# LEGALISATION OF MEDICAL MARIJUANA- WILL THE DAWN OF MYTH TURN INTO A STARK REALITY?

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# ABSTRACT

*In the golden age of drug addiction, where people are passing into a persistent state of relapsing disorder, Marijuana, being a drug itself, promises a flicker of light at the end of tunnel owing to its medicinal properties. Marijuana offers a therapy to relieve one’s ailment by subsuming its use in the medical sphere. Furthermore, it possesses therapeutic properties which help in alleviating psychoactive drug addiction. However, In India, there have been periodic disconcert over the legislation of medical marijuana due to the stigmatization of the issue. There have been advancement in the establishment of techniques wherein selective breeding can separate the lucrative elements and ingest into the body system so as to cure the diseases. In this paper, the author will attempt to analyze using the doctrinal method of research the legalization difficulties that marijuana is facing in detail, where several books, articles and websites have been referred.*

*Medical marijuana is setting deep roots in this new age world where it has the ability to cure plethora of diseases and create a profound impact in the emerging pharmaceutical world. This paper, identifying the importance of medical marijuana and its futuristic impact makes an approach towards scrutinizing its significance and also proffer solutions for the same.*

Keywords- *Drug addiction, Medicinal properties, Legislation, Selective breeding.*

# INTRODUCTION

Marijuana, considered a drug, grass, pot, bud, old man, reefer, is basically the dried or shredded leaves, flowers, stems or seeds extracted from the cannabis sativa plant. It can be used for various medicinal and recreational activities and heightening of pleasure and placating effects. Its consumption is in the form of smoking, eating, vaporizing, and brewing. It is considered as humanity’s oldest cultivated crop. The topic of legalization of marijuana has been on a boiling point from the historical era. Many countries including India have banned marijuana due to its psychotropic properties which has the ability to alter the state of one’s mind. In this paper, the researcher has attempted to review the history, medical benefits, functioning of marijuana inside the body system, analysis of legalization of medical marijuana in other countries and tender the repercussions and advantages of legalization. The researcher has adopted an approach towards scrutinizing its significance and to proffer solutions and reforms pertaining to the current issue.

In order to approach this study’s prescribed objectives, doctrinal model of research methodology is proposed, where several books, articles and reports have been referred,intensive literature review on the subject has been applied and the issues under is examined in a systematic manner. E-resources have majorly contributed in research for getting the most relevant and latest information on the web which has helped the researchers to explore the subject through various dimensions.

# HISTORY OF THE WONDER HERB

Marijuana has miraculous medicinal properties which hold the capacity of curing a plethora of diseases and disorders. The Cannabis plant has a history of medicinal use. In the ancient periodical era, it was considered as the best form of ointment for healing various ranges of ailments ranging from constipation to hair loss. In the Vedas, it was called as the ‘Penicillin of Ayurvedic medicine’. Not only in India, but also in China it is considered as one of the fifty fundamental herbs in traditional Chinese medicine. The English clergyman Robert Burton, in his famous work, ‘The Anatomy of Melancholy’, published in 1621, suggested the use of cannabis in the treatment of depression. The New English Dispensatory of 1764 recommended applying hemp roots to the skin for inflammation, a remedy that was already popular in Eastern Europe. The Edinburgh New Dispensary of 1794 included a long description of the effects of hemp and stated that the oil was useful in the treatment of coughs, venereal disease, and urinary incontinence.[[2]](#footnote-2) In India, WB O’Shaughnessy was a physician who beheld the uses of cannabis by experimenting it on animals in the medical college of Calcutta. He established cannabis as a vitally safe drug and treated the patients suffering from rabies, rheumatism, epilepsy, and tetanus. He discovered tincture of hemp has acute muscle relaxant properties and acts as an effective analgesic, hence, it was called *"an anticonvulsant remedy of the greatest value."*[[3]](#footnote-3) As per the Indian commission report on Indian hemp drugs, consumption of hemp drugs in moderate quantities is not patronized by any noxious repercussions. Perhaps, intake of anything may be injurious in cases of exceptional intolerance. In reference to the mental effects of hemp, the Commission drew the conclusion that the moderate use of hemp drugs produces no injurious effects on the mind.[[4]](#footnote-4)

# ANATOMICAL WORKING OF CANNABIS- HOW IT AFFECTS THE BODY SYSTEM?

Cannabis plant contains about 500 chemical compounds, among which the most psychoactive element is Tetrahydrocannabinol which takes place of a naturally found chemical substance in our nervous system called Endocannabinoids. There are two main receptors mainly, CB1 and CB2. When THC hits the body it acts on CB1 receptor and affects memory and concentration. This element is responsible for giving a high feeling. The second most prominent compound is Cannabidoil *(herein referred to as CBD)*, which relatively attracts less attention due to its non-psychoactive element. However, this non-euphoric essential element has been found to have strong anti-inflammatory properties. When it hits the body, it acts on pain receptors that affect pain, inflammation, anxiety etc. Thus, it is not responsible for intoxication. It is categorized as antagonist of CB1 receptors. THC and CBD both bind to the cannabinoid receptors, however , THC, captivates the cannabinoid through the orthosteric site. On the other hand, CBD tunes up that interaction by connecting to a separate receptor location. This synergy helps CBD to steer a course in modulating psychoactivity properties of THC.[[5]](#footnote-5) The cumulative effects of intoxication ensue after the consumption of marijuana because of THC. However, CBD does not possess any of the mind-altering properties. Studies examining the protective effects of CBD have shown that it can counterpoise the negative effects of THC.[[6]](#footnote-6) Thus, it has the attribute of completely turning around the negative effects of overdose of tetrahydrocannabinol without changing its levels in the bloodstream, for instance, memory impairment and paranoia. It also exerts a protective property to damage neurons and it protects the nerves by inhibiting the process by which they are damaged. There’s a molecule called “Anandamide” in human body which regulates many functions such as memory, pleasure, appetite, pain, sleep. It is popularly known as, *“bliss molecule”* or *“Human THC”*. CBD has a striking feature of augmenting this molecule in the body system. It is an organic chemical, which is polypharmacological, meaning that it can affect numerous different channels in the human body at once.[[7]](#footnote-7)

A selective breeding technique enables the production of plants with high concentrations of CBD with almost no concentration of THC. Through this technique, creation of strains is plausible with synthesis of high levels of both BD and THC. However, marijuana producers can also create thoroughbred strains of high levels of CBD solely. *“Charlotte Web”* is one of the most prominent CBD-rich strain. It was a non-psychoactive strain created by Stanley Brothers in Colorado. Initially it was known as *“hippie’s disappointment”*, however, it was renamed in honor of a young girl named Charlotte Figi. Parents of Figi used this strain to combat her severe seizures caused by Dravet syndrome, without the side effect of getting high.[[8]](#footnote-8) CBD does not interfere with several psychomotor and psychological functions. Also, it is well-tolerated and safe even at high doses.

# MEDICAL BENEFITS OF CANNABIDOIL

CBD is a non-euphoric element present inherently in cannabis, yet it has exquisite finesse of engrossing biochemical marvels in the body. It has a theraputical value adding the enchantment in the pharmacy world. It is widely useful in treating pediatric epilepsy, CBD holds the capability of improving the function of endocannabinoid system. Also, it can regulate the central nervous system. The New England Journal of Medicine has editorialized in favor of patient access to marijuana.[[9]](#footnote-9) A recent study published in New England Journal of Medicine found that children with a complex form of epilepsy who took CBD saw a 23% greater reduction in convulsive seizures than those taking a placebo. As per a review in published in the British Journal of Clinical Pharmacology, CBD possess the following medical attributes[[10]](#footnote-10)

1. Antiematic properties which reduces nausea and vomiting.
2. Anticonvulsant properties which suppresses seizure activity.
3. Antipsychotic properties which combats psychosis disorders.
4. Anti-inflammatory properties which combats inflammatory disorders.
5. Anti-oxidant properties which combats neurodegenerative disorders.
6. Anti-tumoral and anti-cancer properties which combats tumor and cancer cells.
7. Anxiolytic and anti depressant properties which combats anxiety and depression disorders.
8. Analgesic properties which combats pain and pain-related disorders.

Cannabinoids have wondrous medical properties, capable of combating lethal disorders in arduous situations. A deadly disease such as HIV AIDS which cannot be medicated with legalized medicines can be worked upon by CBD as its consumption improves the appetite during the disease’s existence and continuance. It may ease multiple sclerosis which reduces chronic pain and muscle spasms. The first scientific evidence of anti-cancer properties of CBD was produced by Dr. Sean McAllister of Pacific Medical Center for new therapeutic drugs for cancer. To astonishment, CBD exhibits the property of prevention of springing up of cancer cells in the body by exerting significant control on metastasis and tumor growth. There were experiments carried out by him on breast cancer cells which exhibited cancer cells be reduced to a great extent by the application of CBD strains as it has the ability to switch off cancer genes.[[11]](#footnote-11) Nausea and emesis are one of the most pernicious side effects in the administration of chemotherapy cancer treatment. The effectual traces of the treatment are so dreadful wherefore many cancer patients withdraw from the therapeutics. However, CBD work well as an antiemetic drug and can be used to palliate the pain inhibited in cancer. As rightly observed by Dr. Sean McAllister *“This compound offers the hope of a non-toxic therapy that could achieve the same results without any of the painful side effects.”*[[12]](#footnote-12)

ID-1 is a protein inhibitor which binds DNA and causes cancer to spread. Cannabidiol (CBD), a cannabinoid with a low-toxicity profile, could down-regulate Id-1 expression in aggressive human breast cancer cells. CBD represents the first nontoxic exogenous agent that can significantly decrease Id-1 expression in metastatic breast cancer cells leading to the down-regulation of tumor aggressiveness.[[13]](#footnote-13) National Institute on Drug Abuse funds extensively on research of marijuana as it is found to possess medical properties. It also helps in curbing the problem of opoid epidemic. Medical marijuana has the ability to treat chronic pain effectively for which opioids are commonly used. However, medical marijuana does not cause deadly overdoses unlike opioid. Cannabinoids are selective antitumour compounds, as they can kill tumour cells without affecting their non-transformed counterparts. Man-made cannabinoid drugs called nabilone are approved by the FDA to treat some conditions. Dronabinol can be helpful for reducing nausea and vomiting linked to chemotherapy.[[14]](#footnote-14) It has also been found to help improve food intake and prevent weight loss in patients with HIV. It has also attracted the attention of many luminaries including Morgan Freeman who strongly advocates for legalization of marijuana; he stated that, *“Marijuana has many useful uses. I have fibromyalgia pain in this arm, and the only thing that offers any relief is marijuana. They’re talking about kids who have grand mal seizures, and they’ve discovered that marijuana eases that down to where these children can have a life. That right there, to me, says, ‘Legalise it across the board!”’*[[15]](#footnote-15)

CBD functions in staggering ways inside the body which helps in breaking off cancer cell migration, adhesion and invasion. It has a potential of killing cancer cells and possesses anti-proliferative, pro-apoptotic effects. In a report published by WHO, it was revealed that CBD has proved to be one of the most effective medicament for treating epilepsy.[[16]](#footnote-16) Other than healing properties, CBD has been known to infuse in the application of ameliorating drug addiction. In a review, it has been concluded that there were a limited number of preclinical studies which suggest that CBD may have therapeutic properties on opioid, cocaine, and psychostimulant addiction, and some preliminary data suggest that it may be beneficial in cannabis and tobacco addiction in humans.[[17]](#footnote-17) However, as per the study conducted, large doses of CBD has found to show no effects on embryonic development, digestion, food intake, motor activity, movement, blood pressure, body temperature and heart rate.[[18]](#footnote-18)

# ANALYSIS WITH DIFFERENT COUNTRIES

In India, it is illegal to consume, produce posses, use, purchase and sell marijuana as per Section 8 of the Narcotics Drug and Psychotropic Substances Act, 1985. However, there is a different position in other countries. Since 1968, The university of Mississippi is the official grower of marijuana for research activities and federal government use. The University is constantly engaged in research work by providing marijuana for investigations extending from chemical research to preclinical toxicology in animals to clinical work on humans.[[19]](#footnote-19) In 1978, New Mexico was the first country to recognize the medicinal value of marijuana through Controlled Substances Therapeutic Research Act.[[20]](#footnote-20) In Europe, the United Kingdom, and Canada, a mouth and throat spray called ‘nabiximols’, which is derived from the marijuana plant is permitted for purchase and consumption as it helps in alleviating pain and spasticity connected with multiple sclerosis. Additionally, it acts as a treatment for cancer patients. Nabiximols acts as a better alternative in relieving cancer pain in contrast to the traditional medicines.[[21]](#footnote-21) In U.K, THC is illegal. However, supplements such as Canaxen which includes CBD are permitted for sale. In 1968, the Wootton Report, was released by U.K government wherein it was found that "the long term consumption of cannabis in moderate doses has no harmful effects. Cannabis is less dangerous than the opiates, amphetamines and barbiturates, and also less dangerous than alcohol". The report's influence is seen in future British drug policies that reduce penalties for possession of marijuana by 50%.[[22]](#footnote-22)  In countries such as Uruguay, Netherlands and Spain, cannabis is available at people’s behest without the need for any prescription The Netherlands allows citizens to cultivate marijuana and sell it in coffee shops subject to the condition to non-allowance of sale to minors. In USA, 29 states have legalized medical marijuana for possession, use and distribution. In the case of USA v. Randall[[23]](#footnote-23), Robert Randall who was afflicted with glaucoma employed the doctrine of necessity to prove his innocence as he was convicted on the charges of marijuana cultivation. In 1976, it was affirmed by the federal judge James Washington that “use of marijuana constituted a medical necessity”.

Robert  Randall was the first American to receive marijuana for the treatment of a medical disorder. A remarkable initiative was taken by the US government in 2014 wherein financial institutions were given the permission and authority to open up bank accounts and conduct transactions with legal marijuana sellers. Also, the country has passed the historical Rohrabacher–Farr amendment in 2014 which effectively protects state marijuana programs from interference by federal authorities.[[24]](#footnote-24) There are various marijuana vending machines for selling or dispensing cannabis in the states that have legalized medical marijuana in USA. In Coloraodo and Washington, marijuana vending machines called ‘ZaZZZ’ has been placed in medical pot dispensaries to sell cannabis-infused foods and dispense flower buds.[[25]](#footnote-25) In 2014, the startup Meadow began offering on-demand delivery of medical marijuana in the San Francisco Bay Area, through their mobile app. Marijuana market in U.S is bigger than craft beer, wine and organic food. Edibles and concentrate sales represent 30% of total sales.[[26]](#footnote-26) Mary Jane Rathbun, popularly known as “Brownie Mary” was an activist who vehemently supported medical cannabis. She developed a recipe for brownie-laced-cannabis and called it “magically delicious”. She sold cannabis brownies to alleviate the pain of AIDS which worked out well as there was a remarkable reduction in pain and nausea among those who were chronically ill.[[27]](#footnote-27)

# CONCLUSION

The cultivation, production, possession, sale or distribution, transport, and storage of marijuana is illegal under the Narcotic Drugs and Psychotropic Substances Act and the Prevention of Illicit Trafficking in Narcotic Drugs and Psychotropic Substances Act, enacted in 1985. However, the exceptions of medicinal and scientific purposes have been explicitly stated in the NDPS act itself. The twist revolves around the fact that, although the use of medical cannabis is legal precisely but its cultivation highly depends upon the satisfaction of the scientific conditions mandated by the respective state Government. Unequivocally, the plantation of non-industrial cannabis is illegal which leads to the notion that the origin is itself unlawful and so the legality of its consumption is extraneous. Apart from the medicinal benefits, medical marijuana can cast the shadowy reduction of illicit drug use and its unbridled trade.

There is a dire need to take initiative by the states to formulate standards and maintain regulations for cultivation of cannabis which would be appropriate for medicinal use. Though India has taken its first initiative in conducting a research trial for testing the significance of medical cannabis, but legalizing it is highly dependent upon the stipulations satisfying the legal regulations at the helm of centre. Marijuana has been primarily subjected to a ban because of the psychoactive substance called THC. The pharmaceutical properties are exhibited in Cannabidiol and with the adoption of selective breeding technique, THC can be annulled out and the benefits of CBD can be garnished solely for medicinal purposes. Substantial uses of Marijuana can be traced back to the historical era in India but due to the pressure from US’ Reagan administration, it was prohibited across the country in 1985. Ironically, the US is now one of the countries at the forefront of the movement for cannabis law reform.[[28]](#footnote-28) According to a study in US, States with medical cannabis laws had a 24.8% lower mean annual opioid overdose mortality rate.[[29]](#footnote-29) Medical cannabis laws are associated with significantly lower state-level opioid overdose mortality rates. As per Centers for Disease Control and Prevention, not even a single death has been reported from the overdose of marijuana.[[30]](#footnote-30) Thus, proving the efficacy of the wonder herb.

Medical marijuana has ridden a wave of support recently from India’s Children and Women Development Minister Maneka Gandhi who advocated for the legalization in India owing to its extensive medicinal properties. “At present, the greatest danger in medical use of marihuana is its illegality, which imposes much anxiety and expense on suffering people, forces them to bargain with illicit drug dealers, and exposes them to the threat of criminal prosecution.”[[31]](#footnote-31) In a nutshell, CBD has proven to be a natural healing herb with no addictive effects. Legalization of medical marijuana will be a stride ahead towards evolution of medical science. Hence, sooner the administration recognizes the mystic marvels wrapped in the herb, better will be the world when we chose to unlock its mystery.

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