Original article

https://doi.org/10.14295/2764-4979-RC_CR.2024.v4.27

The PROHIBITION THAT KEEPS HEALTH INCARCERATED

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Received: 17 Jul 2022Revised: 29 Aug 2023Approved: 22 Jun 2024

https://doi.org/10.14295/2764-49792RC_CR.v4.27

Funding: CAPES

Summary

This article explores the potential of Cannabis as a tool for social and environmental transformation, proposing the creation of a Planetary Health Research Center. It addresses the history of Cannabis use, the endocannabinoid system and the benefits of its regulation through integrative and complementary health practices. The social project of the Association of Women Sportsmen Activists (AMEA) is presented as a model of social intervention, highlighting the importance of education and training of women in vulnerable situations. The article defends the creation of the Research Center as a hub for scientific research, knowledge exchange and development of public policies related to Cannabis, with the potential to attract funding and generate research opportunities in various areas, in addition to promoting planetary health.

Keywords: Cannabis sativa; Public policies; Education; Social reparation; Planetary health.

A PROIBIÇÃO QUE MANTÉM A SAÚDE ENCARCERADA	LA PROHIBICIÓN QUE ENCARCELA LA SALUD
Resumo: Este artigo explora o potencial da Cannabis como ferramenta de transformação social e ambiental, propondo a criação de um Centro de Pesquisa em Saúde Planetária. Aborda o histórico do uso da Cannabis, o sistema endocanabinóide e os benefícios de sua regulação por meio de práticas integrativas e complementares em saúde. O projeto social da Associação de Mulheres Esportistas Ativistas (AMEA) é apresentado como modelo de intervenção social, destacando a importância da educação e capacitação de mulheres em situação de vulnerabilidade. O artigo defende a criação do Centro de Pesquisa como um hub para pesquisa científica, intercâmbio de conhecimentos e desenvolvimento de políticas públicas relacionadas à Cannabis, com potencial para atrair financiamento e gerar oportunidades de pesquisa em diversas áreas, além de promover a saúde planetária. **Descritores:** Cannabis sativa; Políticas públicas; Educação; Reparação social; Saúde planetária.	**Resumen:** Este artículo explora el potencial del Cannabis como herramienta de transformación social y ambiental, proponiendo la creación de un Centro de Investigación en Salud Planetaria. Aborda la historia del uso del Cannabis, el sistema endocannabinoide y los beneficios de su regulación a través de prácticas integrativas y complementarias de salud. El proyecto social de la Asociación de Mujeres Deportistas Activistas (AMEA) se presenta como modelo de intervención social, destacando la importancia de la educación y la capacitación de mujeres en situación de vulnerabilidad. El artículo defiende la creación del Centro de Investigación como un espacio para la investigación científica, el intercambio de conocimientos y el desarrollo de políticas públicas relacionadas con el Cannabis, con potencial para atraer financiación, generar oportunidades de investigación y promover la salud planetária. **Descriptores:** Cannabis sativa; Política pública; Educación; Reparación social; Sostenibilidad.

INTRODUCTION

Cannabis is a plant of ancient use and, in historical terms, its medicinal properties were already described many years ago. However, its prescription as a therapeutic use occurred very recently. Despite the advances in scientific research in several countries and the various clinical reports of patients treated with plant-based medicines, there is a huge prejudice that needs to be demystified. Today, with the ease of disseminating information, it is extremely important to transmit scientific advances in a didactic way to

society. Brazil inaugurated the first museum dedicated to propagating the history of *Cannabis* and its therapeutic contribution. The creation of the museum is an initiative of the Non-Governmental Organization "Abrace Esperança", in Solon de Lucena Park, in the center of João Pessoa, Paraíba. In addition to telling the story of the medicinal use of the plant, the museum aims to support research and contextualize legislation. In this place, old medicinal bottles supplied in pharmacies, newspapers, magazines and covers of old films on the subject are exposed, as well as testimonies from people who helped in scientific progress. Still, there are reports from mothers showing how the plant has changed their children's lives and their daily struggle for government support.[1]

The movement for medical *Cannabis* in Brazil began about a decade ago, driven mainly by mothers and family members of patients, who organized themselves into non-profit associations. These associations have played a crucial role in promoting the debate on the therapeutic use of *Cannabis* in the country, often operating in a legal gray area. Currently, there are more than 30 medical *Cannabis* patient associations in Brazil, distributed in 14 states and the Federal District. These organizations vary in their goals and activities, from cultivating and producing *Cannabis* -based medicines to offering legal support and medical advice to patients. Faced with the gap left by the government, these entities have multiplied across the country, offering a variety of services to patients. Recently, an unprecedented study was initiated by the Brazilian Drug Policy Platform (PBPD) to map and analyze these associations, aiming to better understand their role in the scenario of medical cannabis in Brazil and subsidize more effective public policies in this area.[2]

There are also associations that offer medical referral or legal guidance so that the patient can seek access to medication through SUS or health plans. With the omission of the public power, these entities multiply throughout the country, being present today in four Brazilian regions. Some of them have recently met with the aim of creating a federation that represents the interests of patients in the national political and legal sphere.[3]

Thus, the objective of this article is to explore the potential of *Cannabis* as a tool for social and environmental transformation, proposing the creation of a Planetary Health Research Center. For this, it will reflect on the historical paths of the use of *Cannabis* in

conjunction with the endocannabinoid system and the benefits of its regulation through integrative and complementary health practices. Also, I will explore the possibility of the social project of the Association of Women Sportsmen Activists (AMEA) as a potential incentive for the use of *Cannabis* and the defense of the creation of the Research Center as a hub for scientific research, exchange of knowledge and development of public policies related to *Cannabis*.

DEVELOPMENT

Cannabis has been a controversial topic in politics for decades. Despite its potential for medical use and the growing trend towards legalization, many politicians remain staunchly opposed to any form of cannabis legalization. One of the main arguments against the legalization of *Cannabis* is the belief that it is an entry drug that leads to the use of harder drugs. However, this argument has been debunked by numerous studies, which have shown that most people who use *cannabis* do not go on to use harder drugs. Another argument against legalizing *Cannabis* is the belief that it will lead to increased crime and social disorder. However, this argument is also not supported by evidence. In fact, studies have shown that in places where marijuana has been legalized, there has been no increase in crime or social disorder. Despite the evidence in favor of legalizing marijuana, many politicians continue to oppose it. This can be due to a variety of factors, including personal beliefs, pressure from special interest groups, or a lack of understanding of the subject. It is important for politicians to critically examine the evidence and make informed decisions about *Cannabis* policy. By doing so, they can help create a fairer and more effective approach to cannabis regulation.[4]

The use of *Cannabis* as a health treatment has been used since the dawn of medicine. In the most advanced ancient cultures such as Chinese, Egyptian and Indian, *Cannabis* has always been related to healing and well-being. From ancient medical texts to Gods such as the Hindu Shiva and the Egyptian Sechat, the plant has always been used for medicine and even for social use.[3]

In 1964, Dr. Raphael Mechoulam[5] discovered THC, which was the first phytocannabinoid identified. This groundbreaking work paved the way for the discovery

of the endogenous cannabinoid system of which anandamide and 2-arachidonoylglicerol are considered the main endogenous cannabinoids in mammals, including humans. Both anandamide and 2-arachidonoylgglycerol regulate the sensitivity of serotonin, dopamine, gamma-aminobutyric acid (GABA), acetylcholine, and glutamate in the central nervous system (CNS), thus demonstrating how these endogenous cannabinoids regulate many physiological and pathological processes such as pain, immune response, appetite, thermoregulation, energy, metabolism, depression, and fertility and also play a role in protecting the brain from damage caused by injury or disease, helps reduce inflammation and prevent brain cell death under stress conditions; Finally, it is involved in neurogenesis, synaptic plasticity, motor learning, and insulin metabolism control. Given its extensive variety of functions and actions in the body, dysfunctions in the Endocannabinoid System (ECS) have been linked to various diseases and disorders, including obesity, diabetes, epilepsy, schizophrenia, anxiety, and many others. As a result, this system has been an important target for the development of new pharmacological therapies. The ECS is composed of two main types of receptors: CB1 and CB2, which are activated by endocannabinoids (ECs), which are lipids produced by the body itself, or by phytocannabinoids (PCs), which are compounds derived from the *Cannabis sativa* plant, although this complex system has been described for about 40 years, research shows that it can be a promising therapeutic route for the treatment of various medical conditions, such as chronic pain, anxiety, sleep disturbances, and epilepsy.[6]

Cannabinoid therapy is part of an integrative approach and the combination of cannabinoids with other forms of activation of the endocannabinoid system contributes to better therapeutic results and better quality of life.

According to a 2022 study published on the Mary Ann Libert portal, certain non-drug practices, in particular physical exercise, can increase the performance of the ECS, which is responsible for controlling the well-being of our body, including the regulation of metabolism and stress responses. Following the line of the aforementioned study, the "*Systematic Review and Meta-Analysis on the Effects of Exercise on the Endocannabinoid System*", after the practice of physical activities, the levels of cannabinoids synthesized by our body increased significantly.[5]

This shows us that there is an intimate relationship between the practice of exercise and the regulation of our endocannabinoid system, and therefore with the regulation of our body as well. In addition, we can say that the ECS is able to contribute to the beneficial effects felt after activity, including reductions in pain and anxiety and improvements in cognitive functioning and mood. Therefore, physical exercise can act as a promising non-drug treatment for a variety of stress-related disorders that can benefit from the action of our endocannabinoid system.[5]

According to Maciel *et al.*,[7] The ECS is a dynamic and adaptive system, which can be modulated by several environmental, genetic and epigenetic factors. Among these factors, behavioral practices stand out, which are habits or activities that can positively or negatively influence the activity or expression of the ECS. Some of the main behavioral practices that can stimulate the ECS are:

- Physical exercise: physical exercise is able to increase the levels of endocannabinoids (ECs) in the brain and body, especially anandamide (AEA), which is responsible for the so-called "runner's high", a feeling of well-being and euphoria after physical activity. Physical exercise can also increase the expression of CB1 and CB2 receptors in various tissues, enhancing the effects of ECs. In addition, physical exercise may interact with other systems that modulate the ECS, such as opioids, serotonin, and dopamine. Physical exercise can have benefits for several clinical conditions associated with ECS imbalance or dysfunction, such as neurodegenerative diseases, inflammatory diseases, psychiatric diseases, metabolic diseases and painful diseases.

- Meditation: meditation is an ancient practice that consists of focusing attention on the present, on the breath or on a mantra, with the aim of calming the mind and body. Meditation can increase the levels of ECs in the brain and body, especially 2-AG (2-arachidonoylglycerol), which is responsible for the feeling of relaxation and tranquility after meditation. Meditation can also increase the expression of CB1 and CB2 receptors in various tissues, enhancing the effects of ECs. In addition, meditation may interact with other systems that modulate the ECS, such as opioids, serotonin, and acetylcholine. Meditation may have benefits for a number of clinical conditions associated with ECS imbalance or dysfunction, such as psychiatric diseases, inflammatory diseases, autoimmune diseases, and oncological diseases.

- Diet: Diet is a crucial factor for the health and balance of the ECS, as it provides the substrates necessary for the synthesis of ECs and may contain phytocannabinoids (PCs) or other compounds that can interact with the ECS. The ideal diet to stimulate the ECS should be rich in essential fatty acids (omega-3 and omega-6), which are the precursors of ECs; in plant foods (fruits, vegetables, legumes), which may contain PCs or other phytochemicals that may modulate the ECS; in fermented foods (yogurt, kefir), which may contain probiotics that may influence the ECS via the gut-brain axis; and in organic foods, which avoid the consumption of pesticides that can interfere with ECS. Inadequate diets rich in processed, refined, fried, sugary, fatty and artificial foods can cause inflammation, oxidative stress, intestinal dysbiosis and insulin resistance, which impair ECS.

- Sleep: Sleep is an essential physiological process for the restoration and consolidation of memory, learning, immunity, and homeostasis of the body. Sleep is regulated by a circadian cycle, which is synchronized by light and dark. The ECS is one of the main systems that participate in sleep regulation, as ECs and PCs can affect the quality and quantity of sleep. ECs and PCs can induce sleep through the activation of CB1 receptors in the brain, which inhibit the release of excitatory neurotransmitters such as glutamate and acetylcholine. ECs and PCs can also influence sleep phases, as they can increase slow-wave sleep (SOL), which is the deepest and most restorative phase of sleep; and decrease REM (*rapid eye movement*) sleep, which is the most superficial phase associated with dreams. In addition, the ECS can also be affected by sleep, as the levels of ECs and the expression of CB1 receptors vary throughout the circadian cycle, being highest at night and lowest in the morning. Adequate sleep to stimulate the ECS should be of an average duration of seven to nine hours per night, with regular bedtime and wake-up times, adequate exposure to natural light during the day and darkness at night, a comfortable room temperature and an absence of noise or distractions.

Real-world studies have been considered as a tool to complement information from clinical trials in contexts where they are restricted, such as generalizations to broader and heterogeneous populations, long-term evaluations, diseases, and rare adverse events. We intend to innovate, through interfaces with social projects, developing medicinal, social, educational and environmental impact from resources generated with the commercial platform in the collection of Real World Data – DMR to generate Real World

Evidence – EMR in the medicinal, social and environmental context for the promotion of human, animal and environmental health through the *Cannabis* plant.[6]

Through the social project by the Association of Women Sportsmen Activists – AMEA, we propose the practice of circular economy and sustainable consumption, contributing with educational, sports, nutritional, integrative and complementary practices in health (PICS) and environmental conservation, promoting health in a broader perspective, uniting the projects as a model in new educational programs to promote effective public policies. Develop a questionnaire to validate the promotion of quality of life.

AMEA proposes Sports in the midst of nature, as a tool for socio-environmental education through the Caiçara Nature project and intends to develop a Research Center in Planetary Health, fostering Integrative and Complementary Practices in Health and Environmental Education, having *Cannabis* as a tool for transformation, offering better working conditions, training women in the promotion of quality of life and environmental sustainability, contributing with real-world evidence. As low-income women struggle to form a family and raise children, they tend to reproduce a certain lifestyle that, together with precarious conditions, ends up affecting the health and better integration of its members. These households, particularly women, bear a disproportionate burden as they seek to manage household consumption and production in conditions of increasing scarcity. The monotony of the domestic routine, combined with the lack of perspective of change, brings frustrations to the woman, because she is forced, either because she has small children or because of the determination of her partner, to restrict herself to **domestic life**, when she would also like other horizons of personal fulfillment for herself. The lack of leisure and other forms of entertainment contribute to a greater risk of family breakdown.

Women suffer from various physical, mental, behavioral and social disorders, especially the low-income population, characterized by financial difficulties, precarious housing conditions, aggravated by a tiring domestic routine, lack of leisure and restricted personal autonomy, requiring new opportunities to increase well-being through the adoption of more effective health promotion policies. Sport is a comprehensive activity, as it encompasses several important areas for humanity, such as health, education, tourism, among others. It is also important to highlight the social role that sport plays in

the integral development of the subjects. It is known that sport is a form of socialization and transmission of values. Therefore, it is observed that sport has wide repercussions, being a phenomenon that has a universal language. Sports in natural environments opens opportunities for human development, environmental conservation and social inclusion, adding the collective and community in the skills of the future with the practice and educational actions in health and sustainability.

The legalization of *Cannabis* can boost economic growth by creating jobs in the sector and generating tax revenue, improve access to the drug for patients who use it for medical purposes, in addition to making it more accessible and traceable, contribute to the reduction of harm in drug addicts, and can help reduce the rates of overdoses related to opioids and synthetic drugs. Many environmental benefits, and can bring significant contributions to the environment, as it allows for more environmentally friendly cultivation practices and sustainable products.[8]

Prohibitionism begins in the early twentieth century and is based on xenophobic and racist arguments. The media has always played a fundamental role in reinforcing some stigmas and validating prohibitionism. Since then, this policy has served as a mechanism of social control. The war on drugs itself functions as an apparatus of social, political and industrial control.[9]

The fight against racism and the struggle for social transformation for the construction of a better society necessarily involves the fight against racism in its structural dimension, and it is necessary to renounce privileges to be effective, as well as machismo, due to the structurally privileged condition in social, political and economic relations, we clearly perceive how racism is fundamental for all forms of economic exploitation.[10]

In the incarcerated population, most are imprisoned for drug trafficking and this would be a clear way to relieve this torture system that we have in Brazil. The only person who can't get marijuana today in Brazil is the one who needs it, for medicinal purposes.[11]

The bureaucracy to obtain medical *Cannabis* in Brazil is still complicated and the values are high, but this is already possible and more and more associations are emerging with the aim of making access to medical *Cannabis* more democratic. The Brazilian Association of Medical *Cannabis* Patients – AMA+ME, Canapse and the Brazilian Society of *Cannabis* Studies – SBEC are examples of important associations

for Brazilian activism. They target the scientific issue of *Cannabis*. Other associations such as Abrace and the Association for the Support of Research and Patients of Medicinal *Cannabis* – APEPI are allowed to cultivate *Cannabismedicinal.* The general objective of the collectives is to produce and fight for access to medical marijuana, with adequate quality control and low cost. The treatment of some diseases with medical *Cannabis* has changed the lives of some families in Brazil. The founders of APEPI are women and mothers, who faced the daily challenge of controlling their children's crisis and seizures with conventional medicines. Currently, these mothers treat their children with *Cannabis* oil and observe a much better result in the treatment of seizures and also in the quality of life of their children. Over the years, the fight for a fairer drug policy in Brazil has won several battles. The right to demonstrate was the kick-off, but the possibility of using *Cannabis* as medicine for different diseases and symptoms is the greatest achievement of the decade. The road to fairer laws is still long.[9]

Canapse is also researching other controlled psychotropic substances that may have therapeutic potential. Psilocybin, DMT, LSD and other natural compounds of scientific interest, as well as *Cannabis*, suffer from legal, political, bureaucratic and moralistic barriers.[11]

Prohibitionism distances science and medicine from the therapeutic uses of illicit drugs, punishes society, feeds a war, in which only the weakest die and does not end the existence of drugs, much less their problematic use. The Harm Reduction policy brings a perspective and a possibility of dealing with drugs and their users in a different way, with a more human look. Problematic drug use should be taken care of and understood as a public health issue, not a safety issue. Drugs will exist and it is necessary that there be a regulation of substances for medicinal, religious and recreational use. The regulated market is advantageous for all pillars. Users have access to a safer and higher quality substance, the patient can treat their illnesses without problem, in an accessible and freeway and the State can make a lot of money with taxes, in addition to being able to control who the users are and prevent children and adolescents from misusing substances.[9]

The country has not yet been able to regulate basic things such as the right to grow at home or in associations and cooperatives, the availability of cannabinoids for research,

and continues to attack the population for selling medicines. So, it is really necessary to legalize, regulate the medical use of marijuana immediately because the population suffers a lot. Even in relation to Covid, where there was a very large increase in marijuana consumption, not only here, but in different countries around the world, but in an environment of prohibition, so with a lot of pharmacological and social damage to users. This needs to change.[11]

Millions of Brazilians, with different diseases, can benefit from *Cannabis*. The chains of medicines, herbal medicines and industrial hemp products open up a range of opportunities and innovation in product lines for humans and animals, as well as industrial products with promising prospects in the domestic and world markets. The industry manipulates our legislators, false moralists, where they aim only at profit and deny the population access to this plant, aiming at an unhealthy monopoly of the compounds isolated from this plant, at a cost inaccessible to the vast majority, being hemp, a genus of the plant without narcotic effects, not consistent with the prohibitionist speech.

FINAL CONSIDERATIONS

The time has come for health professionals to understand, once and for all, that the ultimate goal of their work is the well-being of the collective, to keep in mind that knowledge, and especially the friendly exchange of knowledge, obeys a summation equation and not a division of power.[12]

The commercial and economic implications of the medical *Cannabis* market are enormous, as is its therapeutic impact that until now has been limited by restrictions on clinical studies. The millennial history of the medicinal use of *Cannabis* teaches us everything we should know about its pharmacological potential and the pathologies that have benefited mainly from its application. We need an approach that not only collects statistical data, but also respects and incorporates the various forms of knowledge about this plant, recognizing its role not only in individual health, but in the health of the planet as a whole.[13]

The renaissance of *Cannabis* is not just about permissive policies or economic opportunities, but about reconnecting with ancient knowledge and more natural forms of

care. Thus, as we reevaluate our relationship with *Cannabis*, we are also challenging imposed narratives and rediscovering forms of healing that respect both humans and nature. However, it is crucial that this rediscovery is guided not only by economic interests, but by an ethic of care for the Earth and all beings. As Krenak[14] warns that while humanity is moving away from its place, a lot of clever corporations are taking over the Earth. Therefore, any regulation must prioritize the collective well-being and protection of the most vulnerable, aligning with a worldview that respects and preserves life in all its forms.

Cannabis prohibition has been a significant impediment to public health and socioeconomic development.[15] However, with the implementation of informed public policies and the training of professionals, it is possible to transform this reality. Education and sustainability are fundamental pillars for this change, and initiatives such as AMEA's are examples of how we can move forward on this path.

To achieve this goal, we propose the formation of an interdisciplinary group in scientific cannabis research in the promotion of planetary health, focused on obtaining evidence in the medicinal and industrial use of *Cannabis*.[16] This group should develop new methodologies in basic, professional and scientific education about power plants and their combinative potential. The https://caonabico.com platform will be used to integrate virtual clinical research, connect professionals and patients, and generate real-world evidence. This will not only increase the potential of study participants, but will also contribute significantly to the improvement of planetary health.[17]

The 1990 Human Development Report already highlighted environmental degradation as one of the obstacles to the improvement of human life, being an educational challenge for all countries.[18,19] The main factors pointed out were health risks resulting from industrial pollution and environmental disasters, as well as deforestation, lack of access to water and adequate sanitation facilities, lack of sewage treatment, food insecurity, pesticide poisoning, and air pollution. According to the World Health Organization (WHO)[20,21] the cost of measures to remedy environmental degradation and eliminate significant risks to public health is higher than the cost of prevention.

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