

PERSPECTIVES

Cannabis and Its Permissibility Status

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Abstract

Cannabis has been used and misused to treat many disorders. Δ^9 -Tetrahydrocannabinol (THC) and cannabidiol (CBD) are the most important components of cannabis and could be used for recreational and medical purposes. The permissibility (Halal) status of cannabis is controversial, and its rational use is ambiguous. Global awareness and interest in cannabis use are increasing and its permissibility status, especially for recreational and medical purposes, needs to be addressed. Rationalizing the scientific value and Halal status of cannabis is useful for the rational use and maintenance of the compatible system. It is rare in Muslim countries to discuss the permissibility status of cannabis from the perspective of its value and composition. Using the analogy concept, the CBD component extracted from a cannabis plant in a clean and pure form is permissible to use in industry, particularly in cosmetics and pharmaceuticals. If THC component is present in < 1% and CBD is > 99%, the mixture is considered permissible as long as THC is not intentionally added or intentionally left, but is mainly present due to the limited capabilities and efficiency of the purification methods. However, any amount of THC prepared with the intention to be used as an intoxicant is considered non-Halal.

Keywords: analogy; CBD; Halal; narcotic; THC

Introduction

Natural products play a very important role in our daily lives.¹ They are produced by living organisms in two forms: primary metabolites, which are vital for the survival of the living organism, and secondary metabolites, which increase the competitiveness of the living organism against the environment.² Secondary metabolites are beneficial through their pharmacological activities, some can cause toxicity and side effects to the body, others have a psychoactive effect.³ For the past 200 years, major advances have been made in our understanding of the composition and effects of many psychoactive natural products, especially those with therapeutic benefits. Cannabis (*Cannabis sativa*), opium (from *Papaver somniferum*), and cocaine (from *Erythroxylon coca*) are ancient examples of materials used for pain relief.⁴ However, only few are legally available products from natural sources, others are not. Cannabis use for any purpose, including for

recreational and treatment, is banned in most countries. Some countries in Asia and the Middle East consider the possession of small amounts of cannabis can subject people to a multiyear prison sentence. The legality of cannabis for recreational and medical use varies from country to country in terms of its possession, distribution, and cultivation; however, many countries have adopted decriminalization policies to turn simple possession into a noncriminal crime.⁵

According to halalopathy, compatibility between what people eat and their faith or lifestyle plays an important role in maintaining high potential.⁶ Comfort food, selected and influenced by what people believe, is known for improving individual's mood, feeling better, and giving us a sense of well-being. The Halal concept is followed by nearly 1.5 billion people worldwide and pays attention to what they eat and drink in their daily lives. Cannabis as plants is categorized as narcotics and classified as an intoxicant thus non-Halal to be

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consumed in any forms. The awareness and interest of Muslims in the use of cannabis are growing and its Halal status, particularly for recreational and medical purposes, need to be addressed. Therefore, it is important to understand the scientific value of cannabis in terms of recreation and medicine. Determining the Halal status of cannabis for mixtures and individual components is useful for the rational use of cannabis and the preservation of the compatible system.

Halal (Permissibility) Concept

The term Halal is often used in the Muslim and non-Muslim world, but Halal is seen as a concept for Muslims, an idea for non-Muslims and an issue for certification bodies. Halal concept means permissible (abiding by Shari'a/Islamic Law) and encompasses all human actions and deeds, including eating, wearing, seeing, and speaking. For Muslims, the Qur'an is the reference book. Interestingly, when the concept of Halal is presented in connection with food (eating or entering our mouth), the concept of Tayyib is explicitly coupled; therefore, it is necessary when Halal foods are presented, the combined expression Halal-Tayyib, is used.⁷ The concept Tayyib refers to clean, pure, and conform with the Shari'a (Islamic Law), whereas the Halal concept organizes behavior so that what we eat will affect our character,⁸ Duaa (supplication) acceptance, and personality.⁹

The Halal status of cannabidiol (CBD) has never been described and the potential of CBD for use in our daily lives is increasing, so it is important to understand the value of CBD and determine its Halal status. From an Islamic point of view, if the issue is not already mentioned in the Qur'an or described by the Hadith, the analogy approach (Qiyas) can be used to derive the status of the current problem.

Analogy Concept

The analogy is a cognitive process to deduce decisions for new issues, a judgment based on analogy is allowed by Shari'a law and is based on analogical reasoning from a known Islamic judgment and is then applied to the unknown problem within the Islamic model of the Qur'an, Hadith, and Islamic consensus.¹⁰ This means that the Qur'an and Hadith can be further analyzed and extended from a primary known issue (*asl*) to a new problem (*fara'*) if there is a common cause (*'illa*) for both problems. The cause (*'illa*) is the specific set of circumstances that triggers or introduces a certain law into action.¹¹ For example, the operative cause for the

prohibition of wine consumption is that it intoxicates the mind. Scientifically it has been proven, ethanol in the wine is responsible for the intoxication.¹² Therefore, by the use of analogy, the consumption of any alcoholic (ethanolic) beverages or anything that intoxicates the mind, such as narcotics, is non-Halal.

Marijuana, cannabis, hashish, and hemp are well-known names of plants and derivatives that belong to the genus Cannabis. In the Shari'a, cannabis is categorized under substances that are referred to as narcotics. Because of the combined narcotic, psychoactive, intoxicating, euphoric, and harmful effects of marijuana, Shari'a classified cannabis as an intoxicant, non-Halal, and cannot be consumed in any forms.¹³

Narcotic as a Drug

In medicine, a narcotic is a drug that induces narcosis-like symptoms such as stupor, insensibility, drowsiness, and pain relief.¹⁴ In the Islamic "Figh" not all narcotic is necessarily forbidden especially if its primary effect is analgesia. A huge number of medications such as opioid analgesics, stimulants, sleeping tablets, antidepressants, anxiolytics, and antipsychotics have been classified as a narcotic drug, but still could be used based on the Islamic principle "Necessities overrule prohibitions," "But if one is forced by necessity, without willful disobedience, nor transgressing due limits, then he is guiltless. For Allah is Most Forgiving and Most Merciful."¹⁵ Narcotic drugs are susceptible to abuse,¹⁶ and as a response to potential misuse, many countries have laws and regulations that are unduly restrictive to the use of narcotic drugs; meanwhile, many international drug control treaties have been signed to ensure the availability of narcotic drugs for scientific and medical purposes and to promote the rational use of narcotic drugs and psychotropic substances.

Status of Intoxicants in Shari'a

Everything is permitted in its raw origin unless there is evidence of prohibition. Qur'an has specifically forbidden Khamr (fermented ethanol), "O you who have believed, indeed, (Khamr) intoxicants, gambling, [sacrificing on] stone alters [to other than Allah], and divining arrows are but defilement from the work of Satan, so avoid it that you may be successful."¹⁷ Khamr according to Islamic scholars means intoxicating drinks; therefore, any drink that disturbs the mind's ability to think and judge is considered "khamr," thus non-Halal. Although marijuana (cannabis) and other narcotic substances have not directly been prohibited,

with the analogy principle, marijuana is to be seen as an intoxicant such as alcohol; therefore, it is advised to abstain from the usage of marijuana and similar substance with similar effects.¹⁸ Meanwhile, the Qur'an has mentioned that "They ask you about intoxicants and games of chance. Say: In both of them there is a great sin and means of profit for men, and their sin is greater than their profit,"¹⁹ thus, according to the Qur'an, intoxicant substance may have the potential to be beneficial to human health, but its use is limited and organized according to the general principle "Necessities overrule prohibitions."

CBD and Tetrahydrocannabinol Relationship

The awareness and interest of Muslims in the use of cannabis continue to grow as more countries and states move toward legalizing the use of marijuana for recreational or medical purposes. Many adults ask about the use of cannabis for recreation, pain, epilepsy, and mental disorders.²⁰ Cannabis contains hundreds of molecules (cannabinoids) that may exercise physiological effects on humans. The two most important molecules are Δ^9 -tetrahydrocannabinol (THC) and CBD. THC has psychoactive psychopharmaceutical or psychotropic effects, it can cause mental and neurological changes such as alterations in perception, mood, consciousness, cognition, or behavior. It is the culprit for the "feeling high" effect of marijuana use.²¹ CBD has anticonvulsant, anti-inflammatory, antioxidant, antipsychotic, immunomodulatory, and neuroprotective effects.²² According to Swissmedic,²³ CBD product with a total THC content >1.0% falls under Narcotics Law; therefore, cannabis with a total THC content of <1.0% is not regarded as psychotropic and can be sold in Switzerland. CBD has recently approved by the Food and Drug Administration for the treatment of children with drug-resistant epilepsy,²⁴ an oral solution of CBD is effective in reducing seizure frequency and severity in adult and children.²⁵ CBD is not an intoxicating drug and is considered to alleviate some of the unwanted psychoactive side effects of THC. Scientists have examined the protective effects of CBD, and have shown that CBD can counteract the negative effects of THC. Pretreatment with intravenous CBD (5 mg) prevented the acute induction of psychotic symptoms by THC (1.25 mg, 20%).²⁶

Conversion of CBD to THC

Cannabis with <0.3% THC is classified as hemp, but >0.3% THC is classified as marijuana, consequently hemp is the main source of CBD and marijuana is

the main source of THC. The key intermediate for the biosynthesis of CBD and THC is cannabigerolic acid. Synthetically, the conversion of CBD to THC is done under acidic condition with varied yield from 50% to 99%, depending on the Lewis acid source and temperature.²⁷ The bioconversion of CBD to THC has not been observed; the plasma sample from 14 patients with Huntington's disease, who received CBD [10 mg/kg·d] during 6 weeks, showed that no THC was detected in the plasma sample of any patients at any time during the study.²⁸ In humans, there is no evidence that THC can be produced in the stomach (acidic media), even if high doses of CBD have been taken.²⁹ High doses of up to 1500 mg/day CBD are reportedly well tolerated and do not cause THC-like effects in humans.^{24,30}

Determination of Permissibility (Halal)

Status of CBD

As THC, is the main psychoactive component of cannabinoids plants, it is thus the cause (*'illa*) for the prohibition (being non-Halal). Therefore, any plants, or mixture, or solution contains THC is considered to be non-Halal. According to the Islamic principle, the legislative law (Hukm Shari'a) revolves with the cause (*'illa*) in existence and in absence, when cause (*'illa*) exists the law (Hukm) exists and if the cause (*'illa*) does not exist the law (Hukm) does not exist.³¹ THC is the cause (*'illa*), and if it is completely removed either from the cannabis extract or CBD mixture, the legislative law will be changed from non-Halal to Halal. In this case, if THC, the cause (*'illa*), is eliminated, CBD in this form is considered Halal and could be used as a source of medicine, cosmetics, and dietary supplements. In certain situations, especially when CBD is extracted from hemp plants rather than chemically synthesized, there may still be a trace amount (<1%) of THC present, and sometimes it is difficult to remove it completely by physical means. If the purity of CBD is >99% and THC is <1%, what is the Halal status of the mixture?

It is accepted in Islam to eat some fruits (such as citrus fruits) for the sake of eating even though they may contain some trace amounts of alcohol. As long as this alcohol is origin or naturally part of the fruit and has not been introduced as a result of intended fermentation, it is considered Halal.

If CBD is present as a major component and THC is present in a trace amount, CBD is capable of blocking the psychotic activities of THC; therefore, THC is

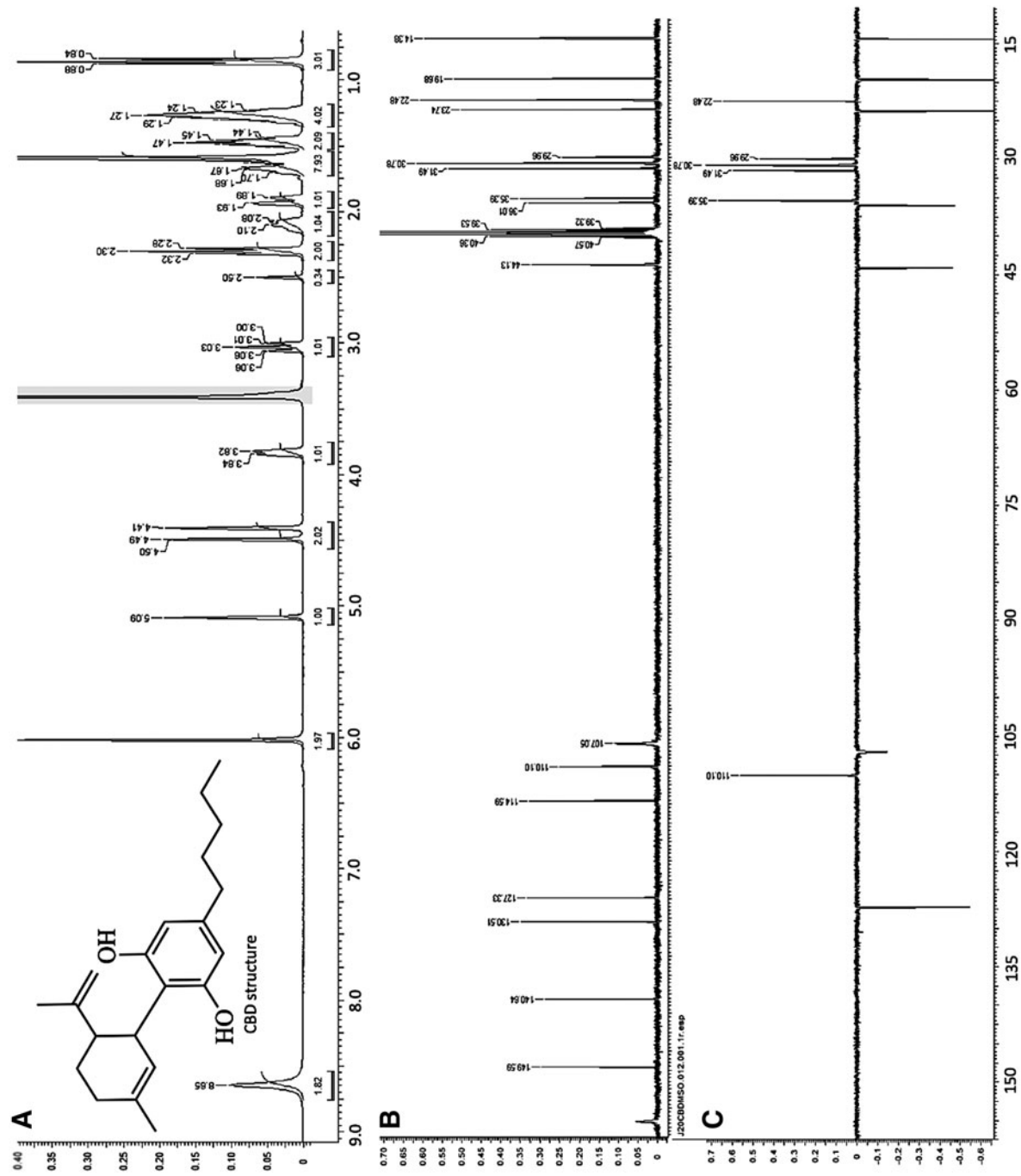


FIG. 1. Spectroscopic data of cannabidiol in D6-DMSO: **(A)** ¹H-NMR, **(B)** ¹³C-NMR, **(C)** DEPT. DEPT, distortionless enhancement by polarization transfer; DMSO, dimethyl sulfoxide; NMR, nuclear magnetic resonance.

physically present but biochemically inactive. In this situation, as THC is not intentionally added or intentionally left, but is mainly present due to the limited capabilities and efficiency of the purification methods, the purity of CBD is still >99%; hence, to our understanding, such a mixture is Halal, as long as it is limited to be used for cosmetics and medical purposes. The ratio of CBD to THC must be respected to eliminate THC effect.

In Islam, human deeds are judged on the bases of intentions (Niyah), Prophet Mohammad PBUH said: “Verily, deeds are only with intentions.”³² Therefore, any narcotic drugs or plants used with the intention to achieve partial or complete intoxication, it is prohibited, no matter if THC content is 0% or 100%. In the case of THC <1%, although it is inactive at this concentration, placebo effect will dominate and intoxication may easily be reached with a minute amount of THC.

If patients use unapproved forms of CBD, there is a chance to run into the risk of variable CBD and THC dosages, adulteration, and contamination; therefore, it is important to deal with reliable companies where the identity and purity of CBD are determined. To determine the purity of CBD that was extracted from the hemp plant, we took a random sample from an approved Swiss company (Kannaswiss) and determined the purity and identity using nuclear magnetic resonance (NMR) spectroscopy. The white dry solid of CBD (20 mg) was well dissolved in D6-dimethyl sulfoxide (DMSO) and NMR spectroscopy was determined (Fig. 1). According to H¹-NMR (300 MHz, D6-DMSO) only one structure was detected and match perfectly with CBD structure.³³ The identity of the structure was further confirmed with C¹³-NMR (75 MHz, D6-DMSO).³⁴ Both spectra indicated the presence of only one structure in purity >99%. THC was not detected by this method, which indicates that it is possible to isolate CBD from natural products in a pure and white solid form with no detectable amount of THC.

Final Remarks

Finally, for those who feel doubt of CBD Halal status, it is recommended to abstain from the use of CBD; otherwise, an incompatible system will be developed and a rejection mechanism will be created, which constitutes a disorder that could lead to the development of diseases rather than contribute to overcoming a particular health problem.³⁵ CBD is not a biologically inert compound, on the contrary, it has a complex pharmacodynamics and pharmacokinetics profile similar to any

other medication with the potential to interact with other medications and medical conditions³⁶; therefore, the Halal status of CBD is valid as long as the current science described earlier is valid. Any change in the outcome of science, in the long run, will definitely change the Halal status of CBD.

Conclusion

CBD and THC, the main ingredient of cannabis, are a sensitive, controversial, and main issue in the production of Halal products. We have evaluated the Halal status of both components and tested the purity of CBD extract with NMR spectroscopy. According to the analogy concept, cannabis and its components are categorized as narcotics and classified as an intoxicant, thus it is non-Halal. THC is the main psychoactive component of cannabis plants; it is thus the cause (*'illa*) for the prohibition and if it is completely removed either from the cannabis extract or CBD mixture, the Halal status will be changed from non-Halal to Halal. In case, the THC component is present in <1% and CBD is >99%, the mixture is considered Halal as long as THC is not intentionally added but mainly present due to the limited capabilities and efficiency of the purification methods. The ratio of CBD to THC must be respected to eliminate THC effect. Any amount of THC in a mixture or solution prepared with the intention to be used as an intoxicant is considered non-Halal.

Acknowledgment

We thank Mr. Farhan Tufail for useful discussion and support.

Author Disclosure Statement

The authors declare that they have no competing financial interests.

Funding Information

No funding was received for this article.

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Cite this article as: Alzeer J, Hadeed KA, Basar H, Al-Razem F, Abdel-Wahhab MA, Alhmdan Y (2021) Cannabis and its permissibility status, *Cannabis and Cannabinoid Research* 6:6, 451–456, DOI: 10.1089/can.2020.0017.

Abbreviations Used

CBD = cannabidiol
THC = tetrahydrocannabinol