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CANNABINOID CHRONICLES

Medical Cannabis News and Information

Cystic Fibrosis and Cannabis

Cystic fibrosis (CF) is an inherited disorder that causes severe damage to the lungs, digestive system and other organs in the body.

CF affects the cells that produce mucus, sweat and digestive juices. These secreted fluids are normally thin and slippery, but a defective gene causes the secretions to become sticky and thick. Instead of acting as a lubricant, the secretions plug up tubes, ducts and passageways, especially in the lungs and pancreas.

Although CF requires daily care, people with the condition are usually able to attend school and work, and often have a better quality of life than people with CF had in previous decades. Improvements in screening and treatments mean people with CF now may live into their mid- to late 30s, on average, and some are living into their 40s and 50s.

Symptoms of CF can differ vastly in each person. Some of the common symptoms are fever, coughing, wheezing, shortness of breath, loss of appetite and sinus pain. Unfortunately there is no cure yet, but cannabis can address many of the symptoms:

- CF patients often suffer from severe aches and pains. Cannabis can be helpful as a painkiller which acts in the brain and spinal cord to suppress both acute and chronic pain.
- Endocannabinoids, which work by activating receptors the same receptors in the brain that THC does, can help reduce coughing and irritation. Also, cannabis has long been known to be a bronchodilator.
- Sometimes people with CF cough so much they vomit, leading to malnutrition. Cannabis can increase appetite and decrease nausea.
- Cannabinoids are known to be anti-inflammatory; as such, THC can further benefit patients by

reducing respiratory inflammation.

- Diarrhea can appear in those with CF as a result of inadequate digestion. Cannabinoids can counteract diarrhea and prevent the loss of nutrients.

One study (www.ncbi.nlm.nih.gov/pubmed/22865360) looked at how CF affects fertility - men with CF are 95% infertile. The mechanism underlying the cause of CF is associated with an imbalance of fatty acids. And since endocannabinoids are derivatives of fatty acids, it has been suggested that the endocannabinoid system (ECS) is also disturbed in CF. The ECS plays a role in fertility, so disruption could be one of the causes of infertility. The aim of the study was to test the hypothesis that stimulation of endocannabinoid receptors in infancy would normalize their function and prevent infertility in adulthood. The study shows that (i) endocannabinoid function is impaired in CF mice, (ii) ECS dysfunction is apparently the determining factor causing infertility in CF, and (iii) mild stimulation of the ECS in infancy and adolescence appears to normalize many reproductive processes and thereby prevent infertility in CF males.

Another study (www.ncbi.nlm.nih.gov/pubmed/22865361) looked at behavioral parameters, such as motor activity and anxiety level, in a mice model of CF. Motor activity decrease and elevated anxiety level were found in adult naïve CF mice compared with wild-type mice. CF mice treated with THC in infancy showed normal motor activity and anxiety levels in adulthood. The study suggested that chronic treatment with cannabinoid receptors agonist, i.e. THC, during infancy would balance cannabinoid levels and prevent CF-related behavioral alterations.



Source:

www.mayoclinic.org/diseases-conditions/cystic-fibrosis/home/ovc-20211890
<http://herb.co/2015/12/12/7-ways-that-cannabis-helps-cystic-fibrosis-patients/>

International Association for Cannabinoid Medicines (IACM) Bulletin

Human: Cannabis and CBD may be helpful in reducing hard drug consumption

Both the use of cannabis and the use of cannabidiol (CBD) may be helpful in reducing the craving to hard drugs, such as opioids, cocaine and alcohol. Scientists of the University of British Columbia, Canada, conducted a review on mental health effects of cannabis use.

“Research suggests that people may be using cannabis as an exit drug to reduce use of substances that are potentially more harmful, such as opioid pain medication,” said the study’s lead investigator Zach Walsh, associate professor of psychology at the Okanagan campus of the University of British Columbia.

At the annual meeting of the American Society for Neuroscience a group from the Scripps Research Institute in La Jolla, USA, reported on preliminary research showing that CBD can quell urges for cocaine in rats. Scientists allowed rats to dose themselves at will with cocaine until they became addicted. At the end of three months, they gave some of the animals transdermal patches with CBD. Rats that received the patches reduced cocaine intake, whereas the ones that didn’t continued to consume as much cocaine as before. Other researchers—from Miguel Hernandez University in Spain—reported on a study showing that CBD reduced alcohol consumption.

Source: <https://www.ncbi.nlm.nih.gov/pubmed/27816801>

Human: Medical cannabis laws associated with fewer fatalities due to traffic accidents in USA

The implementation of medical cannabis laws in many states of the USA resulted in an immediate reduction in traffic fatalities in young and middle-aged drivers.

On average, states with medical cannabis laws had 26% lower traffic fatality rates than states without such laws. Medical cannabis laws were associated with immediate reductions in traffic fatalities in those aged 15 to 24 and 25 to 44 years, and with additional yearly gradual reductions in those aged 25 to 44 years. However, state-specific results showed that only 7 states experienced reductions after implementation of these laws.

Dispensaries for cannabis were also associated with traffic fatality reductions in those aged 25 to 44 years. Researchers concluded that both medical cannabis laws and dispensaries “were associated with reductions in traffic fatalities, especially among those aged 25 to 44 years. State-specific analysis showed heterogeneity of the [medical cannabis laws]-traffic fatalities association, suggesting moderation by other local factors. These findings could influence policy decisions on the enactment or repealing of [medical cannabis laws] and how they are implemented.”

Source: <https://www.ncbi.nlm.nih.gov/pubmed/27997245>

Human: Cannabis use in cancer patients halved their risk to die in hospital

Cannabis use was associated with a 59% reduced risk to die in hospital. For cancer patients, the risk to die in a hospital was reduced by 56% among cannabis users compared with non-users. This is the result of an analysis of hospital patients in the US Nationwide Inpatient Sample database between 2007 and 2011, which covers about 1,000 hospitals. The database included about 3.9 million hospital patients, of whom 387,608 had a diagnosis of cannabis dependence or cannabis abuse.

In detail, among hospitalized patients, cannabis use was associated with a 60% increased odds of stroke compared with non-users, but a 22% reduced odds of heart failure and 14% reduced odds for cardiac disease. The risk for in-hospital mortality was reduced by 59%. Among cancer patients, odds of in-hospital mortality were significantly reduced by 56% among cannabis users compared with non-users. Authors wrote that “prospective studies will be needed to better characterize the health effects of marijuana use, especially among older, sicker, and/or hospitalized patients.” Thus, there is the possibility that cannabis users more often do not die in hospitals, but at home.

Source: <https://www.ncbi.nlm.nih.gov/pubmed/27891823>

Human: A high number of young adults use cannabis for the treatment of inflammatory bowel disease

In a group of 53 patients (mean age: 18.7 years) with inflammatory bowel disease, 70% reported using cannabis currently or in the past. A majority found cannabis to be moderately or very helpful. Complete relief of symptoms such as abdominal pain, poor appetite, nausea and diarrhoea was seen in 29%, 37%, 14% and 10% of patients, respectively.

Source: <https://www.ncbi.nlm.nih.gov/pubmed/27846066>

Animal: Activation of the CB2 receptor may reduce inflammatory pain

In rats with chronic inflammatory pain, both the CB1 and the CB2 receptor were present in a certain brain region (rostral ventromedial medulla), which plays a role in pain modulation. Researchers demonstrated that blockade of the CB2 receptor increased and activation reduced pain providing “additional rationale for the development of CB2 receptor-selective agonists as useful therapeutics for chronic inflammatory pain.”

Department of Neurological Surgery, Oregon Health & Science University, Portland, USA.

Source: <https://www.ncbi.nlm.nih.gov/pubmed/27940994>

For more info visit: www.cannabis-med.org/

Psilocybin Could Be Key to Treating Depression

A single dose of psilocybin, the active ingredient of 'magic' mushrooms, can lift the anxiety and depression experienced by people with advanced cancer for six months or even longer, two new studies show.

Researchers involved in the two trials in the USA say the results are remarkable. The volunteers had "profoundly meaningful and spiritual experiences" which made most of them rethink life and death, ended their despair and brought about lasting improvement in the quality of their lives.

The results of the research are published in the *Journal of Psychopharmacology* together with no less than ten commentaries from leading scientists in the fields of psychiatry and palliative care, who all back further research.

Around 40-50% of newly diagnosed cancer patients suffer some sort of depression or anxiety. Anti-depressants have little effect, particularly on the "existential" depression that can lead some to feel their lives are meaningless and contemplate suicide.

The main findings of the NYU Langone Medical Center study, which involved 29 patients, and the larger one from Johns Hopkins University with 51 patients, that a single dose of the medication can lead to immediate reduction in the depression and anxiety caused by cancer

and that the effect can last up to eight months, "is unprecedented," said Dr. Stephen Ross, director of addiction psychiatry and lead investigator of the study. "We don't have anything like it."

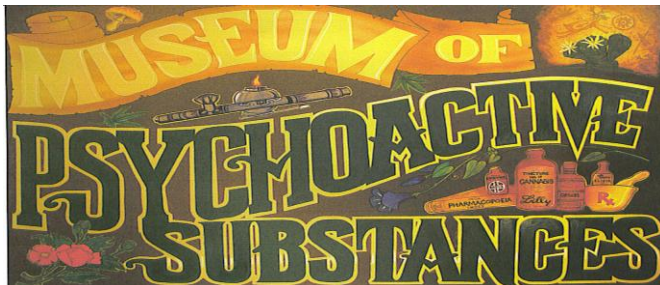
The results of the studies were very similar, with around 80% of the patients attributing moderately or greatly improved wellbeing or life satisfaction to a single high dose of the drug, given with psychotherapy support.

Ross said psilocybin activates a sub-type of serotonin receptor in the brain. "Our brains are hard-wired to have these kinds of experiences - these alterations of consciousness. We have endogenous chemicals in our brain. We have a little system that, when you tickle it, it produces these altered states that have been described as spiritual states, mystical states in different religious branches.

"They are defined by a sense of oneness – people feel that their separation between the personal ego and the outside world is sort of dissolved and they feel that they are part of some continuous energy or consciousness in the universe. Patients can feel sort of transported to a different dimension of reality, sort of like a waking dream."

The journal editor, Professor David Nutt, was himself involved in a small trial of psilocybin in a dozen people with severe depression (www.theguardian.com/science/2016/may/17/magic-mushrooms-lift-severe-depression-in-clinical-trial) in the UK in May. The ten commentators in the journal, he writes in an editorial, "all essentially say the same thing: it's time to take psychedelic treatments in psychiatry and oncology seriously, as we did in the 1950s and 1960s."

Source: www.theguardian.com/society/2016/dec/01/magic-mushroom-ingredient-psilocybin-can-lift-depression-studies-show



Framework Recommends Medical Stream

The million-dollar question from medical cannabis user's lips is will there be a medical access framework if cannabis is legalized in Canada? The good news is that the *Task Force on Cannabis Legalization and Regulation* is recommending that it be maintained, as stated in its recently released report. The report recognizes the need to maintain court-obtained access to medical cannabis for patients, but offers little in substance.

The not-so-good news is that there are very few guidelines to accompany such a recommendation. More research is to be promoted and supported but the suggested aim is to facilitate "submissions of cannabis-based products for market authorization as drugs". (Where does whole-plant cannabis come into play?)

Source: <http://healthycanadians.gc.ca/task-force-marijuana-groupe-etude/index-eng.php>

MDs Seek Cannabis Prescription Tracking

The provincial bodies that regulate Canada's physicians have no way of tracking how doctors are prescribing medical cannabis, leaving them unable to determine how often the drug is prescribed, to whom and in what quantities. That leaves them with little way to keep tabs on prescribing practices, say the doctors' colleges in British Columbia and New Brunswick, where regulators are asking for more tools to track medical cannabis. The college could investigate unusual prescriptions better if Health Canada licensed cannabis and assigned it a drug identification number, said Dr. Galt Wilson, senior deputy registrar responsible for the complaints and investigation department of the College of Physicians and Surgeons of B.C..

Source: www.theglobeandmail.com/news/british-columbia/better-tracking-of-pot-prescriptions-sought-by-canadian-doctors-bodies/article33130904/



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Canadian Clinical Trial Set to Begin

What is believed to be the first of its kind in Canada, researchers at Toronto's Hospital for Sick Children are about to begin a clinical trial using cannabis extracts to treat children with Dravet syndrome, a rare and debilitating form of epilepsy that begins in infancy and accounts for about 1% of all cases of epilepsy.

The trial is believed to be the first in Canada to test an oral preparation that contains both CBD and THC, compounds in cannabis that have been shown in the laboratory and through anecdotal reports to have anti-convulsant properties in children with treatment-resistant epilepsy. The Sick Kids study will enrol 20 children ages one to 18 who have Dravet syndrome,

While research has found CBD to be effective in reducing seizures, there has been no rigorous study that has looked at the combination of CBD and THC, said pediatric neurologist Dr. B. McCoy, who will lead the clinical trial beginning early next year.

"There are severe developmental, cognitive, behavioural and motor delays that happen when children have uncontrolled epilepsy," said Catherine Jacobson, director of clinical research at Tilray, a Nanaimo-based medicinal cannabis producer that will be providing the oral CBD-THC preparation for the clinical trial.

"It's an absolutely devastating disease to live with," said Jacobson, whose seven-year-old son has intractable epilepsy. "So the need to develop new medications that will control seizures in these children is very high."

Parents have been experimenting with cannabis oil formulations to help relieve their children's seizures; some have reduced the number to a point where the child can cognitively advance. However, even with consistent, high-quality oil, no two kids are the same and they can react quite differently to medication than others.

Source: <http://www.mapinc.org/drugnews/v16/n685/a01.html>

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

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**"It is easy to perform a good action, but not easy to acquire
a settled habit of performing such actions."**

-- Aristotle (Greek philosopher, 384-322 B.C.)