptoms on a scale of -5 (worsening of symptom) to +5 (symptom improvement). Depicted is the distribution with median. + denotes the mean.

Source: <http://online.liebertpub.com/doi/10.1089/can.2016.000>

## “Medical Cannabis and Seniors”

For those living in the Victoria, BC, region, Lana Popham (MLA Saanich South) is hosting a meeting /seminar titled “Medical Cannabis and Seniors”.

The guest speaker will be Dr. R. Sealey. It will be held in the Douglas Fir Room at Saanich Commonwealth Place, 4636 Elk Lake Dr., from 3:30 to 5:00 pm on Friday, October 14.

For further info, call Popham’s office at 250-479-4154.

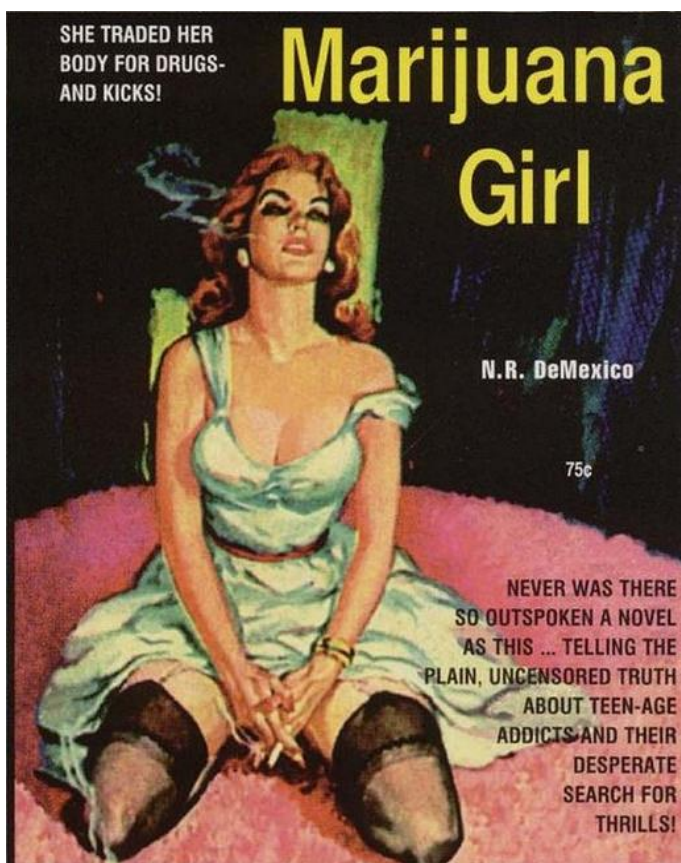
## Doctor's Speak Up on Legalization

The Canadian Medical Association (CMA) conducted a poll to solicit MD's thoughts on upcoming recreational cannabis legalization. Based upon nearly 800 responses, *47% of doctors think legal storefronts (dispensaries) are suitable for the purpose of distribution* (emphasis added).

The CMA has since posted their suggested guidelines on cannabis legalization online at:

<https://www.documentcloud.org/documents/3100676-CMA-Submission-Legalization-and-Regulation-of.html>

Source: <http://vancouversun.com/news/national/doctors-weigh-in-on-pm-trudeau-plans-for-marijuana-legalization>



## BC Launches Clinical Trial into Effects of Cannabis on PTSD

Researchers in BC are launching Canada's first clinical trial on cannabis as a treatment for post-traumatic stress disorder (PTSD), a mental health condition.

Zach Walsh, a clinical psychologist at the University of B.C.'s Okanagan campus in Kelowna, is leading the study, which will put the anecdotal experiences of combat veterans to the test.

"A lot of veterans are using cannabis to help with their PTSD," Walsh said. "What we see, unfortunately, with treatment-resistant PTSD is people will be on a combination of drugs -- one thing to help with sleep, another thing to help with mood and sometimes a bunch of other stuff... What (veterans say) cannabis does is it addresses a lot of those issues concurrently. It helps them get to sleep, it relaxes them, it helps them to function on a day-to-day level."

Medical cannabis users claim that the drug helps them with everything from anxiety to insomnia to nightmares, he added. At the same time, many say they don't suffer the same side effects as they might with anti-depressants i.e. sexual dysfunction and weight gain.

The licensed producer Tilray in Nanaimo, BC, will supply the cannabis for the study. The researchers are now trying to recruit participants who suffer from PTSD related to military history, work as first responders, traumatic accidents or violent crime.

A similar American study is being done, and Walsh hopes to combine results get a broader picture of the impact of cannabis on PTSD.

Source: <http://vancouversun.com/news/local-news/b-c-scientists-launch-research-trial-into-effects-of-marijuana-on-ptsd>

Visit us at [www.thevics.com](http://www.thevics.com)

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**BC Coalition of People With Disabilities**  
1-800-663-1278

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

**Drug Policy Alliance**  
[www.drugpolicy.org](http://www.drugpolicy.org)

**Media Awareness Project**  
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**Together Against Poverty Society**  
302-895 Fort Street, Victoria  
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**"To continually reject a reasonable compromise is also a form of extremism."**

**-- Zarqa Nawaz, writer, journalist, broadcaster, and filmmaker**