

Cannabis pain relief without the 'high'

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Cannabis indica and sativa are the two main cannabis strains that produce the pharmacological principles known as tetrahydrocannabinol (THC) and cannabidiol (CBD). Dr. Gabriella Gobbi's team demonstrated that CBD does not act on the CB1 cannabinoid receptors like THC but through the mechanism that binds specific receptors involved in anxiety (serotonin 5-HT1A) and pain (vanilloid TRPV1). Researchers were able to extrapolate the exact dosage of CBD displaying analgesic and antianxiety properties without the risk of addiction and euphoria classically produced by the THC.

"We found in animal models of chronic pain that low doses of CBD administered for seven days alleviate both pain and anxiety, two symptoms often associated in neuropathic or chronic pain," says first author of the study Danilo De Gregorio, a post-doctoral fellow at McGill University in Dr. Gobbi's laboratory.

Lead author Dr. Gobbi, a researcher in the Brain Repair and Integrative Neuroscience (BRaIN) Program of the RI-MUHC, sees this as advancement for the evidence-based application of cannabis in medicine with CBD offering a safe alternative to THC and opioids for [chronic pain](#), such as back pain, sciatica, diabetic, cancer and post-trauma pain.

"Our findings elucidate the mechanism of action of CBD and show that it can be used as medicine without the dangerous side effects of the

THC," says Dr. Gobbi, who is also Professor of Psychiatry at the Faculty of Medicine at McGill University and staff psychiatrist at the MUHC. "This research is a new advancement for an evidence-based application of cannabis in medicine."

Despite widespread public usage, little clinical studies exist on CBD, which became legal in Canada on October 17, 2018, following the passage of Canada's Cannabis Act.

"There is some data showing that CBD provides [pain](#) relief for humans but more robust clinical trials are needed ," says Dr. Gobbi, a recent grant recipient for her study of the pharmacological effects of CBD.

More information: Danilo De Gregorio et al, Cannabidiol modulates serotonergic transmission and reverses both allodynia and anxiety-like behavior in a model of neuropathic pain, *PAIN* (2018). [DOI: 10.1097/j.pain.0000000000001386](#)

Provided by McGill University Health Centre

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