

What are the health effects of medical marijuana on users?

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Medical marijuana or Medical cannabis indeed is a type of medicine that comes from the cannabis plant or its extracts. It is a subject of progressing interest and argument recently through its demonstrated healing power and, at the same time, its illegal status in many countries. Medicinal marijuana is known to contain a complex of compounds, like cannabinoids such as THC and CBD, that influence the endocannabinoid system in our body, hence leading to a variety of effects. Pagano et al. (2022) reported that these chemicals possessed analgesic, anti-inflammatory, and antiemetic properties, which might enable their use as guidance for pain management, nausea, and other medical symptoms. Furthermore, Johnston (2020) admits that understanding the chemical composition of cannabis is critical to the advancement of both healthcare delivery and research.

The question that this study is addressing is whether medical marijuana affects users' health. Specifically, we will investigate the possible pros and cons of its introduction, with mental health and physical state as the contexts. This question is undoubtedly very significant in light of the increasingly widespread use of medical marijuana, which requires evidence-based advice for patients, healthcare providers, and policymakers. Through evaluating the current knowledge level in this field, we aim to develop a more informed comprehension of both the therapeutic candidates and safety concerns regarding medical marijuana.

In dealing with the research question, a broad vision with an interdisciplinary approach and insights from other fields of study should be the focus. What is especially appealing about psychologists is their interpretation of how cannabis affects people's mood and cognitive performance and the associated risk of developing mental health disorders. Through Biology, we

get a glimpse into the physiological processes that involve the cannabis therapeutics, the neurotransmitter systems, and the endocannabinoid system. In addition to that, chemistry plays the role of providing information on the chemical makeup of medical cannabis and its pharmacological properties. This integration of knowledge from different areas will enable us to achieve a more comprehensive view of the health outcomes of medical cannabis and, in this way, to guide clinical practice and policy decisions accordingly.

Literature Review

Studies that are psychologically oriented on medical marijuana comprise a vast realm of inquiries on its consequences for emotional states denoted as psychological distress. Scherma et al. (2020) note that cannabinoids and the neurological system have a close association and a wide range of psychological effects. Cannabis molecules affect mental health in different ways, according to their study. However, cannabis' psychoactive THC causes psychosis and short-term memory loss. However, CBD, a prominent cannabinoid, may protect the brain and lessen its side effects. Scherma et al. (2020) also believe that genetic predisposition and previous mental health difficulties contribute to the medicinal marijuana-related psychological gap.

Medical cannabis has been studied for its medicinal benefits and potential to treat mental diseases. Sarris et al. (2020) reviewed medical cannabis' efficacy for anxiety, depression, and PTSD. It can be foreseen from their findings that medical marijuana seems to possess a valuable add-on effect for some mental disorders. At the same time, the standard therapies are proven not to be effective or poorly tolerated. Such evidence, for example, shows that preparations of cannabis that contain more CBD than THC may be in a position to offer relief from several conditions like anxiety and PTSD, making them secure substitutes in comparison to traditional

anxiety medications. Nevertheless, Sarris et al. (2020) recommend that clinical trials be carried out so that we can certify its safety and effectiveness for psychiatric indications and pinpoint the ideal dosage and regimen. These researches, in general, support the need to take into account the duality of medical marijuana, which includes both its potential advantages and disadvantages, alongside mental health treatment.

The medical marijuana biological approach is focused on its pharmacology and medical ramifications to reveal how it works on a cellular and organism level. Bridgeman and Abazia (2017) describe the pharmacology of cannabis and its role in acute care in their research publication. From this analysis, it is established that not only is there a wide range of pharmacological activities of cannabinoids, but also these chemicals interact with endocannabinoid receptors that are distributed in the body. These mutual interactions consequently cause numerous biochemical effects, for example, analgesia, antiemesis, and neuroprotection. Moreover, Bridgman and Abazia show the role that medical marijuana may be playing in alleviating different acute medical symptoms, like pain, nausea, and spasticity. For this reason, it may be used as an adjunct therapy in emergencies.

Aside from its pharmacological activity, the medical chemistry of cannabis also contributes to the capacity of cannabis to provide therapeutic outcomes and safety. Ladha et al. (2020) take you through the complex chemical composition of the cannabis plant and how scientific understanding of the phytochemical constituents in guidance of clinical practice is essential. Cannabinoid content is variable across different cannabis strains. Many of the implications for therapeutic consistency and efficacy include this phenomenon. Ladha et al. (2020) suggest knowing more about what happens when cannabinoids are absorbed and

distributed in the human body, plus the metabolism and excretion. The noteworthy facet of medical cannabis that Ladha et al. (2020) compromise is the pharmacological and pharmacokinetic aspects that lay scientific-based information important in determining the correct dosage and avoiding adverse outcomes. The highest example of such studies will only further support clinical decisions and patient care based on the biological substrate of medical cannabis.

According to Groce (2018), medical cannabis is described in terms of its chemical constituents and biological effects. After a thorough study, Groce found that the smell of cannabis is a result of hundreds of cannabinoids, terpenes, and bioactive compounds that they contain. Beyond that, the studies revealed that the degree of cannabinoids in the strains ranges from one to the next, contributing to different effects and therapeutics. Groce also mentions how the cannabis and endocannabinoid system statement expresses how these processes like pain, inflammation, and mood are regulated. In addition, pharmacokinetic components are extensively discussed, including those that affect take-up, distribution, metabolism, and excretion. As Groce elucidates regarding the chemical composition and mode of action of medical marijuana, his analysis helps expand the scope of knowledge on its medicinal effects and safety concerns.

Common Ground

In the process of highlighting the overlapping grounds between the disciplines in terms of the medical benefits of marijuana and its side effects, the shared findings end up emphasizing its therapeutic potentiality in some cases, as well as health risks in other cases. Mentally speaking, there is agreement between the researchers in the field of medical marijuana as far as a potential treatment of mental ailments such as anxiety and PTSD by the cannabinoid system. What is also

different is that there is an admission of the possibility of individual differences in reaction to medical marijuana, and this could be affected by genes or other conditions such as mental health problems. On the other hand, psychologists also acknowledged the probable psychosis and cognitive impairment full advantage of these powerful drugs, mainly with the muscular THC potency strains. Therefore, as medical marijuana does have some prospects as a treatment of specific mental health issues, paying attention to patient factors and watching out for negative consequences are significant issues of its clinical use.

On the biological sciences side, it is known that cannabinoids possess analgesic and anti-inflammatory properties. These analgesic effects are due to the modulation of pain transmission by stimulating specialized receptors linked to the peripheral and central nervous systems. Furthermore, there is the acceptance of the medicine's medical marijuana potency in relieving the symptoms of pain, muscle spasticity, and most especially in handling conditions such as multiple sclerosis and cancer. On the other hand, biologists point out that there is a need for further research if the long-term effects of medical marijuana on different physiological systems are to be clear and if optimal dosing regimens, as well as treatment modes, are to be determined. In addition, there is the recognition of the chance of undesirable effects that may occur in the form of cardiovascular problems or problems affecting the respiratory tract, in particular, that are related to smoking or vaping products. Thus, while medical marijuana holds promise as a therapeutic agent, biological considerations highlight the importance of cautious clinical implementation and ongoing monitoring of patient outcomes.

From a psychological viewpoint, there is a common, growing denominator about the therapeutic capability of medical marijuana in managing some mental health conditions.

Research shows that cannabinoids, mainly CBD, possess properties that give them anxiolytic and antipsychotic traits, hence an option for treatment or supplementation for anxiety disorders and schizophrenia. What is more, medical marijuana is effective in bringing down PTSD symptoms, and some studies prove that patients' sleep improved, hyperarousal was reduced, and emotional regulation improved. Psychologists stress the crucial role of bespoke treatment tactics, which are informed by elements including symptom severity, comorbid disorders, and patient inclinations when they prescribe medical marijuana for mental health problems. Generally, there has been increasing excitement about the replacement of marijuana for medical purposes as a method of harm reduction for people with substance use disorders. Small-scale studies have indicated the potential benefits of cannabis in reducing the symptoms of alcohol, opioid, and stimulant withdrawal syndrome.

From a biological perspective, it confirms that cannabinoids have analgesic and anti-inflammatory properties, making them suitable for managing chronic pain conditions like neuropathic, osteoarthritis, and cancer-related pain. The mechanisms by which cannabinoids act as therapeutics are achieved by regulating the endocannabinoid system, which is known to play a leading role in pain processing and regulating inflammation levels. It should also be mentioned that MT has proven its worth in enhancing appetite as well as relieving nausea and vomiting, including in patients going through chemotherapy or living with HIV/AIDS. Biologists emphasize the need for a more in-depth investigation of the mechanism of action and its therapeutic application for various health conditions. Moreover, there is a recognition that we may see boosting effects of cannabinoids and other bioactive compounds from within the cannabis plant, meaning that a whole-plant extract will be in the best form for medicinal uses.

Overall, both psychological and biological perspectives converge on the potential therapeutic benefits of medical marijuana, albeit with a cautious approach toward addressing individual variability and potential adverse effects.

On the psychological and biological side of the research spectrum, there is a desire to learn more about the exact nature of the influences and the available therapeutic opportunities of medical marijuana. Psychologists underline the necessity of carrying out longitudinal studies in order to evaluate the long-term effects of medical marijuana on mental health results, such as cognitive function, psychiatric symptomatology, and future substance use patterns. Also, there is a request for more stringent clinical trials to examine the effectiveness and safety of medical marijuana in treating specific psychological conditions, paying particular attention to optimum dosing regimens, duration of treatment, and possible interactions with other psychotropic medicines. Alongside that, psychologists also urge research into the unstudied effects of medical marijuana in the treatment of other psychological diseases, like eating disorders, personality disorders, and neurodevelopmental disorders, to broaden the circle of clinical applications and improve the lives of patients.

Likewise, biologists advise more research on the topic with the demand for exhaustive research that will elucidate the mechanism of action of medical marijuana. It appears that an agreement exists on the need to consider the relationships between cannabinoids and other physiological systems, like the immune system, cardiovascular system, and endocrine system, to understand better the comprehensive influence of medical marijuana on human health. Furthermore, biologists stress the determination of synergistic effects of cannabinoids when combined with other pharmacological agents, as well as the role of routes of drug administration

on its metabolism and bioavailability. Additionally, the importance of translational research is recognized in order to connect preclinical findings with clinical practice and to provide the medical community with evidence-based guidelines for using medical marijuana in different medical conditions. Not only psychological but also biological approaches highlight the necessity of further study to develop our comprehension of medical marijuana and to maximize therapeutic potential while minimizing side effects and risks.

Conflicts and Controversies

Among psychologists and biologists, there are different opinions as to the risks and benefits of cannabis used in medicine. In recent years, several psychologists have recognized the positive therapeutic role of medical marijuana for specific mental health issues. In contrast, other experts worry about its negative consequences, precisely the effects of medical marijuana on cognitive function and the process of psychosis development. Also, among biologists, it is strongly disputable if the safety of medical marijuana can be guaranteed. Thus, it is argued that cardiovascular and respiratory health may be at risk with prolonged use, and additional questions are raised about how it affects brain development and mental health, especially in adolescents. Different views brought to the fore regarding this specific issue illustrate why this area needs more research with the results necessary for clinical decision-making and public health policy.

The debates continue to rage on medical cannabis and its proper use and regulation, a fact that embodies a grand difference in society's attitudes and norms. Psychologists and biologists debate the ethical ramifications of the legal use of medical marijuana that offers issues of access, fairness, and social considerations. Besides that, there are still ongoing controversies regarding the regulation of medical cannabis manufacture, distribution, and advertising, such as the

guarantee of quality, standardization of dosage forms, and prevention of diversion for illicit use. Such debates portray the paradox that, on the one hand, it is necessary to ensure that treatments that may be potentially beneficial for patients are available. On the other hand, public health and safety have to be protected. This needs to be done in a manner guided by scientific evidence and the opinions of the interested parties. Additional problems emerge, especially when dealing with conflicting research reports, dissimilar methodologies, publishing bias, and vested interests. Each type of research tries to find a way to simplify the reporting requirement for research results, the replicability of findings, and the integration of the different sources of evidence in order to clarify uncertainties and gain more reliability and validity for research conclusions.

Conclusion

In summary, the integrative investigation that examined the psychological and biological aspects of medical marijuana indicated both consensus and contradictions among the two sides of the view. There is a strong belief that marijuana can be used as medicine for specific conditions such as chronic pains and PTSD; however, the safety and regulation topic is still heatedly discussed. On the way ahead, it would be wise for future research to emphasize longitudinal studies focused on long-term outcome evaluation, properly implementing clinical trials, and translating preclinical studies into clinical practice. The approach of collaboration and interdisciplinary research in the face of medical marijuana is recommended as a way not only of knowing diverse profiles but also to make evidence-based and holistic patient health care.

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