Responsiveness of Criminal Law Policy towards the Use of Medical Cannabis in the Perspective of Health Services: A Case Study in Indonesia

Arie Kartika [1], Mohd. Din [1], Keizerina Devi Azwar [3], Mahmud Mulyadi [3] and Robert Robert[3]

[1]*Doctoral Program in Law, Universitas Sumatera Utara, Medan – Indonesia*
[2]*Faculty of Law, Universitas Syiah Kuala, Banda Aceh – Indonesia*
[3]*Faculty of Law, Universitas Sumatera Utara, Medan – Indonesia*

Corresponding author: ariekartika@students.usu.ac.id

Abstract. Technological developments in the pharmaceutical field have shown significant benefits from compounds contained in cannabis plant extracts, such as cannabinoids, for the treatment of various chronic diseases. Criminal law policy in Indonesia still defines cannabis as a Class I Narcotic, so it is prohibited from being used for medical purposes. This policy is inversely proportional to global trends that have begun to legalise medical cannabis, such as several countries in the United States and European countries. This research aims to analyse Indonesia's criminal law policy that has not been responsive to the development of people's medical needs and compare the legal framework for medical cannabis in several countries. The research method uses a qualitative approach with comparative studies, legislative analysis, and constitutional studies of legal policies in countries with Common Law (Canada and Florida) and Civil Law (Germany and Belgium) systems. Secondary data used was obtained from various international reports, journals, case studies, and national/international regulations related to medical cannabis. The results show that countries that have legalized medical cannabis implement policies that pay attention to the quality of health provision, protection of patient rights, and availability of equitable access. On the other hand, criminal law policies in Indonesia have not accommodated the use of medical cannabis, thus creating inequality in access to health care for patients in need. This unresponsiveness of legal policy results in public fear of criminal sanctions and ultimately hinders the fulfillment of the right to health. As an implication, the Indonesian government needs to evaluate and change criminal law policies related to cannabis for medical purposes by considering aspects of public health, the experience of other countries, and the protection of patient rights in order to create a more adaptive and effective legal framework.

Keywords: Criminal Law, Medical Cannabis, Health Services, Indonesia

L. Rini Sugiarti et al. (eds.), *Proceedings of the 1st International Conference on Social Environment Diversity (ICOSEND 2024)*, Advances in Social Science, Education and Humanities Research 905,
https://doi.org/10.2991/978-2-38476-366-5_51

1 Introduction

Class I Narcotics (Cannabis) has remained an enigmatic plant for centuries due to its medicinal and recreational uses. Yet the use of cannabis has been coated in controversy from time to time across the globe ranging from criminalisation, countermeasures, control systems and legal constraints. In the face of all the mentioned issues its use and application has remained progressive. Consequently, the realities of the 21st century have made the relevance of cannabis of essential value in the field of medicine.[1] Based on the report of the results of in-depth testing at the 40th WHO Expert Committee on Drug Dependence forum held in Geneva on 4-7 June 2018, it was concluded that several types of cannabis plant derivatives were proven to be useful for treatment and had a fairly low risk of causing dependence and abuse so that the WHO Expert Team based on the test results recommended changing the classification status (scheduling) of cannabis and its derivatives and even for certain derivatives of cannabis compounds there was no need to regulate the classification of the Single Convention on Narcotics 1961.

Article 1 Paragraph (3) of the 1945 Constitution stipulates that the State of Indonesia is a 'State of Law', and in essence the classification of law based on its content is divided into public law and private law. One of the public laws includes criminal law. Criminal Law Policy in Indonesia confirms in Article 6 and Article 8 of Law No. 35 of 2009 concerning Narcotics, Narcotics are classified into 3 (three) groups, especially Narcotics Group I (Cannabis) is prohibited from being used for the benefit of health services with criminal provisions 'for every person who without rights or against the law, plants, maintains, possesses, stores, controls or provides Narcotics Galongan I in the form of plants' can be sentenced to imprisonment and a fine (Article 111 of Law No. 35 of 2009 concerning Narcotics) on Table 1.

Table 1. Pattern of drug abusers in 2022

No	Types of Drugs	Number of Drug Abuse
1	Cannabis, Hanish (cannabis resin)	41,4%
2	Methamphetamine, Ecstasy, Amphetamines, other ATS Groups	25,7%
3	Nipam, Koplo Pills and others	11,8%
4	Dextro (Dextromethorpan)	6,4%
5	Gorilla tobacco, Catinone, Methylcaton, Methylone	4,1%
6	Amethyst, LSD, Mushroom, Inhalant	2,4%
7	Trihexyphenidy/ Trihex/THP/ Pills	1,5%
8	Heroin (Putau, Etop)	1,5%
9	Excessive use of headache medication	1,5%
10	Pethindin, Morphine, Opium, Codeine	1%
11	Carisoprodol/ PCC	1%
12	Others	1%

13	Kokain	0,4%
14	Ketamin	0,3%
15	Headache medicine mixed with soda	0,2%

Source: POLRI and BNN March 2022

Based on the Table 1 the pattern of abusers and the number of narcotics cases, the type of drug that is widely consumed is cannabis with a percentage of 41.4%,[2] however, there is no valid data that determines whether the abuse of cannabis plants is for medical or recreational needs. Other Substances: Various other substances make up smaller portions of the overall drug abuse statistics. Notably, amphetamines, ecstasy, and other ATS groups account for 25.7%, while nipam/koplo pills and dextro/dextromethorphan follow closely behind, and Lower Usage Rates: Substances like pethidine/morphine/opium/codeine, carisoprodol/pcc, kokain, ketamine, and excessive use of headache medications contribute significantly less to the overall numbers, ranging from 0.3% to 1% can be found in Fig 1.

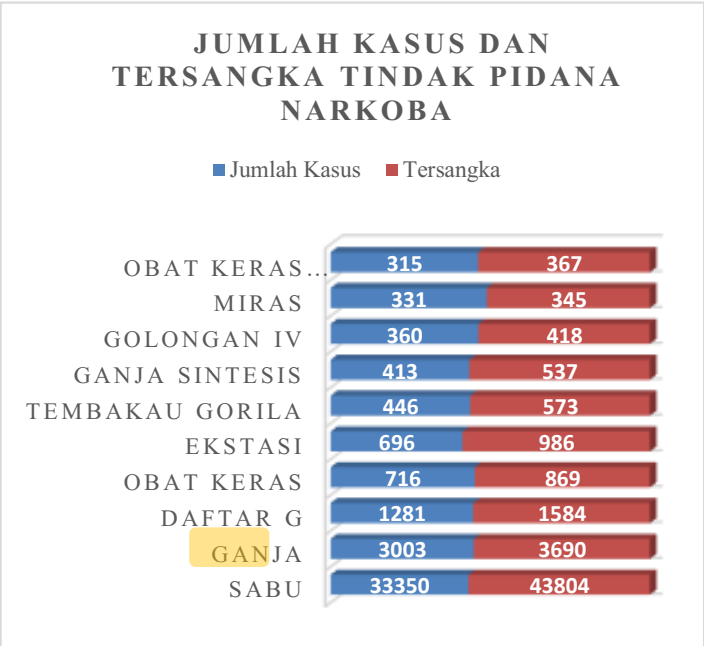

FIGURE 1. Graph Number of cases and suspects of drug offences, source: POLRI and BNN March 2022

While data on the Figure 1 number of cases and suspects of drug offences, the type of drug marijuana is in second place, with 3,003 cases and 3,690 suspects.[2] Apart from the illicit trafficking of narcotics, this contrasts with the global trend of legalisation of medicinal

cannabis which has gained traction around the world, many other countries' government policies recognising its therapeutic benefits and implementing regulatory structures. In the United States, medical cannabis is permitted in about 38 states, with varying laws. States like California and Florida have implemented strong patient access programmes. Changing views are influenced by ongoing research into the qualities of medical cannabis,[3] next The German state has one of the largest medical cannabis programmes in Europe, having legalised it in 2017,[4] and the first Asian country to legalise medical cannabis is Thailand, the country has implemented a policy that allows its citizens to grow cannabis in the home environment under established regulations by promoting its use for medicinal purposes.[5]

In essence, every Indonesian citizen wants a prosperous life and the fulfilment of their rights through policies or regulations implemented by the government, relevant to the Supreme Legal Regulation, namely the 1945 Constitution Article 28A, 28C and 28H Paragraph (1). Everyone has the right to obtain health services, the use of medical cannabis can fall into the category of curative and traditional types of health services. Medical cannabis contains active compounds such as cannabidiol (CBD) and tetrahydrocannabinol (THC), each of which has therapeutic effects. Some of the benefits of medical cannabis treatment include: a. Epilepsy Treatment: CBD has been shown to be effective in reducing seizure frequency in patients with epilepsy, including Lennox-Gastaut and Drave's syndrome; b. Managing Chronic Pain: Medical cannabis can be used to relieve chronic pain, such as pain from cancer or other conditions that are difficult to treat with conventional medicine; and c. Relieve Symptoms of Other Illnesses: Medical cannabis is also indicated to address the symptoms of various diseases such as: Alzheimer's disease, Amyotrophic lateral sclerosis (ALS), Crohn's disease, HIV/AIDS and Glaucoma.[6]

The emergence of cases criminalising the use of cannabis for medicinal purposes in Indonesia is reflected in the reported cases. Fidelis Arie Sudewarto was found guilty in the case of cultivating cannabis for the treatment of the defendant's wife and the case of Ardian Aldiano, aged 21, accused of being involved in the cultivation of cannabis using the hydroponic method to treat his epilepsy.[7] In fact, dynamic regulations are often unable to adjust to the diversity of society so that it is considered that the law is lagging behind the events. The government has regulated and restricted the use and availability of psychotropic drugs and medicines for health purposes through the Narcotics Act.[8] The responsiveness of criminal law policy to the needs of society in this medical cannabis context means that, policies must be formulated based on scientific evidence and the needs of patients who require cannabis for treatment.

The efforts that have been made by the Indonesian people in utilising the cannabis plant as a medical treatment show that the increasing needs of the community for health services. Currently, patients are increasingly critical for reasons related to the quality, accessibility, and their experience in obtaining health services. This shows that people demand their rights to improve the highest degree of health, one of which is by using cannabis plants for treatment. If the cannabis plant can be used as medicine, then prohibiting its use is not the right thing to do. Responsive policies will accommodate the patient's desire to get safe and legal access to medical cannabis, as well as guarantee health services by taking into account the reasons for the needs of doctors, patients, and the wider community without

nondiscrimination so as to realise both primary health services and advanced health services, and hope for the implementation of health efforts in terms of securing addictive substances (Article 22 Paragraph (1) letter u of Law No. 17 of 2023 concerning Health).

This research is different from previous research, in this study the context of criminal law policy related to the use of medical cannabis in Indonesia which focuses on the responsiveness of criminal law policy to the needs of the community in the use of medical cannabis as a guarantee of the right to obtain health services. Therefore, it is important for the Indonesian government to evaluate criminal law policies and consider more comprehensive research regarding the use of cannabis in a medical context. This research method uses a qualitative approach with comparative studies, statutory analyses, and constitutional studies. This research aims to analyse Indonesia's criminal law policy that has not been responsive to the development of people's medical needs and compare the legal framework for medical cannabis in several countries.

2 Method

This research uses normative juridical research methods. Normative legal research is a legal research both pure and applied in nature which is carried out by examining a norm such as in the fields of justice, legal certainty, order, benefit, and legal efficiency, legal authority, as well as legal norms and doctrines that underlie the enactment of these elements into procedural and substantive fields of law.[9] The approach used consists of a statute approach, case approach, comparative approach and constitutional approach.[10] The normative juridical approach aims to explore and analyse legal norms governing narcotics as the object of research in the context of health law (health services). This is done by in-depth research on Law Number 35 of 2009 concerning Narcotics and Law Number 17 of 2023 concerning Health as primary data sources. In addition, relevant court decisions are also an important part of the primary data analysed. Secondary data used includes legal literature such as books on narcotics, and health law, international reports and scientific journals that discuss relevant topics. The data collection method is conducted through a literature study which includes searching in various literature sources to collect the required primary and secondary data. The data analysis technique used is qualitative analysis, where primary and secondary data are analysed in depth to determine the responsiveness of criminal law policies to the needs of society in using cannabis for medical purposes, as well as the similarities and differences in regulating the legalisation of medical cannabis. Comparative analysis is conducted to compare the two legal systems in the context of guaranteeing the fulfilment of health care rights. This aims to reveal the practical implications of a criminal law approach that is specialised for medical purposes by considering aspects of human rights, namely the right to defend life and life and obtain health services.

3 Result And Discussion

3.1 The Use of Cannabis as Medicine

Cannabis, also known as marijuana, comes from the species Cannabis sativa and Cannabis indica. Cannabis contains hundreds of chemical compounds. The body can produce cannabinoid compounds naturally. These compounds primarily regulate movement, appetite, concentration, sensation, and pain. [11] Terpenoids, flavonoids, nitrogenous compounds, and common plant molecules are examples of other compounds found. Cannabis use was first reported in Romania about 5000 years ago in the history of global medicine, cannabis was first used as a patent medicine in the United States in the early 19th and 20th centuries.[11] Medical cannabis is an alternative medicine, and the idea of using cannabis as medicine is not new. German researchers in 2002 found that the brain produces cannabinoids, which have similar effects to cannabis to calm the nervous system and reduce nervousness and anxiety.[12] Examples of drugs made from cannabis are Marinol and Cesamet (cannabis sprays), Epidiolex, and Sativex. In the Pen T'sao Ching, the world's first herbal medicine, it is recorded that cannabis has been used for medical purposes for a long time. Around 2900-2700 BC, the emperor sheng nun wrote that cannabis could relieve pain.[13] In Peter Dantovski's book 'The Criminalisation of Cannabis', he mentions the testimony of someone who said that cannabis can cure kidney disease. In addition, research has also found that cannabis is used as part of the treatment of various diseases such as curing and reducing symptoms of inflammatory bowel disease (IBD), improving the quality of life of people with cancer, increasing appetite, and reducing cancer.[13]

The history of cannabis in medicine within Indonesia reflects a broader global narrative of evolving attitudes toward this plant. While its medicinal properties have been recognized for millennia, Indonesian Criminal Law Policy have largely restricted its use. Current discussions emphasize the need for legislative reform to align with emerging scientific understanding and public health needs regarding medical cannabis. The historical narrative of cannabis use in medicine illustrates its long-standing recognition as a therapeutic agent across cultures. However, Indonesia's current criminal policy presents significant barriers to harnessing its potential benefits. As discussions around the legalization of medical cannabis continue to evolve, there is an urgent need for evidence-based policy changes that consider both the historical context of cannabis use and the ethical implications of denying patients access to effective treatments. In summary, while the therapeutic potential of cannabis is well-documented globally, Indonesia's restrictive legal environment poses challenges that must be addressed through informed dialogue and legislative reform. By examining successful models from other countries and considering local cultural contexts, Indonesia can move towards a more balanced approach that respects both public health needs and individual rights to access medical treatment.

An in-depth comparison of cannabis policy flexibility in countries like Germany and Canada reveals important insights that Indonesia could adapt to improve its own medical cannabis framework. Both Germany and Canada have established more progressive and

flexible approaches to cannabis regulation, particularly in the context of medical use, which contrasts sharply with Indonesia's stringent prohibitions.

The potential adoption of more progressive medical cannabis policies in Indonesia presents both opportunities and challenges across social, legal, and health dimensions. While there are promising therapeutic benefits associated with medical cannabis use, significant barriers remain regarding public perception, regulatory frameworks, and health implications.

3.2 Health Services

Health care is one of the fundamental aspects in the fulfilment of human rights. The right to health is recognised as an inherent right of every individual, and the state has an obligation to ensure that all people can access adequate health services. Health services in Indonesia are based on laws that are continuously updated to adapt to the needs of society. Law No. 17 of 2023 is an important step in health system reform, although its implementation still requires clarification of some provisions to ensure effectiveness and fairness in service delivery.

The use of cannabis as medicine can fulfil the right to health of patients who need alternative medicine, especially for patients who show no reaction to conventional treatment.[14] The use of medical cannabis in the context of healthcare in Indonesia covers various aspects, ranging from therapeutic potential to regulatory challenges. In Indonesia, the relationship between medical cannabis use and healthcare is complex. Regulation and social stigma are still major issues, despite the great therapeutic potential. Therefore, it is important for all parties to participate in the conversation about legalisation and the use of medical cannabis to ensure that patients get safe and successful treatment. Healthcare is a key element in the fulfilment of human rights. The state must ensure that every individual has access to quality and affordable healthcare as part of its responsibility to respect and protect the rights of its citizens.

Technological developments have been instrumental in facilitating the use of medical cannabis in healthcare. Cannabis-based products, such as CBD oil, capsules, and mouth sprays, have changed the way patients receive treatment.[15] By utilising the therapeutic properties of cannabinoids, these products are made to meet the specific needs of patients. Therefore, technological advancements not only increase our understanding of the potential medical benefits of cannabis, but also help us create safer and more efficient systems for its use in healthcare.[16]

The emergence of technology-based cannabis products, such as CBD oil, CBD sprays, topical applications, emulsions, and pharmaceutical formulations, represents a significant advancement in the therapeutic use of cannabis. These products are designed to harness the medicinal properties of cannabis, particularly cannabidiol (CBD), which is non-psychoactive and has been associated with various health benefits, including relief from pain, anxiety, and inflammation.

Countries like Canada and Germany have embraced these products through progressive cannabis policies that allow for regulated medical use. In Canada, the legalization of cannabis has led to a well-regulated market where patients can access various cannabis-derived products safely. Germany's Medical Cannabis Act facilitates patient access through prescriptions, ensuring quality control and patient safety.

The potential application of cannabis products in Indonesia hinges on significant legal reforms that would allow for their development and use within a regulated framework. While current laws strictly prohibit cannabis use, ongoing advocacy efforts and recent court hearings suggest a growing recognition of the need for research into its medicinal properties.

The discussion surrounding the legalization of cannabis, particularly for medical use, can be significantly strengthened by referencing international law and the standards set by organizations such as the World Health Organization (WHO). United Nations Drug Control Treaties: Cannabis is primarily regulated under three key treaties: the 1961 Single Convention on Narcotic Drugs, the 1971 Convention on Psychotropic Substances, and the 1988 Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances. Under these treaties, cannabis is classified as a Schedule I drug, which means it is subject to strict controls and is primarily limited to medical and scientific uses. In December 2020, the UN Commission on Narcotic Drugs voted to reclassify cannabis by removing it from Schedule IV of the 1961 Convention, where it was categorized among drugs considered to have little or no therapeutic benefit. This change acknowledges the growing recognition of cannabis's medical potential while still placing it under strict control in Schedule.

The WHO has been instrumental in shaping international perceptions of cannabis. Following a critical review by its Expert Committee on Drug Dependence (ECDD), the WHO recommended reclassifying cannabis, which could pave the way for more flexible national policies regarding its medical use. Although cannabis remains under strict control, this recommendation reflects a shift towards recognizing its therapeutic benefits.

The potential legalization of cannabis for medical use in Indonesia can be supported by referencing international law and WHO standards that recognize its therapeutic benefits. By aligning national policies with evolving global perspectives on cannabis, Indonesia has the opportunity to enhance public health outcomes while adhering to international obligations. As countries around the world continue to explore more progressive cannabis policies, Indonesia can learn from these developments to create a balanced approach that prioritizes patient welfare and regulatory compliance.

3.3 Indonesian Criminal Law Policy

Penal policy / criminal law policy (strafrecht politiek) can be defined as an effort to realise criminal legislation that is in accordance with the circumstances and situations at the time and for the future by fulfilling the requirements of justice and effectiveness. The goal to be achieved by criminal law policy is the creation and formulation of good criminal legislation,

and is able to provide guidance not only to lawmakers but also to the courts that apply the law and to the organisers or implementers of court decisions.[17]

Indonesia currently still considers cannabis to be a forbidden and harmful plant. According to Appendix 1, item 8 of Law Number 35 of 2009 concerning Narcotics, cannabis is classified as a Class I narcotic. Article 7 of this law states that narcotics can only be used for health service purposes, scientific research, and technological development. Article 6, paragraph (1), letter a, defines "Class I Narcotics" as narcotics that can only be used for scientific development and are not permitted for therapeutic use, possessing a very high potential for dependency. Furthermore, Article 8, paragraph (1) clarifies that Class I narcotics are prohibited from being used for health service purposes.

The list of narcotics in the Appendix of the Regulation of the Minister of Health of the Republic of Indonesia Number 30 of 2023 regarding the Classification Changes of Class I Narcotics reaffirms the prohibition on cannabis plants, which includes all plants from the Cannabis genus and all parts of the plant, including seeds, fruits, straw, processed cannabis products, and derivatives such as cannabis resin and hashish. Additionally, point 9 includes Tetrahydrocannabinol (THC) and all isomers as well as all forms of its stereochemistry.[18] Isomers are compounds that have the same molecular formula but different structures or configurations.[19] Isomers are present in the contents of medicines in Indonesia and play an important role in the development and use of drugs in the country. This means that this situation is not aligned with criminal law regulations that strictly prohibit Class I narcotic plants such as cannabis.

The criminal law policies of Florida and Canada have established a legal framework for the use of medical cannabis. The Cannabis Act outlines specific regulations regarding possession limits, distribution, and cultivation. Although these laws have decriminalized the overall use of cannabis, violations of these laws can still lead to criminal charges, particularly related to illegal distribution or exceeding possession limits.[20] The criminal law policies regarding medical cannabis in Germany are more progressive compared to Belgium, with broader legalization and more flexible regulations. Germany not only permits the use of cannabis for medical purposes but has also begun to legalize its use for recreational purposes within certain limits. In contrast, Belgium maintains a more conservative approach, focusing primarily on medical use and strict oversight of its distribution and accessibility.[21] Both countries are showing progress in establishing their policies in line with changing public perceptions and public health needs, while still firmly imposing criminal penalties for regulatory violations, such as excessive possession or unauthorized distribution.

Reflecting on the criminal law policies of other countries compared to Indonesia's narcotics laws, the responsiveness of criminal law policy must adapt to societal needs regarding the use of cannabis for medical purposes as part of health service efforts. By formulating appropriate regulations, this policy can meet the criteria of justice and utility, while also providing guidelines for all relevant parties in the implementation of the law. The essence of this policy adjustment is to ensure safe and effective access for patients requiring cannabis-based therapy without neglecting public safety aspects.

A critical analysis of the obstacles to implementing medical cannabis use policies in Indonesia reveals a complex landscape shaped by legal, social, and institutional factors. Despite the growing recognition of cannabis's therapeutic potential globally, Indonesia's stringent narcotics laws and prevailing societal attitudes present significant barriers to legalization.

4 Conclusion

Health service is a fundamental human right, to which the state has a responsibility to ensure fair and adequate access for all individuals. The use of medical cannabis as a treatment alternative shows great potential in fulfilling the right to health, but still faces regulatory challenges and social stigma that need to be addressed through dialogue and policy reform. Current criminal law policy in Indonesia still considers cannabis as a class I narcotic that is prohibited for medical use, despite its significant therapeutic potential. To fulfil society's need for better access to healthcare, it is important for criminal law policy to adapt and formulate regulations that allow for the safe and effective use of medical cannabis, in line with policy developments in other countries that have been more progressive in this regard.

5 Acknowledgments

The authors would like to express their deepest gratitude to all those who have contributed to the preparation of this article. First, the author would like to thank the Universitas Sumatera Utara and Universitas Negeri Semarang for organizing ICOSEND 2024. Furthermore, thanks to the supervisor who has provided valuable guidance and direction during this research process. Thanks are also due to colleagues who provided constructive feedback and discussions, which enriched the author's perspective in understanding complex legal issues. In addition, the authors appreciate the support of the institutions that provided access to the necessary resources and literature. Hopefully this article can make a meaningful contribution to the development of legal science and become a reference for further research.

References

1. J. Wheeldon and J. Heidt, “Cannabis criminology: inequality, coercion, and illusions of reform,” *Drugs Educ. Prev. Policy*, vol. 29, no. 4, pp. 426–438, 2022, doi: 10.1080/09687637.2022.2081531.
2. M. S. Widha Utami Putri, S.Kom., “Indonesia Drugs Report Tahun 2022,” Jakarta, 2022. [Online]. Available: https://ppid.bnn.go.id/konten/unggahan/2022/08/IDR-2022.pdf
3. G. Hong, A. Sideris, S. Waldman, J. Stauffer, and C. L. Wu, “Legal and Regulatory Aspects of Medical Cannabis in the United States,” *Anesth. Analg.*, vol. 138, no.

1, pp. 31–41, 2024, doi: 10.1213/ANE.0000000000006301.
4. K. Morrissey, “The Global Cannabis Report: Growth & Trends Through 2025,” pp. 1–122, 2021, [Online]. Available: https://newfrontierdata.com/global-cannabis/
5. P. Stienrut *et al.*, “Medical Cannabis Prescription Practices and Quality of Life in Thai Patients: A Nationwide Prospective Observational Cohort Study,” *Med. Cannabis Cannabinoids*, pp. 1–1, 2024, doi: 10.1159/000540153.
6. A. Haris, M. Nasution, P. Magister, I. Hukum, F. Hukum, and U. Jambi, “Jurnal Rectum Darurat Untuk Mempertahankan Hidup Abdul Haris Muda Nasution dikarenakan kurangnya fasilitas dan prasarana dalam pembangunan kesehatan sebagaimana dimaksud dalam Pasal 48 ini dilakukan oleh Menteri . Sedangkan Pasal 49,” no. 2, pp. 266–275, 2024.
7. Dwi Putri Gunawan, “Legislasi dan Maslahah: Studi Pemanfaatan Ganja untuk Pengobatan Medis,” *Ijtihad*, vol. 38, no. 1, 2022, [Online]. Available: https://journals.fasya.uinib.org/index.php/ijtihad/article/view/112
8. Y. Sobirin and O. S. Mukhlas, “Pandangan Hukum Islam Terhadap Kemaslahatan Legalisasi Ganja Untuk Medis,” *Equal. J. Islam. Law*, vol. 1, no. 1, p. 4,11, 2023, doi: 10.15575/ejil.v1i1.478.
9. F. Munir, *Metode Riset Hukum Pendekatan Teori dan Konsep*, 1st ed. Depok: Rajawali Pers, 2018.
10. Irwansyah and A. Yunus, *Penelitihan Hukum Pilihan Metode dan Praktik Penulisan Artikel*, 5th ed. Yogyakarta: Mirra Buana Media, 2020.
11. Nur Arfiani and Indah Woro Utami, “Penggunaan Ganja Medis Dalam Pengobatan Rasional Dan Pengaturannya Di Indonesia,” *J. Huk. dan Etika Kesehat.*, vol. 2, pp. 56–68, 2022, doi: 10.30649/jhek.v2i1.45.
12. A. Wicaksono and A. Leonardi, “Analisis Strategi Public Relations Lingkar Ganja Nusantaradalam Membentuk Persepsi Ganja Medis Sebagai Pengobatan Alternatif Kepada Masyarakat,” *J. Glob. Komunika*, vol. 6, no. 1, pp. 31–43, 2023.
13. R. Ayunda and Vina, “Opportunities and Challenges Legalısası Use of Cannabis for the Benefit of Medıs in Indonesia Dıtınjau From the Perspective of Health Law,” *Journal.Uib.Ac.Id*, vol. 1, no. 1, pp. 331–340, 2021, [Online]. Available: https://journal.uib.ac.id/index.php/combines/article/view/4457/1174
14. R. A. O. Setyadi, “Urgensi Pengaturan Penggunaan Ganja Untuk Pengobatan Medis Sebagai Bentuk Perlindungan Hak Atas Kesehatan Warga Negara,” *Brawijaya Law Student Journal.*, no. https://hukum.studentjournal.ub.ac.id/index.php/hukum/issue/view/150, 2023, [Online]. Available: https://hukum.studentjournal.ub.ac.id/index.php/hukum/article/view/5643
15. D. R. E. Rechika Amelia Eka Putri1, “Medic nutricia 2024,” vol. 4, no. 1, pp. 1–6, 2024, doi: 10.5455/mnj.v1i2.644xa.
16. M. Putranto and Y. Arie Mangesti, “Penggunaan Ganja Medis dalam Pengobatan dan Pengaturannya di Indonesia,” *J. Evid. Law*, vol. 3, no. 1, pp. 10–19, 2024, doi: 10.59066/jel.v3i1.582.

17. K. John, *Kebijakan Hukum Pidana*, 1st ed. Yogyakarta: Pustaka Belajar, 2017.
18. A. K. & T. K. D. Azwar, "Regulation of The Use of Marijuana for Medical Purposes: A Comparison of CivilLawand Common Law Legal Systems," *Mercatoria*, vol. 17, no. 1, pp. 52–60, 2024, doi: https://doi.org/10.31289/mercatoria.v17i1.11136.
19. A. Yuwanda, "Sintesis dan Isomerisasi Senyawa Kimia pada Obat," *J. Pharm. Halal Stud.*, vol. 1, no. https://journal.eduscience.co.id/index.php/JPHS/issue/view/1, 2023.
20. and A. A. R. Boyd, Neil, "'Three Years In: A Consideration of the Impacts of Canada's Legalization of Cannabis on Law Enforcement.,'" *Can. J. Criminol. Crim. justice*, vol. 65.1, pp. 37–59, 2023, doi: https://doi.org/10.3138/cjccj.2022-0020.
21. R. Hofmann, "'The 'Total-Legalization'of Cannabis in Germany: Legal Challenges and the EU Free Market Conundrum.,'" *Eur. J. Crime, Crim. Law Crim. Justice*, vol. 31, pp. 173–196, 2023, [Online]. Available: https://brill.com/view/journals/eccl/31/2/article-p173_004.xml