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Title: Cannabis shenanigans: advocating for the restoration of an effective treatment of pain following spinal cord injury

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Running head: Cannabis Shenanigans

Cannabis is an effective pain reliever that should be available to patients and researchers¹⁻³. Because of the international conventions, cannabis is currently listed as a Schedule I drug indicating that it has no medical value and a high risk of abuse and dependence. These conventions were politically expedient and largely driven by the United States against the advice of the physicians present⁴⁻⁶. At no time during these conventions was there any attempt to investigate the commercial or medicinal properties of cannabis. It was politically expedient to utilize propaganda⁷⁻⁹ and racial fear¹⁰ to forge a political wall that impedes access and form a major barrier to medical research into cannabis use. The major argument against the rescheduling of cannabis is that there is research is not convincing¹¹. This argument is disingenuous at best, given that the evidence has been presented and rejected at many points during the political dialogue^{5, 12} restricting funding for research. Moreover, there was no scientific or medical data utilized in the decisions to criminalize cannabis.

Human beings have peacefully coexisted with cannabis for at least 10,200 years¹³. Trade in cannabis as food, fiber and medicine¹⁴ is evident long before the first written record of medical use around 2,700 BC¹⁵. During the 19th century, western medicine rediscovered the healing properties of cannabis^{16, 17}. However, international alarm over an opium epidemic brewed a global political storm that led to a reaction against opium and “Indian hemp” cultivation and exportation in the early 20th century⁴ that was influenced by the temperance movement of the previous century¹⁸. In this current opioid epidemic, it is ironic that some of the first recorded uses of cannabis in western medicine showed its effectiveness in treating persons with opioid addiction¹⁷.

The 1912 international opium convention and the 1925 International Commission on Dangerous Drugs pressed countries to restrict import and export of opium and cannabis; signatories' instituted laws restricting the trafficking of opium and cannabis by way of taxation and certification. The US, China and Japan requested that the medical and scientific properties of cannabis and opium be investigated, but the other countries voted the request down⁴. The United States response was the 1937 Marijuana Tax Act that levied exorbitant taxes for the prescription of cannabis in the US ¹⁹.

Cannabis remained in medical use until it was removed from the U.S. pharmacopoeia in 1941¹⁵. Subsequent legislative action of criminalizing marijuana possession in the Boggs act in 1951 which introduced mandatory minimum sentencing for cannabis possession ^{20, 21}. Cannabis use for over 10,000 years became criminal activity in the US less than 70 years ago based on absolutely no evidence²². The final political victory was found in the Single Convention on Narcotic Drugs 1961 and 1972²³. This convention mandated that the 100 signatory countries would classify cannabis as having no medical value despite a great deal of evidence to the contrary^{5, 6}.

Published research has completely eroded the claim that cannabis has no medicinal value. The discovery of the endocannabinoid system indicates the observed medicinal properties of cannabis have a biological basis for action ²⁴. The National Academies report that there is conclusive evidence of the effectiveness of cannabis for controlling chronic pain, ¹ nausea, and spasticity ²; and has natural control over pain pathways, its withdraw symptoms are very mild ²⁵ compared to alcohol, opiates or benzodiazepines.

Chronic pain affects up to 83%²⁶⁻²⁸ of persons living with SCI; 58% of these patient report the pain is excruciating^{29,30}. Chronic pain limits activities of daily life (ADL)^{31,32}; leads to poorer overall health, lower satisfaction with quality of life³³ and; a greater risk of developing depression³⁴. A Cochrane review found only poor quality evidence supporting the long term efficacy of opioids and other pain killers in chronic pain patients³⁵and contribute to the current crisis of misuse of prescription drugs³⁶⁻³⁸.

The patient voice is clear. Patients with SCI and chronic pain report that cannabis was the single most effective medication out of 26 pain treatments and the fourth longest acting pain relief^{27,39}. Eighty-one percent of patients strongly agreed that cannabis alone was more effective for pain than cannabis and opioids³⁷. Others report relief of pain in 75-83 % medical cannabis patients^{38,40-43} and 92% of the patients reported improved quality of life⁴⁴ after other treatment have failed. There is no difference in the occurrence of serious adverse events compared to control⁴⁵. With an overall adult lifetime dependence rate of 9% of cannabis users⁴⁶, drug researchers have consistently listed cannabis as less addictive than caffeine, nicotine and alcohol; placing cannabis last or near the last in a list of addictive drugs^{47,48}.

This evidence shows that cannabis is not a schedule I drug. It indeed has substantial medicinal value in a wide variety of conditions, is less addictive then other drugs and has a very low lifetime dependence rate. The misclassification of cannabis by international convention motivated by political bodies⁴⁹ has created a unique situation researchers. The moratorium on federally funded cannabis research leaves clinicians with little scientific base when counseling patients who may be interested in using cannabis for medical reasons. We have no standard

dosing ranges, or warning labels like on tobacco or alcohol. It also leads to a dearth of solid evidence to formulate clinical trials.

The time has come to put the cannabis discussion in a human rights framework⁵⁰. Ethically, it is unjust to withhold and restrict the use of a potentially effective drug, when the typical medication can be ineffective, has a high risk of addiction and could lead to overdose³⁵. “Seriously ill patients have the right to effective therapies. To deny patients access to such a therapy is to deny them dignity and respect as person⁵¹.”

People with SCI should feel free to discuss cannabis use with physicians, regardless of the legality or method of acquisition, just as they would discuss supplement use or over-the-counter medications. They should also feel confident that physicians would have accurate and helpful information about the possible risks and benefits of cannabis to help make informed decisions that best suit the person’s lifestyle. Currently this information is not readily available for physicians.

There is tension between the needs of a society to protect the vulnerable by restricting the rights of others to live well and with less pain. It is clear that this 70-year war on cannabis has had little effect in controlling the supply of cannabis. Prohibition can never succeed, “It is a tyranny from which every independent mind revolts¹⁸.” People living with chronic pain should not have to risk social stigma, restrictions on employment and even criminal prosecution in order to deal with their pain⁵².

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poisoning

International opium commission 1909

International opium convention 1912

Pushed taxation and control of import and export

international commission on dangerous drugs 1925

The use of Indian hemp and the preparations derived therefrom may only be authorized for medical and scientific purposes. The raw resin (charas), however, which is extracted from the female tops of the *cannabis sativa* L, together with the various preparations (hashish, chira, esrar, diamba, etc.) of which it forms the basis, not being at present utilized for medical purposes and only being susceptible of utilisation for harmful purposes, in the same manner as other narcotics, may not be produced, sold, traded in, etc., under any circumstances whatsoever.

Single convention on Narcotic drugs 1961, 1972

Derogable

1909

International opium convention

Pushed taxation and control of import and export

Basic human right to use cannabis global

prohibition of cannabis potential not fully understood.

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