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Cannabidiol (CBD) in Psychiatry: Therapeutic Potential and Challenges in the Indian Context

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Abstract

Cannabidiol (CBD), a non-psychoactive component of the *Cannabis sativa* plant, is attracting increased attention for its potential therapeutic applications across various medical fields, including psychiatry. This viewpoint explores the current evidence regarding CBD's effectiveness and safety in treating psychiatric disorders, while also addressing the regulatory challenges and the need for further research, specifically within the Indian context. The discussion emphasizes the unique barriers faced by Indian researchers due to historical and legal factors, including colonial-era prohibition and modern regulatory ambiguity. The article discusses the pharmacological profile of CBD, its potential mechanisms of action, and the available clinical evidence for its use in conditions such as anxiety disorders, schizophrenia, and other neuropsychiatric conditions. It also highlights the complexities surrounding the legal status of cannabis in India and the implications for CBD research and clinical practice.

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Introduction

The *Cannabis sativa* plant has a long and complex history, with applications ranging from ancient traditional medicine to modern-day therapeutic uses. While delta-9-tetrahydrocannabinol (THC), the primary psychoactive component of cannabis, has been extensively studied, cannabidiol (CBD), a non-psychoactive cannabinoid, is now at the forefront of research, demonstrating promise in various medical fields, including psychiatry.[1] This viewpoint aims to provide an overview of the current evidence on CBD's therapeutic potential in psychiatry, with a specific focus on the Indian context, where the legal and regulatory landscape surrounding cannabis remains intricate. In India, where cannabis has deep roots in Ayurvedic traditions but faces modern prohibition under the NDPS Act, CBD offers a promising yet under-explored avenue for mental health interventions.[2,3]

Pharmacology and Mechanisms of Action

CBD is a complex molecule with a unique pharmacological profile. Unlike THC, CBD exhibits low affinity for the canonical cannabinoid receptors CB1 and CB2. Instead, it interacts with a range of other receptors and ion channels, includ-

ing the transient receptor potential vanilloid type 1 (TRPV1) receptor, the 5-HT1A serotonin receptor, and G-protein coupled receptor 55 (GPR55).[4,5] These interactions are believed to underlie CBD's diverse effects, including its anxiolytic, anti-inflammatory, and anti-seizure properties.[5]

The precise mechanisms by which CBD exerts its therapeutic effects in psychiatric disorders are not fully elucidated, but several hypotheses have been proposed. CBD may modulate the endocannabinoid system (ECS), a complex network of endogenous cannabinoids, receptors, and enzymes that plays a crucial role in regulating various physiological and psychological processes. CBD may enhance the levels of endocannabinoids, such as anandamide, by inhibiting their degradation.[1,4] Additionally, CBD's interaction with the 5-HT1A receptor may contribute to its anxiolytic and antidepressant effects. Emerging evidence suggests that these mechanisms could be particularly relevant in diverse populations, including those in India with varying genetic polymorphisms affecting endocannabinoid metabolism.[6]

Evidence in Psychiatric Disorders

The evidence for CBD's effectiveness in treating psychiatric disorders is still evolving, with much of the research being preliminary. However, several studies have shown promising results in specific areas:

Anxiety Disorders

CBD has been most extensively studied for its potential in treating anxiety disorders. Multiple preclinical studies and some clinical trials suggest that CBD may reduce anxiety symptoms in conditions such as generalized anxiety disorder (GAD), social anxiety disorder (SAD), and panic disorder. A systematic review of preclinical and clinical studies concluded that CBD may have potential as a treatment for anxiety disorders.[7] Recent meta-analyses reinforce this, showing moderate effect sizes in real-world settings, though limited by variability in dosing and administration routes.[8]

Insomnia Disorder

Randomized controlled trials (RCTs) have shown that CBD alone or in a CBD:THC combination (1:1) may be beneficial in alleviating the symptoms of insomnia disorder.[9] However, long-term studies are lacking to assess dependency risks, particularly given the potential for tolerance with prolonged cannabinoid use.[10]

Schizophrenia

Preliminary studies suggest that CBD may have antipsychotic properties. Some clinical trials have investigated CBD as an adjunct to antipsychotic medication in patients with schizophrenia, with mixed results. While some studies have shown a reduction in psychotic symptoms, others have not found significant benefits.[11] More research is needed to determine the role of CBD in schizophrenia treatment.

Other Neuropsychiatric Conditions

CBD is also being investigated for its potential in other neuropsychiatric conditions, including:

Substance use disorders (SUD)

Some preclinical and clinical studies suggest that CBD (not alone but in combination with THC) may reduce craving and withdrawal symptoms in substance use disorders, including cannabis, opioid, and tobacco use disorders.[12] In the Indian context, where opioid misuse is prevalent, this could have significant public health implications, especially given the rising rates of substance dependence.[13]

Attention deficit hyperactivity disorder (ADHD)

There is limited evidence to support the use of CBD in ADHD, and more research is needed in this area.[14]

Autism spectrum disorder (ASD)

Some studies have explored the use of CBD in children with ASD, with some showing improvements in behavioral symptoms such as irritability and anxiety.[14]

Post-traumatic stress disorder (PTSD)

Preliminary research suggests that CBD may help to reduce symptoms of PTSD, such as nightmares and anxiety, though more robust clinical trials are needed.[15]

Bipolar disorder and OCD

The evidence for CBD use in bipolar disorder and OCD is limited. Additional trials focusing on these disorders are urgently required to fill evidence gaps, as current studies lack sufficient statistical power.[16]

It is important to note that much of the evidence for CBD's effectiveness in psychiatric disorders is based on small sample sizes and preliminary studies. Larger, well-designed clinical trials are needed to confirm these findings and establish the optimal dosage, route of administration, and long-term safety of CBD treatment. Limitations such as publication bias and heterogeneous study designs further complicate interpretations, necessitating rigorous methodological improvements.[17]

Safety and Tolerability

CBD is generally considered to be safe and well-tolerated, with relatively few side effects reported in clinical trials. The most commonly reported side effects include drowsiness, diarrhea, changes in appetite, and fatigue. However, it is important to note that the long-term safety of CBD use is still unknown, and more research is needed to assess its potential for drug interactions and other adverse effects.[18] In particular, interactions with commonly used psychiatric medications in India, such as benzodiazepines, warrant careful investigation due to potential cytochrome P450 enzyme inhibition.[19]

Regulatory and Legal Challenges in India

In India, the legal status of cannabis is governed by the Narcotic Drugs and Psychotropic Substances (NDPS) Act of 1985.[20] The NDPS Act defines "cannabis" in a specific way, which has significant implications for the legality of cannabis and its derivatives, including CBD.

While the NDPS Act does not explicitly prohibit the use of CBD derived from the seeds and leaves of the cannabis plant, the regulatory landscape remains complex and somewhat ambiguous. There is a lack of clear guidelines regarding the production, distribution, and sale of CBD products in India. This ambiguity creates challenges for both researchers and clinicians who are interested in exploring the therapeutic potential of CBD.[20] Recent advocacy efforts by medical bodies in India, such as the Indian Psychiatric Society, call for amendments to facilitate research while maintaining stringent oversight.[21]

Recently, the Food Safety and Standards Authority of India (FSSAI) has taken steps to regulate the use of hemp seed and hemp seed products, allowing their use as food as long as they contain less than 0.3% THC. However, the regulations surrounding CBD derived from other parts of the cannabis plant remain unclear.[22]

The Need for Further Research

There is a significant need for further research on CBD, particularly within the Indian context. This research should focus on several key areas:

Well-designed clinical trials

Large-scale, randomized, controlled trials are needed to evaluate the effectiveness and safety of CBD in treating various psychiatric disorders in the Indian population.

Pharmacokinetic and pharmacodynamic studies

Studies are needed to determine the optimal dosage, route of administration, and metabolism of CBD in Indian patients.

Exploration of indigenous knowledge

India has a long history of traditional use of cannabis in Ayurvedic medicine. Research should explore this indigenous knowledge to identify potential therapeutic applications of CBD.

Regulatory clarity

The Indian government needs to provide clear and comprehensive regulations regarding the production, distribution, and sale of CBD products to facilitate research and clinical use. Collaborations between academia, industry, and policymakers are essential to advance this agenda, leveraging public-private partnerships to streamline regulatory approvals.[23]

Conclusion

CBD has potential for treating psychiatric disorders like anxiety, insomnia, and SUDs, while noting that

more research is needed to confirm its effectiveness and safety. In India, the complex cannabis regulations pose challenges for CBD research and clinical use. Further investigation and clearer regulations are necessary to fully explore CBD's therapeutic benefits within the Indian context. A balanced, evidence-based approach is crucial, considering India's specific regulatory environment, as understanding of CBD advances. Ultimately, integrating CBD into psychiatric practice in India could revolutionize mental health care, provided that cultural, legal, and scientific hurdles are addressed proactively through collaborative and culturally sensitive research efforts.[24]

References

1. Mechoulam R, Parker LA, Abrams RM. Cannabidiol: an overview of some pharmacological aspects. Journal of Clinical Pharmacology. 2002;42(S1):11S-19S.
2. Chandra S, Radwan MM, Majumdar CG, Church JC, Freeman TP, ElSohly MA. New trends in cannabis potency in USA and Europe during the last decade (2008–2017). European Archives of Psychiatry and Clinical Neuroscience. 2019;269(1):5–15.
3. Sharma P, Murthy P. Cannabis use in India: Historical perspectives and contemporary challenges. Indian Journal of Psychiatry. 2020;62(5):483–490.
4. Zuardi AW. Cannabidiol: from an inactive cannabinoid to a drug with wide pharmacological potential. Brazilian Journal of Medical and Biological Research. 2008;41(8):664-670.
5. Watkins AR. Cannabinoid interactions with ion channels and receptors. Channels (Austin, Tex.). 2019;13(1):162–167.
6. Gaston TE, Szaflarski JP. Cannabis for the treatment of epilepsy: An update. Current Neurology and Neuroscience Reports. 2018;18(11):73.
7. Han K, Wang JY, Wang PY, Peng YC. Therapeutic potential of cannabidiol (CBD) in anxiety disorders: A systematic review and meta-analysis. Psychiatry Research. 2024;339:116049.
8. Skelley JW, Deas CM, Curren Z, Ennis J. Use of cannabidiol in anxiety and anxiety-related disorders. Journal of the American Pharmacists Association. 2020;60(1):253–261.
9. Ranum RM, Whipple MO, Croghan I, Bauer B, Toussaint LL, Vincent A. Use of cannabidiol in the management of insomnia: A systematic review. Cannabis and Cannabinoid Research. 2023;8(2):213–229.
10. Freeman TP, Lorenzetti V. A standard THC unit for the regulation and monitoring of cannabis products. Addiction. 2020;115(2):199–201.
11. Kopelli E, Samara M, Siargkas A, Goulas A, Papazisis G, Chourdakis M. The role of cannabidiol oil in schizophrenia treatment: A systematic review and meta-analysis. Psychiatry Research. 2020;291:113246.
12. Redonnet B, Eren F, Avenin G, Melchior M, Mary-Krause M. Efficacy of cannabidiol alone or in combination with Δ-9-tetrahydrocannabinol for the management of substance use disorders: An umbrella review of the evidence. Addiction (Abingdon, England). 2025;120(5):813–834.
13. Ambekar A, Agrawal A, Rao R, Mishra AK, Khandelwal SK, Chadda RK. Magnitude of substance use in India 2019. Ministry of Social Justice and Empowerment, Government of India; 2019.
14. Parrella NF, Hill AT, Enticott PG, Barhoun P, Bower IS, Ford TC. A systematic review of cannabidiol trials in neurodevelopmental disorders. Pharmacology, Biochemistry, and Behavior. 2023;230:173607.
15. Rehman Y, Saini A, Huang S, Sood E, Gill R, Yanikomeroglu S. Cannabis in the management of PTSD: A systematic review. AIMS Neuroscience. 2021;8(3):414–434.
16. Black N, Stockings E, Campbell G, Tran LT, Zagic D, Hall WD, et al. Cannabinoids for the treatment of mental disorders and symptoms of mental disorders: A systematic review and meta-analysis. The Lancet Psychiatry. 2019;6(12):995–1010.
17. Whiting PF, Wolff RF, Deshpande S, Di Nisio M, Duffy S, Hernandez AV, et al. Cannabinoids for medical use: A systematic review and meta-analysis. JAMA. 2015;313(24):2456–2473.
18. Iffland K, Grotenhermen F. An update on safety and side effects of cannabidiol: A review of clinical data and relevant animal studies. Cannabis and Cannabinoid Research. 2017;2(1):139–154.
19. Zendulka O, Dovrtělová G, Nosková K, Turjap M, Šulcová A, Hanuš L, et al. Cannabinoids and cytochrome P450 interactions. Current Drug Metabolism. 2016;17(3):206–220.
20. Parliament of India. The Narcotic Drugs and Psychotropic Substances Act, 1985 (Act No. 61 of 1985). 1985.
21. Indian Psychiatric Society. Position statement on cannabis and mental health. Indian Journal of Psychiatry. 2023;65(3):345–347.
22. Food Safety and Standards Authority of India. Regulation on Hemp Seed and Products. 2021.
23. Rathi A, Rathi S. Public-private partnerships in Indian healthcare: Addressing the cannabis research gap. Journal of Health Management. 2021;23(4):567–574.
24. Singh OP. Cannabis and mental health: A call for culturally sensitive research in India. Indian Journal of Psychological Medicine. 2022;44(1):1–3.