

Cannabis and Mental Health

Student Name

Institution

Course Name & Number

Instructor

Due Date

Cannabis and Mental Health

Cannabis (pseudonyms – weed, pot, herb, hash, grass, ganja, draw, dope and marijuana) is one of the most commonly used illicit drug in the USA with young people more likely to use it when compared to older people. While legal in some cases in the USA and used medicinally to manage chronic pain, there are concerns that it has mental health implications. Made from the cannabis plant, it can be eaten in food, brewed in tea, smoked on its own, or smoked mixed with tobacco. People use cannabis for various reasons. Some use it to relieve physical and mental symptoms, and self-medication to make them feel better in the short-term. However, there is a concern that while cannabis may work as intended in the short term, it increases the initial problems in the long-term and even creates new problems (Sabet & Winters, 2018). The present paper explores research evidence on the correlation between cannabis use and mental health issues, and suggests strategies for addressing this concern.

Overview of population and clinical question

Once used, either eaten or smoked, the active ingredients in cannabis get to the blood stream and are transported to the brain receptors where they have a moderating effect on behavior and mood. The active ingredients in cannabis are cannabinoid, specifically tetrahydrocannabinol (THC) and cannabidiol (CBD) have an influence on the endogenous endocannabinoid system. Higher amounts of the active ingredient THC cause greater psychoactive effects. CBD helps to reduce the psychoactive effects of THC to include paranoia and hallucinations, as well as anxiety. The effects of using cannabis can be pleasant or unpleasant. Most of the effects will typically last for a few hours, but some of the unpleasant effects will continue to present as long term symptoms. Some of the pleasant effects of cannabis – known as highs - include laughing, being talkative, relaxed, and feeling happier than usual. The unpleasant effects of cannabis include disorientation, delusion,

paranoia, depersonalization, amnesia, changes in mood, and hallucinations (Compton, 2016).

Other unpleasant effects include cognitive difficulties in concentrating and remembering things, difficulty sleeping, feeling depressed, reduced motivation and depressed senses. These unpleasant effects are all risk factors for mental health issues thereby raising the question whether reduced cannabis use can improve mental health outcomes, what strategies can the government adopt to address this concern (Sabet & Winters, 2018).

Regular use of cannabis can be linked to unpleasant psychoactive effects, such as increased risk of depression and anxiety. This implies that using cannabis increases the risk of developing psychotic ailments later on in life. There is strong reliable to show that cannabis use is linked to mental health problems, but the link is not well understood thereby limiting efforts to address the concern. To be more precise, cannabis is a cause of developing mental health problems, but it is not the only cause. Not every person who uses cannabis will end up developing mental health problems in the long run, and not every person who develops mental health problems used cannabis in the past. However, the use of cannabis increases the risk of developing mental health problems (Sabet & Winters, 2018). Given this awareness, the clinical question is presented that: what is the correlation between cannabis use and mental health, whether this correlation presents a concern? Answering this clinical question will help to justify efforts to invest resources in limiting cannabis access and use as a critical strategy for improving mental health.

Search methods

A systematic and well organized search from already published literature was conducted to identify a breath of good quality references on the topic about the correlation between cannabis and mental health. A protocol driven literature search was applied on Pubed, MeSH, Medline, and CINAHL databases. The use of the four electronic research databases was to identify the published materials that answer the presented clinical questions.

The search was restricted to journal articles on human studies presented as either primary or secondary literature. The publication dates were restricted to the period between 2016 and 2021 to ensure that the search results presented current information. The search for literature translated the clinical question to keywords. This provided results based on the specified words, thus ensuring an effective search (Grewal, Kataria & Dhawan, 2016). The literature search identified five journal articles that informed efforts to answer the presented clinical question.

Synthesis of results

There has been an increasing shift towards relaxed societal perspective on cannabis, and presenting policies that legalize cannabis use across the USA, whether for medical and recreational purposes. Cannabis legalization has been associated with clear societal benefits that include shifting law enforcement resources away from minor crimes like cannabis possession towards major crimes. These legalization trends coincide with increase in cannabis use, reduced perception of risk, and heightened acceptance. However, based on experiences from commercializing tobacco and the examples from recreational cannabis use being legalized in Washington and Colorado states, there is strong evidence to show that the present shift in policies will result in increased cannabis prevalence, and this will have a disproportionate burden on mental health. Besides that, there are concerns about increased prevalence of problematic cannabis use conditions (such as cannabis use disorder) that is reportedly more prevalent among persons with mental health ailments (such as post-traumatic stress disorder - PTSD, personality disorders, mood and anxiety disorders, and schizophrenia) when compared to the general population. The study concedes that cannabis use has both harms and benefits, and that this creates a paradox between advancing the therapeutic potential of cannabis and its negative effects to include addiction vulnerability and correlation with mental health problems (Lowe et al., 2019).

Hindley et al. (2020) adds to the discussion by noting that cannabis use is prevalent in the USA, legalized in 11 states and used by approximately 15.3% of the population every year. Legalization of cannabis makes it more available, and this creates concerns about the risks associated with use. There is a trend towards legalizing and decriminalizing cannabis so that it can be used for recreational and medicinal purposes. However, these trends appear to have overlooked the psychiatric effects of cannabis constituents especially as cannabis-based products are available and potency increased. The earliest recorded association between cannabis use and mental health problems (such as hallucinations and paranoia) were published as early as more than 150 years ago. Since then, the psychoactive constituents of cannabis have been identified as THC and CBD. Additional studies revealed that THC induces significant increases in negative symptoms (such as poor rapport), psychotic symptoms, and general psychiatric symptoms (such as depression). Additional independent research studies evaluated the psychotomimetic properties of THC to confirm the chemistry of the induced symptoms. While these studies highlighted the negative effects of cannabis, their values were reduced by potential modifiers such as type of THC, tobacco use, sex, age, route of administration, previous cannabis use, and dose. Besides that, the negative effects of THC tend to be ignored because of the positive effects of CBD that is shown to attenuate the symptoms induced by THC. Having higher proportions of CBD is revealed to present fewer subclinical psychotic symptoms. This suggests that CBD has antipsychotic properties (Hindley et al., 2020).

Hines et al. (2020) offers similar sentiments in noting that high potency cannabis is associated with mental health problems. The study compared the effects of using high-potency and low-potency cannabis, noting that using higher potency cannabis increases the risk of problems associated with cannabis use to include common mental disorders and psychotic experiences. In fact, high potency cannabis is associated with higher frequency of

cannabis use, increased likelihood of problems, and higher probability of developing anxiety disorder. The implication of these results is that the negative effects of cannabis use can be attenuated by adjusting potency and frequency of use. Based on these results, the suggestion is made for provision of public health messaging on the importance of reducing cannabis potency and frequency of use (Hines et al., 2020).

Sarris et al. (2020) presents a contrary opinion in noting that cannabis can be used for medicinal purposes in managing psychiatric disorders. Traditionally, cannabis has been used for managing chronic pain, and chemotherapy induced spasticity, vomiting and nausea. Still, there have been suggestions with limited evidence showing that cannabis could be used to increase appetite and improve PTSD symptoms. There is a real concern of cannabis use having the potential to trigger latent psychosis. However, a review of historical evidence on cannabis use shows that folk-medicine used cannabis to manage mental health conditions such as use as anti-senility agent in Chinese culture, managing sorrow and grief in Assyrian culture, and exerting anxiolytic effects in Indian culture. In the modern cultures, cannabis users have reported better management of depression/mood, anxiety, and pain in the short-term. The phytochemicals and active ingredients found in cannabis have been ascribed for hypnotic, anti-psychotic, antidepressant, anti-inflammatory, antioxidant, neuroprotective and anxiolytic pharmacological actions. While cannabis therapeutics in managing mental health problems is nascent, the potential value cannot be ignored. There is tentative encouraging evidence showing that cannabis can reduce social anxiety, improve sleep, manage PTSD, and act as adjunctive in managing schizophrenia. Although the tentative evidence is encouraging, it cannot act as the basis for supporting efforts to legalize and decriminalize cannabis (Sarris et al., 2020).

Khan et al. (2020) similar reports that cannabis could play a therapeutic role in mental health. Of specific interest is the positive effects CBD shown to improve psychotic

symptoms. Cannabis use for medical purposes can be traced back as early as 2700 BC when it was used in Chinese culture. Interest in cannabis use for medical purposes reemerged in the twentieth century in following the discovery of an endogenous cannabinoid system in the brain. While cannabis has more than 140 cannabinoid compounds, of significant interest are THC and CBD with the former being the primary psychoactive ingredient while the latter is a non-intoxicating ingredient. Research studies suggest that CBD has potential therapeutic benefits that range from anti-inflammatory to antineoplastic, anti-arthritic, antioxidant, antiemetic, anticonvulsant, analgesic, antipsychotic, and neuroprotective properties. These benefits can be leveraged in treating attention deficit hyperactivity disorder (ADHD) autism spectrum disorder (ASD), social anxiety disorder, schizophrenia, Tourette syndrome, PTSD, bipolar disorder, anxiety and insomnia. The implication is that CBD can be applied for its therapeutic benefits, but this implies that the other cannabinoid compounds found in cannabis must be controlled to minimize their negative effects even as the positive effects of CBD are leveraged (Khan et al., 2020).

Discussion of findings

The reviewed literature reveals that cannabis creates mental health concerns and has the potential for improving management of mental health problems, and this has implications for overall mental health. Cannabis use has been strongly supported for managing chronic pain. Still, there is significant evidence that identifies mental health concerns caused by THC and moderated by CBD as active constituents. Some of the mental health problems caused by cannabis use, particularly THC include cannabis use disorder, addiction vulnerability, PTSD, personality disorders, mood and anxiety disorders, schizophrenia (Lowe et al., 2019), hallucinations, paranoia, depression, poor rapport (Hindley et al., 2020), anxiety disorder (Hines et al., 2020), and trigger latent psychosis (Sarris et al., 2020). While cannabis use is associated with negative effects, it has also been associated with positive health effects to

include managing chronic pain, chemotherapy induced spasticity, vomiting and nausea, increasing appetite, improving PTSD symptoms, anti-senility agent, managing sorrow and grief, exerting anxiolytic effects, and managing depression/mood, anxiety and pain in the short term. Also, cannabis is ascribed for hypnotic, anti-psychotic, antidepressant, anti-inflammatory, antioxidant, neuroprotective and anxiolytic pharmacological actions (Sarris et al., 2020). Besides that, cannabis could play a therapeutic role in mental health by improving psychotic symptoms, and other benefits ranging from anti-inflammatory to antineoplastic, anti-arthritic, antioxidant, antiemetic, anticonvulsant, analgesic, antipsychotic, and neuroprotective properties. Additionally, cannabis use is associated with improved ADHD, ASD, social anxiety disorder, schizophrenia, Tourette syndrome, PTSD, bipolar disorder, anxiety and insomnia symptoms (Khan et al., 2020). Both the positive and negative effects reported for cannabis use are more readily apparent with high potency cannabis and more frequent use. This indicates that the negative effects can be minimized by using low potential cannabis and reducing use frequency (Hines et al., 2020). Further, the negative effects can be minimized and positive effects leveraged by controlling the cannabinoid compounds to increase the potency of beneficial compounds such as CBD and reduce potency of harmful compounds such as THC.

Suggestion for future research

The reality is that we are moving towards cannabis use for medical and recreational purposes being legalized and decriminalized. However, the present review shows that cannabis use has the possibility of presenting some negative and positive effects, and this is concerning. The present research shows significant discrepancies as cannabis is shown to have both significant benefits and harms with strong evidence for both. This creates a paradox that negatively influences political and societal perspectives while polarizing views on cannabis. The evidence thus far is unclear about whether the benefits outweigh the harms

or if the harms outweigh the benefits. Still, there is a need for more rigorous, controlled multi-site trials to confirm the negative and positive effects of cannabis use on mental health. Also, there is a need for more detailed, systematic and clinically focused research on the correlation between cannabis use and mental health problems. In addition, longitudinal research is necessary to understand how age of onset of use, frequency of use and preparation of cannabis (potency) affects the association between cannabis and mental health (Schmidt & Brown, 2019). As such, there is a need for more detailed research to explore the specific relationship between cannabis use and mental health as this would help in presenting accurate information to help policy makers make informed choices and implement evidence-based policies.

White paper

Cannabis is the most commonly used illicit drug in the USA. In fact, there are increasing efforts to legalize and decriminalize cannabis use (either for recreational or medicinal purposes) with 11 states already presented supportive legislation and policies. Still, there is a concern that there is not enough evidence on the harms and benefits of cannabis use. Cannabis has more than 140 active ingredients with the major ingredients being THC and CBD. THC is noted to present psychoactive effects (such as paranoia, hallucinations and anxiety) while CBD reduces the psychoactive effects brought about by THC. Policy makers must be made aware of the exact positive and negative effects of cannabis use to help them make informed choices and the right policies.

A significant concern for cannabis use and its association with mental health. The use of cannabis has been justified to manage chronic pain as well as create pleasant highs in the short term to include laughing, being talkative, relaxed, and feeling happier than usual. However, it has been associated with unpleasant effects that include disorientation, delusion, paranoia, depersonalization, amnesia, changes in mood, hallucinations, cognitive difficulties

in concentrating and remembering things, difficulty sleeping, feeling depressed, reduced motivation and depressed senses. These unpleasant effects are all risk factors for mental health problems thus creating a need to determine the correlation between cannabis use and mental health.

A review of available current literature reveals that cannabis use is associated with mental health problems to include cannabis use disorder, addiction vulnerability, PTSD, personality disorders, mood and anxiety disorders, schizophrenia, hallucinations, paranoia, depression, poor rapport, and trigger latent psychosis. While cannabis use is associated with mental health problems, it has also been associated with positive mental health effects to include improved PTSD symptoms, anti-senility agent, managing sorrow and grief, exerting anxiolytic effects, and managing depression/mood, anxiety and pain in the short term. Also, cannabis is ascribed for hypnotic, anti-psychotic, antidepressant, anti-inflammatory, antioxidant, neuroprotective and anxiolytic pharmacological actions. Besides that, cannabis use offers other health benefits ranging from anti-inflammatory to antineoplastic, anti-arthritic, antioxidant, antiemetic, anticonvulsant, analgesic, antipsychotic, and neuroprotective properties. Additionally, cannabis use is associated with improved ADHD, ASD, social anxiety disorder, schizophrenia, Tourette syndrome, PTSD, bipolar disorder, anxiety and insomnia symptoms.

This discussion makes it clear that cannabis use has both negative and positive effects on mental health. There is a need for more rigorous, controlled multi-site trials, and more detailed, systematic and clinically focused research to explore the correlation between cannabis use and mental health problems to inform policy decisions. In addition, there is a need for longitudinal research to explore other factors that moderate the effects of cannabis use on mental health to include age of onset of use, frequency of use and preparation of cannabis (potency).

References

- Compton, M. T. (Ed.) (2016). *Marijuana and mental health*. American Psychiatric Association Publishing.
- Grewal, A., Kataria, H., & Dhawan, I. (2016). Literature search for research planning and identification of research problem. *Indian Journal of Anaesthesia*, 60(9), 635-639.
<https://dx.doi.org/10.4103/0019-5049.190618>
- Hindley, G., Beck, K., Borgan, F. Ginestet, C. E., McCutcheon, R., Kleinloog, D., ... & Howes, O. D. (2020). Psychiatric symptoms caused by cannabis constituents: a systematic review and meta-analysis. *The Lancet – Psychiatry*, 7(4), 344-353.
[https://doi.org/10.1016/S2215-0366\(20\)30074-2](https://doi.org/10.1016/S2215-0366(20)30074-2)
- Hines, L. A., Freeman, T. P., Gage, S. H., Zammit, S., Hickman, M., Hickman, M. ... & Heron, J. (2020). Association of high-potency cannabis use with mental health and substance use in adolescence. *JAMA Psychiatry*, 77(10), 1044-1051.
<https://doi.org/10.1001/jamapsychiatry.2020.1035>
- Khan, R., Naveed, S., Mian, N., Fida, A., Raafey, M. A., & Aedma, K. K. (2020). The therapeutic role of Cannabidiol in mental health: a systematic review. *Journal of Cannabis Research*, 2, article number 2. <https://doi.org/10.1186/s42238-019-0012-y>
- Lowe, D. J. E., Sasiadek, J. D., Coles, A. S., & George, T. P. (2019). Cannabis and mental illness: a review. *Eur Arch Psychiatry Clin Neurosci.*, 269(1), 107-120.
<https://dx.doi.org/10.1007/s00406-018-0970-7>
- Sabet, K. A., & Winters, K. C. (Eds.) (2018). *Contemporary health issues on marijuana*. Oxford University Press.
- Sarris, J., Sinclair, J., Karamacoska, D., Davidson, M., & Firth, J. (2020). Medicinal cannabis for psychiatric disorders: a clinically-focused systematic review. *BMC Psychiatry*, 20, article number 24. <https://doi.org/10.1186/s12888-019-2409-8>

Schmidt, N., & Brown, J. (2019). *Evidence-based practice for nurses: appraisal and application of research* (4th ed.). Jones & Bartlett Learning, LLC.

Appendix: Literature Review Matrix

Author/ Date	Theoretical/ Conceptual Framework	Research Question(s)/ Hypotheses	Methodology	Analysis & Results	Conclusions	Implications for Future research	Implications For practice
Lowe, D. J. E., Sasiadek, J. D., Coles, A. S., & George, T. P. (2019).	Increasing push to legalize cannabis could place vulnerable populations who include persons with mental illness at risk. This is a strong motive for understanding the effects on cannabis and determining if the legalization is warranted.	Does cannabis use have an effect on mental illness?	Review of available literature.	There is a cannabis addiction vulnerability that explains the addiction co-morbidity in mentally ill cannabis users. Also, cannabis causes mental health disorders.	Cannabis use is associated with negative mental health outcomes.	Need for more detailed studies to understand the correlation between cannabis use and mental health.	Cannabis use should be discouraged since it is associated with unfavorable mental health outcomes.
Hindley, G., Beck, K., Borgan, F. Ginestet, C. E.,	More people are using cannabis, and this creates a need to	Does cannabis constituent THC have a negative effect on mental	Systematic review and meta-analysis.	THC increases mental health symptoms severity, while CBD reduces	The presence of THC in cannabis is associated with negative mental health outcomes.	Need for more detailed research to understand how the	THC potency should be reduced to minimize the negative

McCutcheon, R., Kleinloog, D., ... & Howes, O. D. (2020).	understand the associated health risks.	health, and does CBD moderate the negative effect?		symptoms severity.		effects of THC and CBD are related.	mental health effects.
Sarris, J., Sinclair, J., Karamacosa, D., Davidson, M., & Firth, J. (2020).	Medicinal cannabis has received much attention with loosened regulatory changes. However, the psychiatric effects of cannabis use are not well understood.	What are the psychiatric effects of cannabis use?	Systematic review.	THC has negative psychiatric effects while CBD has positive psychiatric effects.	CBD offers potential for use in psychiatry.	Need for more detailed research on the effects of cannabis components.	CBD potency should be increased to improve mental health among cannabis users.
Khan, R., Naveed, S., Mian, N., Fida, A., Raafey, M. A., & Aedma, K. K. (2020).	There is increasing interest in the therapeutic application of CBD.	What are the therapeutic benefits of CBD?	Systematic review.	CBD helps to alleviate psychotic symptoms and cognitive impairment. Also, it treats some mental health conditions.	CBD is useful for improving mental health.	Need for more detailed studies exploring the benefits of CBD.	CBD can be used to manage psychiatric disorders.

Hines, L. A., Freeman, T. P., Gage, S. H., Zammit, S., Hickman, M., Hickman, M. ... & Heron, J. (2020).	There is increasing cannabis use, and this creates mental health concerns among users.	Does high potency cannabis increase the risk of mental health problems?	Cohort study.	High potency cannabis use associated with high risk of mental health problems, while low potency is associated with lower risk of mental health problems.	Low potency cannabis has a favorable effect on cannabis.	Need for more studies to explore moderating factors that include frequency of use.	Low potency cannabis would be preferable to high potency cannabis to improve mental health outcomes.
---	--	---	---------------	---	--	--	--