

Re: Cannabis & Cannabinoids

What follows is a brief rationale for the medicinal use of cannabis and cannabinoids for pain.

- History

Cannabis has a long history of use as a pain killer. It has been used medically in the U.S. since 1839. Cannabis was in the U.S. Pharmacopoeia from the mid 1800s until 1941. In 1860, the Ohio State Medical Society lauded the medicinal properties of cannabis. It was prescribed in the 1890s by royal physician Sir Joshua Reynolds for use by Queen Victoria of England for treatment of her menstrual cramps. Cannabis has long been known as one of the best treatments for relief of the symptoms of migraines. Cannabis was also a frequent and important ingredient in patent medicines which enjoyed their heyday from 1875 to 1925.

In the early 20th century, several drug companies – Eli Lilly, Parke Davis, Squibb, etc. – produced numerous cannabis-based patent medicines which were used to treat pain. Also the United States Pharmacopoeia and Remington's Textbook of Pharmacy listed anodyne (an archaic word for pain killer) as one of the medical uses of cannabis.

In the early part of this century it was common for universities to grow their own cannabis for pharmacy students, and have them do an alcohol extract as a class assignment. My father and uncle, both pharmacists, were required to do this at the University of Minnesota School of Pharmacy in the late 1920s. It should go without saying that the AMA strongly opposed the 1937 Marijuana Tax Act because of (1) its medicinal value, (2) its lack of causing any harm.

- New England Journal of Medicine

In 1997, the distinguished New England Journal of Medicine strongly editorially supported doctors being allowed to prescribe marijuana for medical purposes, calling the threat of government sanctions "misguided, heavy-handed and inhumane." In an editorial aimed at federal efforts to block California's implementation of Prop 215, the Journal's editor, Dr. Jerome P. Kassirer, wrote: "Whatever their reasons, federal officials are out of step with the public." The journal is one of the world's most prestigious medical publications

Dr. Kassirer continued, stating that marijuana is safer than drugs used legally for some of the same conditions, such as morphine. "If it relieves suffering, even from one patient, why not allow physicians to prescribe it?"

- Public Support

By any definition, cannabis is a medication. This has been confirmed in numerous ways by the American public, by the 56 percent of the California electorate that approved Proposition 215 in 1996, 69 percent of Americans polled by ABC news in 1997 that favored legalizing the medical use of cannabis. Further public support is demonstrated by the majority of voters in all eight states that voted for Prop. 215-like initiatives, as well as the District of Columbia, that have voted on this issue in the past few years. 36 state legislatures have endorsed medical cannabis since 1976. 54 percent of oncologists say they would or have recommended cannabis to their cancer patients; a majority of infectious disease doctors (the specialty that treats AIDS patients) recognizes the medical value of cannabis; the U.S. government legally provides cannabis to eight patients; England has licensed Dr. Geoffrey Guy to produce several different strains of cannabis; and the FDA has made THC available in prescription pill form as Marinol, a Schedule III drug.

- Pain Research

A 1997 L.A. Times article reported on several studies presented at a meeting of the Society for Neuroscience discussing cannabis' painkilling properties. These were studies done at such institutions as University of Texas, University of Minnesota, Brown University, Wake Forest School of Medicine, and UCSF. According to the Times' article, researchers reported that "active chemicals found in the plant could serve as an effective remedy for the millions who suffer serious pain each year without the unwanted side effects of more traditional morphine-like drugs."

The same article notes that "people have been writing about the painkilling properties of marijuana" (actually until Hearst popularized the term marijuana, it was more accurately referred to as cannabis) "since 1830." In fact, cannabis was used by Queen Victoria to effectively treat her menstrual cramps. In 1915 Sir William Osler, known as the father of modern medicine, said "cannabis was the most effective medication for treating migraine headaches."

- Institute of Medicine

In 1982 the Institute of Medicine (IOM) stated that:

"Several animal models have been used to show analgesic effects of cannabis and its analogues (for example, Grunfeld and Edery, 1969; Sofia et al., 1973)." "Noyes et al. (1976) found a reduction in pain reports by cancer patients given oral  $\Delta$ -9-THC."

The Institute of Medicine's 1999 report on medical marijuana done at the behest of the federal government stated, "The accumulated data indicate a potential therapeutic value

for cannabinoid drugs, particularly for symptoms such as pain relief, control of nausea and vomiting, and appetite stimulation."

- GW Pharmaceuticals

GW Pharmaceuticals, a British company, has been doing research on tincture of cannabis since 1999. In 2001 they legally grew 15 tons of cannabis in six greenhouses in a secret location in the south of England. Their research documented the proof of the IOM's position. They have successfully completed stage 1, 2, 3 clinical trials on between two thousand and three thousand patients. The vast majority of the patients had MS and 75% of them had improvement in their muscle spasm and their pain. In May of this year, GW signed a contract with Bayer AG to distribute their tincture of cannabis medicine in the UK under the trade name "Sativex". The business pages reported it is expected that the British government will authorize physicians to prescribe GW's and Bayer's Sativex before the end of this calendar year.

- University of California

On a more local note, the state of California is spending three (3) million dollars to support research at the Center for Medicinal Cannabis Research University of California. The purpose of the Center is to coordinate rigorous scientific studies to assess the safety and efficacy of cannabis and cannabis compounds for treating medical conditions. The funding of the CMCR is the result of SB 847 (Vasconcellos), passed by the State Legislature and signed into law by Governor Gray Davis. The legislation called for a three year program overseeing objective, high quality medical research that will "enhance understanding of the efficacy and adverse effects of marijuana as a pharmacological agent," stressing that the project "should not be construed as encouraging or sanctioning the social or recreational use of marijuana" (SB 847).

The center coordinates and supports cannabis research throughout the state of California. Research is focused on the potential medicinal benefits of cannabis for diseases and conditions as specified by the National Academy of Sciences, Institute of Medicine Report (1999) and by the Workshop on the Medical Utility of Marijuana, National Institutes of health (1997). Four diseases and/or conditions were designated as areas of emphasis for CMCR funding. In fact there are currently twelve (12) FDA approved studies in these areas which are going on under the auspices of CMCR at the UCSD, UCI and UCSF Schools of Medicine. The research covers:

- Severe appetite suppression, weight loss, and cachexia due to HIV infection and other medical conditions.
- Chronic pain, particularly neuropathic pain.
- Severe nausea and vomiting associated with cancer and its treatment.
- Severe muscle spasticity caused by diseases such as multiple sclerosis.

- Conclusion

Lastly, as to safety. There is no question that cannabis is safer and has fewer side effects than opiates. It's safety is attested to by the comments of FDA Administrative Law Judge Francis Young, a Nixon appointee, who said in 1988 after a lengthy two-year FDA hearing on rescheduling cannabis that cannabis was one of the safest drugs known to mankind. He recommended that cannabis be rescheduled out of Schedule I.

In many ways the U.S. is behind other countries. Cannabis is readily available in pharmacies in the Netherlands. It is prescribed by physicians in Israel and medicinal cannabis is lawful in Canada. England is poised to allow physicians to prescribe tincture of cannabis.

For further information, there is the International Cannabis Research Society website, an excellent review book "Cannabis and Cannabinoids" by Doctors Grotenherman and Russo. Another good resource is "The Journal of Cannabis Therapeutics", a twice yearly publication of Hawthorne Press. Lastly there is the International Medicinal Cannabis Association.

The above is a brief overview of the basis for recommending cannabis over other pain relievers which have more side effects than cannabis. For many patients the therapeutic effect/side effect balance strongly favors cannabis over other treatment options.

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