



Year V, v.2 2025 | Submission: 11/15/2025 | Accepted: 11/17/2025 | Publication: 11/19/2025

The impact of cannabidiol on the quality of life of patients with epilepsy and chronic pain.

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Summary

This study, through an integrative literature review, aims to investigate the impacts of cannabidiol (CBD) on the quality of life of patients with refractory epilepsy and chronic pain, seeking to analyze its effectiveness as an adjuvant or first-line treatment. The research is justified by the need to expand knowledge about the therapeutic potential of CBD, especially regarding its ability to promote symptomatic relief and improve the quality of life of individuals affected by complex conditions such as refractory epilepsy and chronic pain.

This investigation will be based on the legal framework that regulates the medicinal use of CBD in Brazil, with emphasis on Law No. 13.850/2019, which authorizes the medicinal use of Cannabis and its derivatives, including CBD, for therapeutic purposes. General Objective: To describe the impacts of CBD on the quality of life of patients with epilepsy and chronic pain. Methodology: The study was conducted through an integrative literature review, using databases such as PubMed, BVS, and SciELO, with the descriptors "Cannabidiol - epilepsy - chronic pain". The inclusion criteria established were publications between 2014 and 2024, selecting relevant articles and excluding duplicates and irrelevant topics. Expected Results: It is expected to obtain updated results that demonstrate the effectiveness of cannabidiol in the treatment of epilepsy and chronic pain, contributing to expanding knowledge about the therapeutic potential of CBD and providing support for the development of more effective and targeted clinical guidelines.

Keywords: cannabidiol – epilepsy – chronic pain – quality of life – treatment

Abstract

This integrative literature review aims to investigate the impacts of cannabidiol (CBD) on the quality of life of patients with refractory epilepsy and chronic pain, analyzing its effectiveness as an adjunctive or first-line therapy. The research is justified by the need to expand knowledge about the therapeutic potential of CBD, especially its ability to provide symptomatic relief and improve the quality of life of individuals with complex conditions such as refractory epilepsy and chronic pain.

The investigation will be based on the legal framework regulating the medicinal use of CBD in Brazil, particularly Law No. 13.850/2019, which authorizes the medicinal use of cannabis and its derivatives, including CBD, for therapeutic purposes. General Objective: To describe the impacts of CBD on the quality of life of patients with epilepsy and chronic pain. Methodology: The study was conducted through an integrative literature review, using databases such as PubMed, VHL, and SciELO, with the descriptors "Cannabidiol - epilepsy - chronic pain." The inclusion criteria were publications between 2014 and 2024, selecting relevant articles and excluding duplicates and irrelevant topics.

Expected Results: The aim is to obtain updated results demonstrating the efficacy of Cannabidiol in the treatment of epilepsy and chronic pain, contributing to expanding knowledge about the therapeutic potential of CBD and providing support for the development of more effective and targeted clinical guidelines.

Keywords: cannabidiol – epilepsy – chronic pain – quality of life – treatment

1. Introduction

Cannabis sativa, popularly known as marijuana, owes its name to the Greek term. kannabis, meaning "profitable," refers to the complete utilization of the plant, from root to root. the top. In Latin, C. sativa translates as hemp, a name that defines the genus belonging to the family Cannabaceae. The term sativa indicates that the plant is cultivated or seeded, describing both the species. as well as its growth pattern (Barbosa; Machado, 2018).

Among the cannabinoids present in C. sativa, the most studied is cannabidiol (CBD), due to due to its anticonvulsant properties and, especially, the absence of psychotomimetic effects and risk of developing dependence typical of Δ -9-tetrahydrocannabinol (THC) which acts as partial agonist of cannabinoid receptors CB1 and CB2 and exerts pro-convulsant effects or anticonvulsants, depending on the dose and the experimental model used (Devinsky, 2014; Friedman, 2015).

The use of medicinal cannabis, both for adult recreational use and medicinal purposes, is historical. Cannabis has been used since ancient times in China, Egypt, India, and the West for... treatment of various conditions, such as glaucoma, colic, anxiety, chronic pain, and headaches. (Butrica, 2014).

The demand for cannabis treatment in Brazil has gained momentum through publicity. via the internet, regarding cases of children with refractory epilepsy and rare diseases, especially those The US, which had success using this therapy. These cases spurred importation. Cannabis extracts rich in CBD are used, since most cases of patients suffering from pain... Chronic conditions such as epilepsy, autism, Parkinson's disease, Alzheimer's disease, multiple sclerosis, etc., have not seen progress. Positive outcomes with conventional treatments and the therapeutic use of cannabis are seen by the family. for these patients, as a last resort (Carvalho; De Brito; Gandra, 2017).

Epilepsy is clinically defined as a syndrome of recurrent non-lethal seizures. provoked, or as a seizure with evidence of an increased risk of recurrence of Seizures of > 60% in the next 10 years (Fisher, 2014). According to the World Health Organization (WHO), the disease affects about 2% of the Brazilian population and about 50 million people in world. Epilepsy is a temporary and reversible alteration in brain function, which is not caused by fever, drugs, or metabolic disorders. For a few seconds or minutes, a part The brain emits incorrect signals, which may remain confined to that area or spread. If they remain... If the lesions are restricted, the crisis will be called partial; if both cerebral hemispheres are involved, it is called generalized. That being said, some people may have relatively obvious symptoms of epilepsy, which does not mean that The problem is less important if the crisis is not so apparent.

Epileptic seizures in refractory patients have significant outcomes when... They undergo treatment with CBD-based products. Some studies show that CBD may act



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reducing the psychoactive effects of THC, such as hallucinations, drowsiness, anxiety, agitation and abnormal thoughts (Bôas; Rezende, 2020). There is significant evidence suggesting that these Medications can provide relief for cancer-related pain, neuropathic pain, arthritis and musculoskeletal pain (Andreae et al., 2015; Whiting et al., 2015; Mucke et al., 2018; Wang et al., 2021)

Pain is a symptom that can last for a long time, with a period of three months being the most common. parameter for defining chronic pain (CP). In these situations, pain becomes a problem in itself, and Several conditions can lead to Crohn's disease, such as nerve damage, autoimmune diseases, and other illnesses. osteomyoarticular (Raja, 2020). CD can be primary (when the cause is unknown) or secondary (when it is a consequence of some known disease) (Guyatt, 2014).

Lower back pain is the most common chronic pain, followed by knee, shoulder, head, and back pain. and legs or lower limbs. A study conducted in Brazilian capitals showed prevalences of 77% for back pain; 50% for knee pain; 36% for shoulder pain; 28% for ankle pain; 23% for hand pain; and 21% in the cervical region (Rother, 2014).

According to the latest edition of the Longitudinal Study of the Health of the Elderly (ELSI-Brazil), Funded by the Ministry of Health, chronic pain is part of the daily lives of 36.9% of... Brazilians over 50 years old. Of these, 30% use opioids to alleviate the problem, according to the research. It also revealed that chronic pain is more frequent among women, low-income individuals, and those... diagnosed with arthritis, back/spinal pain, depressive symptoms, and a history of falls. and hospitalizations (Brazil, 2022).

Cannabinoid-based pharmaceuticals, particularly CBD, are tools promising in the evolving field of pain treatment.

Ongoing research and trials are exploring the therapeutic potential of CBD. Driven by its natural origins, versatile applications, reduced risk of addiction or dependence, and overall safety profile, CBD's potential in this area is growing as the opioid crisis intensifies. Pain management is becoming increasingly apparent, supported by promising evidence from studies. with animals (Boyaji et al., 2020).

Given this scenario, the present study proposes to investigate the impacts of CBD use on quality of life of patients with refractory epilepsy and chronic pain, seeking to analyze their effectiveness as an adjuvant therapy or first-line treatment. The research is justified by need to expand knowledge about the therapeutic potential of CBD, especially in in relation to its ability to provide symptomatic relief and improve the quality of life of individuals. afflicted by complex conditions such as refractory epilepsy and chronic pain.

The investigation will be based on the legal framework that regulates the medicinal use of CBD in Brazil, notably Law No. 13.850/2019, which authorizes the medicinal use of Cannabis and its...



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derivatives, including CBD, for therapeutic purposes. Analysis of the results will allow the construction of an overview of the applicability of CBD in the treatment of patients with refractory epilepsy and chronic pain, contributing to the development of clinical guidelines and protocols that enable the optimization of treatment and improving the quality of life for these individuals.

This research is justified by the relevance of studying CBD as a potential agent. Therapeutic for the reduction of seizures in patients with refractory epilepsy and those suffering from chronic pain. These conditions, characterized by intense and debilitating symptoms, pose challenges. Significant impacts on individuals' quality of life, often leading to social isolation and difficulty participating in daily activities.

Conventional treatments, while important, are not always effective in controlling epileptic seizures and chronic pain, generating frustration and limiting the possibilities of treatment for patients. Given this scenario, CBD emerges as a promising alternative. With studies demonstrating its ability to act as adjunctive therapy or, in some cases, as a first-line treatment, providing symptom relief and improving quality of life. The lives of individuals.

Research into the effectiveness of CBD, especially in relation to its use as an alternative or complement to traditional treatments, it becomes crucial to expand the research. The research aims to provide knowledge about this substance and dispel the resistance surrounding its use. To contribute to building a more comprehensive understanding of the therapeutic potential of CBD, providing relevant information for healthcare professionals, patients and families, and fostering the discussion focuses on the importance of new approaches in refractory epilepsy and chronic pain.

The overall goal of the research is to describe the impacts of CBD on the quality of life of patients with epilepsy and chronic pain, and their specific objectives are to describe the pathophysiology of epilepsy and chronic pain, the pharmacokinetics and pharmacodynamics of cannabidiol, and a description of its efficacy. Cannabidiol is used to treat the following types of chronic neuropathic/inflammatory pain and osteoarticular pain.

2. Theoretical Framework / Results

2.1 PATHOPHYSIOLOGY OF EPILEPSY

The brain, the main controller of bodily physiological functions, possesses in this... Its genesis is based on the generation of unique action potentials. In this context, the disorder. An epileptic individual acts as an antagonist to this functioning, consequently generating... Multiple simultaneous action potentials can result in epileptic seizures. Based on this premise, it becomes clear that it is extremely important to seek a better understanding of this disorder and how to approach it (Scheffer et al., 2017; ILAE, 2017; Beghi, 2020).

Patients experience repetitive seizures, which result from abnormal firing patterns.

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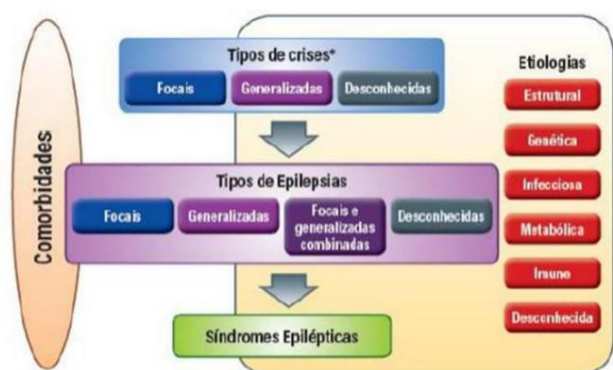
Excessive and synchronized groups of neurons in the brain. Seizures originating from a specific brain regions are called focal or location-related, while generalized seizures occur simultaneously in both cerebral hemispheres (Hauser, (2018). A better understanding of the etiology and pathophysiology of epilepsy is fundamental to identifying new therapeutic targets that may offer more effective treatments with fewer side effects. and less impact on comorbidities associated with the disease (Boleti et al., 2024).

The International League Against Epilepsy (ILAE) in 2017 determined a classification. operational management of epileptic seizures and epilepsy, facilitating its use by healthcare professionals. and even family members are involved in the identification and treatment of these patients. Initially, the following is identified: Initial manifestation as focal or generalized. Focal manifestations are so called because they originate... in nerve areas limited to one cerebral hemisphere, that is, its origin is localized. However, this scenario could extend to another hemisphere, creating a secondary widespread crisis. (Brigo et al., 2021; Scheffer et al., 2017; ILAE, 2017).

Generalized seizures are defined as those in which epileptogenic changes occur. bilateral hemispheres. These, as mentioned, can be secondary to focal disorders, or primary. A The classification uses clinical criteria such as level of consciousness, motor characteristics, and non-motor difficulties, as well as their progression to a bilateral tonic-clonic seizure, as shown in Table 1. Furthermore, epilepsy as a disease is also classified according to whether it is focal or not; however, this The diagnosis will be determined based on the etiology, genetic basis, seizure patterns, and complementary examinations. such as Electroencephalogram (EEG) (Ingrid et al., 2017; Belousova et al., 2017).

The International League Against Epilepsy (ILAE) Classification of Epilepsies has undergoing constant updates, aiming to provide an efficient system for diagnosis and Development of antiepileptic therapies. The 2017 update of the ILAE introduced a framework. organized into three levels: the classification of seizure types, types of epilepsy, and the classification of epileptic syndromes, as shown in

Figure 1. Diagnostic scheme for the classification of epilepsies. The seizure types * denote the onset of epileptic seizures.



Fonte: ILAE (2017, p. 7)



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At the first level, crises are categorized as focal, generalized, and a group of epilepsies of unknown etiology. The second level, in turn, assumes that the patient has the diagnosis of epilepsy based on the 2014 definition (Fisher, 2014).

The third level refers to characteristics including seizure types, EEG, and features of These characteristics can occur together, depending on age and crisis triggers. diurnal variation and sometimes prognostic value. This multifaceted classification, therefore, offers a a comprehensive and detailed framework for understanding and managing epilepsy, contributing significantly for optimizing treatment and improving patients' quality of life.

In general, all types of epilepsies are related to increased extracellular ion levels. Ca²⁺ and glutamate contribute to the hyperpolarization and hyperexcitability of motor neurons. (Bulletin, 2022).

Even with all the advances in drug therapies, relying on an arsenal of more than 20 anticonvulsants, most based on GABA modulation, approximately 33% Many patients are refractory to existing drug therapy, requiring new approaches. therapeutics, since they are targets of high morbidity and mortality and psychosocial damage (Perucca; Perucca, 2019; Löscher et al., 2020).

These medications aim to balance the excitation and inhibition of neurotransmitters. primarily in the GABA and glutamate pathways, acting on molecular agents such as channels. ionic compounds, enzymes, transport proteins, and receptors. Although these DEAs can suppress the Seizures in many patients do not alter the long-term prognosis and are associated with side effects and impacts on comorbidities, highlighting the need for new approaches. therapeutics (Boleti et al., 2024).

2.2 Pathophysiology of Chronic Pain

According to the International Association for the Study of Pain (IASP), pain is defined as An unpleasant sensory and emotional experience associated with actual or potential tissue damage. or described in terms of such damage, even in its absence. Pain due to the nociceptive mechanism is the most frequent and occurs mainly in the free nerve endings of nociceptive nerves, arranged like a network of fine fibers present in various body tissues. When cell damage occurs, Inflammatory mediators such as bradykinin, prostaglandins, leukotrienes, and substances are released. P, which stimulate vasodilation, edema, and pain. Repeated stimuli lead to changes in the nociceptor. and their sensitization, which lowers the person's pain threshold (IASP, 2017).

Nociplastic pain (from "plasticity," or adaptation) is defined in terms of "nociception." "Altered," in which the affected tissues are sensitized. This pain occurs even if there is no there is evidence of actual injury or threat that activates peripheral nociceptors or of disease or injury to somatosensory system. Generalized pain, seen in fibromyalgia, is one of the clinical conditions in

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that the nociplastic component manifests itself (Aydede, 2018). It is also possible to present a combination of nociplastic and nociceptive pain (IASP, 2017).

Pain has a variety of characteristics, which makes it complex to diagnose and treatment (Table 2).

Table 2. Types of pain and characteristics of pain.

Tipo de dor	Característica da dor	Exemplos
Nociceptiva Acomete os nociceptores das estruturas lesionadas.	Dor profunda, em peso, pontada, aperto, latejamento, tensão, dolorimento, queimação.	Dores musculoesqueléticas em geral, como a dor lombar ou cervical mecânicas, tendinopatias, osteoartrite; dor miofascial; algumas cefaleias e dores viscerais; insuficiência vascular periférica, metástases ósseas, amputação, compressão tumoral e outras dores causadas por estímulo aos nociceptores.
Neuropática Acomete a área de inervação da estrutura nervosa atingida (nervo, tronco ou plexo).	Dor superficial, em queimação, sensação de frio doloroso, choque, formigamento, amortecimento, coceira, alfinetada e agulhada.	Neuropatia diabética, neuropatia herpética, neuropatia por Hanseníase, neuralgia do trigêmeo, doenças desmielinizantes, como a esclerose múltipla, trauma medular, dor pós acidente vascular cerebral (AVC), radiculopatia cervical ou lombar, trauma, compressão, amputação, síndrome de Guillain-Barre, doença de Parkinson, quimioterapia, compressão tumoral de um nervo.
Nociplástica Hipersensibilidade em tecido não lesionado.	Sensação de peso, tensão e dolorimento.	Dor crônica generalizada (por exemplo, fibromialgia), síndrome de dor regional complexa, síndrome do intestino irritável e outras distúrbios viscerais; dor musculoesquelética primária crônica, como a dor lombar não específica e crônica.

Fonte: Hooten (2014); Hegmann (2017); Liggieri (2019).

According to the WHO, osteoarthritis is a degenerative joint condition. It causes pain, Swelling and stiffness affect a person's ability to move freely. Osteoarthritis affects the entire joint, including the surrounding tissues. It is most common in the knees, hips, spine, and... hands. When pain and loss of movement function become chronic, people with osteoarthritis They generally suffer restrictions in participating in meaningful activities, decreased well-being, and Psychological suffering. Neuropathic pain is that which results from "injury or disease" of the system. somatosensory nervous system. For pain to be classified as neuropathic, it is necessary that there be compatible neurological clinical manifestations and their confirmation through tests. complementary (IASP, 2017). Musculoskeletal pain is the most frequent in a context Traumatic injury and pain management is a crucial issue for athletes who train and compete in the most demanding conditions. high levels of performance (Mazzeo, 2023; Antunes, 2022).

2.3 Pharmacokinetics and Pharmacodynamics

Cannabinoids have very high lipophilicity, which is why they require carriers that make its solubilization in aqueous medium possible. The main constituent present In Cannabis sativa, Delta-9-tetrahydrocannabinol (THC) is a thick, volatile oil with high... Lipid solubility, existing as a mixture of monocarboxylic acids, which are extremely easily decarboxylated even by mild heating, very widely in adipose tissue, spleen and lungs (Graça, 2020).

This compound is metabolized in the liver, primarily through enzymes of



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Microsomal hydroxylation and oxidation related to the cytochrome P450 system. Furthermore, It is also widely distributed throughout the brain, where concentrations are much higher in the neocortex, limbic regions, sensory regions (visual and auditory) and motor regions (ganglia of base and cerebellum) and pons. It rapidly crosses the alveolar membrane, entering the bloodstream through from the pulmonary capillaries and from there being rapidly transported to the heart and pumped directly to the brain; therefore, the peak of action can be as fast as an intravenous injection. (Pessoa; Lira; Paixão, 2021).

Two types of interaction hypotheses have been postulated regarding its pharmacodynamics. The first postulates that its effects are due to non-specific interaction with the cell membrane and/or organelles found in the brain, thus supporting a mechanism of action based on the disruption of membrane. The second hypothesis of action posits specific interaction and modulation with receptors. of the cannabinoid type, that is, CB1/CB2. Trying to arrive at a specific mechanism is something that... Researchers consider this challenging because other studies have demonstrated the action on targets. intracellular pathways of, for example, opioid and benzodiazepine receptors, synthesis pathway of prostaglandin, protein and nucleic acid metabolism (Graça, 2020).

It is also fat-soluble and distributed throughout the body in a very large volume. Going through first-pass metabolism, where cannabidiol is biotransformed into several metabolites that are active in the CNS, such as 7-hydroxy-CBD and 7-oic acid-CBD, mimic the action of endocannabinoids, increasing their effect on the regulation and transmission of nerve impulses (Marques et al., 2023).

It acts on CB1 receptors in the brain, a particularly high concentration in regions associated with cognitive memory, reward, anxiety, and sensory perception of pain, motor coordination and endocrine function. The fact that CB2 receptors are located more peripherally and the fact that the compounds in question bind to them has been previously demonstrated as the basis for its connections with the opioid, GABAergic, dopaminergic, and noradrenergic systems, serotonergic, cholinergic, glucocorticoid and prostaglandin-like (Coimbra et al., 2022).

In the most recent in vitro study, it was discovered that CBD inhibits cytochrome enzymes. P450, signifying a potential for significant pharmacokinetic interaction with other medications. Other studies reflect the action of the receptor and the effectiveness of the serotonin receptor and the specifically the 5HT-1a phenotype, one of the well-known anxiolytic targets in the literature. Compounds that act directly on this receptor, such as buspirone, and others with similar activities. Agonists at the receptor are used in the treatment of anxiety and other fear-based conditions. some other psychiatric disorders. In vitro studies confirm that CBD acts as a strong It is a direct agonist at 5-HT1A; in vivo, it acts as a positive allosteric modulator, increasing the serotonergic effects. 5-HT 1A (Silva; Barbosa, 2021).



One of the main applications of cannabidiol is the relief of chronic pain, especially neuropathic. Furthermore, cannabidiol, the most studied phytochemical in medicinal marijuana, has shown an excellent result in cases of joint pain. As stated in a review article from the Cureus Journal North America literature review in 2020. The research suggests the benefits of CBD treatment in attenuating the nociceptive response in mice with acute arthritis. Other research has also observed, in complementary studies, effective improvements in fracture healing with the use of CBD in femur fractures in mice (Gusho; Court, 2020). Another example of this would be a 2018 study in which the analgesic effect of CBD on chronic osteoarthritis pain was demonstrated. Multimodal treatment is therefore necessary to address inflammatory elements, nociceptive and neuropathic factors are commonly interconnected in OA. The results obtained in that study demonstrated sufficient evidence that CBD was effective in relieving OA pain. Another study from 2015, evaluated the analgesic efficacy of a medication containing THC and CBD for more than 5 weeks in patients with rheumatoid arthritis pain. Compared to placebo, the medication produced improvements statistically significant in pain on movement, pain at rest, sleep quality, DAS28 and pain at the moment was assessed using the short version of the McGill Pain Questionnaire. So, in this first... In a controlled trial of the efficacy of cannabinoids in rheumatoid arthritis, a good analgesic effect was observed, and disease activity was also significantly suppressed. (Blake, 2015).

2.5 Efficacy of Cannabidiol for Epilepsy

CBD has an intracellular mechanism of action that acts directly on receptors such as GPR55 and TRPV1, which play a key role in epileptogenesis, allowing low levels of stress levels of membrane polarization in neurons, in addition to blocking adenosine reuptake, promoting an increase in extracellular adenosine levels in the nervous system (Boleti, 2022).

An emerging drug used in the treatment of epilepsy is GWP42003-P, also known as CBD, it was tested on 1604 participants enrolled in 13 clinical trials last year. Clinical trials studying the epileptic condition also include other conditions related to epilepsy, such as infantile spasms, Sturge-Weber syndrome, Dravet syndrome, seizures and Lennox-Gastaut syndrome. The antiepileptic mechanism of action of CBD is unknown; however, it is proposed that it may act on multiple molecular targets due to its high affinity with the transient receptor potential vanilloid-1 (TRPV1), the cation channel Desensitizing agent and other ion channels. Another possible molecular target for the mechanism of action. The anticonvulsant component of CBD is the balancing nucleoside transporter-1 (ENT-1) and its interaction with the purinergic system or the Ca²⁺ ion transporter, called receptor 55, coupled to G protein (GPR55) (Boleti, 2022; Gray, 2020).

3. Materials and Methods

The proposed study was conducted through qualitative and integrative literature reviews. based on pharmacological treatment with cannabidiol for epilepsy and chronic pain. The searches are The data came from the PubMed (National Library of Medicine) and BVS (Virtual Health Library) databases. Health) and SciELO (Scientific Electronic Library Online) as well as in supplementary databases of Reference, using the descriptors "Cannabidiol - epilepsy - chronic pain".

3.1 TYPE OF RESEARCH

This research is a descriptive and exploratory literature review, which... an essential approach to investigating the impact of cannabidiol (CBD) on patients' quality of life. with epilepsy and chronic pain. With the aim of its effectiveness in treatment, given the nature of the condition. The multifaceted and constantly evolving nature of this topic allows for the gathering, analysis, and comparison of evidence. available, providing a clear overview of their effectiveness and limitations.

A literature review is characterized by the analysis and interpretation of materials of a specific nature. scientific literature, such as books, academic articles, dissertations, and theses, without directly resorting to data. Empirical. This type of research is based on secondary sources, that is, on the ideas and contributions of others. from other authors on a given topic. This differentiates it from documentary research, which It uses primary sources, that is, original documents that have not yet undergone processing. systematic scientific. (Oliveira, 2018 apud Sá-Silva, Almeida, & Guindani, 2019).

3.2 SEARCH METHODS

Websites, libraries, newspapers, magazines (periodicals), digital material and other means of dissemination. information.

3.3 Inclusion and Exclusion Criteria

One of the criteria used for selection was to determine a time period, seeking to based on titles published between 2014 and 2024, that is, in the last ten years, as shown in Table 1.

Tabela 1. Estudos selecionados para compor a Revisão Bibliográfica.

TABELA 1			
ANO	SCIELO	PUBMED	BASES SUPLEMENTARES
2014	04	01	-
2015	05	03	-
2016	02	02	-
2017	06	03	01
2018	12	08	01
2019	14	05	02
2020	22	04	01
2021	09	03	02
2022	11	10	02
2023	13	06	03
2024	07	08	03
TOTAL:	105	53	15

Fonte: Autores da Pesquisa (2024).|



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3.4 DATA ANALYSIS METHODOLOGY

It is worth highlighting the reduced number of results involving the descriptors cannabidiol, epilepsy and chronic pain, with a total of 105 results in the Scielo database, and 53 in the database. PubMed. Other supplementary databases, such as BVS, Cochrane, and Google Scholar. They contributed to the theoretical foundation.

The second filtering criterion was to draw a parallel between the databases, identifying and excluding, after reading, duplicate publications, as well as those that deviate from the theme. proposal. After analysis and selection, a total of 42 publications were obtained from the databases. SciELO and PubMed combined, as well as 15 publications from supplementary databases that meet the requirements. criteria stipulated for the proposed study.

3.5 Ethical Aspects

This work will not need to be submitted for approval to the Ethics Committee. In Research, according to CNS Resolution 466/2012, since it is a research whose information They will be obtained from materials already published and available in the literature, therefore there is no... intervention or direct approach to human beings. Therefore, the research will not involve risks to the subject.

4. Final Considerations

Based on the various studies and reviewed articles, cannabidiol has significant potential. therapeutic at the level of the central nervous system, demonstrating great importance in the treatment of various neurological disorders. In addition, cannabidiol has a recognized anticonvulsant effect. It proves capable of significantly reducing seizures in epileptic patients. drug-resistant drugs, as well as preventing irreversible brain damage and preventing retrograde effects. in the development of children and adolescents.

Cannabidiol is a reality in the treatment of epilepsy and chronic pain. Therefore, Further studies and public policies are needed to enable broad access to CBD for improved health. of the quality of life of people with epilepsy and chronic pain in Brazil.

5. References

ANTUNES, FJR. *Traumatic musculoskeletal pain*. Pain: Research, Clinic & Therapy, v. 37, n. 3, p. 86-90, 2022.

AYDEDE, M.; SHRIVER, A. *Recently introduced definition of "nociceptive pain" by the International Association for the Study of Pain needs better formulation*. Pain, vol. 159, no. 6, p. 1176-1177, 2018.

BARBOSA, D.; MACHADO, I. *Medicinal use of Cannabis*. 2018. Available at:



BEGHI, E. *The epidemiology of epilepsy*. Neuroepidemiology, vol. 54, no. 2, p. 185-191, 2020.

BELOUSOVA, ED et al. *New classifications of epilepsies and seizure types created by the International League against Epilepsy*. Zhurnal Nevrologii i Psikhatrii Imeni SS Korsakova, v. 117, no. 7, p. 99-106, 2017.

BIJLSMA, JWJ; KNAHR, K. *Strategies for the prevention and management of osteoarthritis of the hip and knee*. Best Practice & Research Clinical Rheumatology, vol. 21, no. 1, p. 59-76, 2014.

BLAKE, DR et al. *Preliminary assessment of the efficacy, tolerability and safety of a cannabis-based medicine (Sativex) in the treatment of pain caused by rheumatoid arthritis*. Rheumatology, vol. 45, no. 1, p. 50-52, 2015.

BÔAS, GKV; REZENDE, MA. *Discussion on access to cannabis-derived medicines in light of health innovation in Brazil*. Revista Fitos, v. 14, n. 2, p. 259-284, 2020.

BOLETI, APA et al. *Biochemical aspects and therapeutic mechanisms of cannabidiol in epilepsy*. Neuroscience and Biobehavioral Reviews, vol. 132, p. 1214-1228, 2022.

BRAZIL. *Law No. 13,850, of June 25, 2019. Provides for the medicinal use of Cannabis and its derivatives, and takes other measures*. Official Gazette of the Union, Brasília, June 26, 2019. Section 1, pp. 1-2.

BRAZIL. Ministry of Health. *Epilepsy: learn about the disease and the treatments available in the SUS (Brazilian Public Health System)*. 2022. Available at: <https://www.gov.br/saude/pt-br/assuntos/noticias/2022/marco/epilepsia-conheca-a-doenca-e-os-tratamentos-disponiveis-no-sus> . Accessed on: November 15, 2024.

BRIGO, F.; IGWE, SC; LATTANZI, S. *Ethosuximide, sodium valproate or lamotrigine for absence seizures in children and adolescents*. Cochrane Database of Systematic Reviews, n. 1, 2021.

BUTRICA, JL. *The medicinal use of cannabis among the Greeks and Romans*. Journal of Cannabis Therapeutics, v. 2, n. 2, p. 51-70, 2014.

CARVALHO, VM; DE BRITO, MS; GANDRA, M. *Mothers for medicinal cannabis in a terrified Brazil between lights and ghosts*. Sociological Forum, Series II, Dec. 2017. Available at: <https://journals.openedition.org/sociologico/1747>. Accessed on: November 14, 2024.

COIMBRA, BZ et al. *Cannabinoids as a possible alternative in the treatment of psoriasis*. Research, Society and Development, v. 11, n. 11, p. e450111134651, 2022.

DEVINSKY, O. et al. *Cannabidiol: pharmacology and potential therapeutic role in epilepsy and other neuropsychiatric disorders*. Epilepsy, vol. 55, n. 6, p. 791-802, 2014.

DOS REIS-NETO, ET et al. *Prevalence of musculoskeletal symptoms in the five urban regions of Brazil—the Brazilian COPCORD study (BRAZCO)*. Clinical Rheumatology, vol. 35, p. 1217-1223,



Year V, v.2 2025 | Submission: 11/15/2025 | Accepted: 11/17/2025 | Publication: 11/19/2025

2016.

FISHER, RS et al. *ILAE official report: a practical clinical definition of epilepsy*. *Epilepsy*, vol. 55, n. 4, p. 475-482, 2014.

FRIEDMAN, D.; DEVINSKY, O. *Cannabinoids in the treatment of epilepsy*. *New England Journal of Medicine*, vol. 373, no. 11, p. 1048-1058, 2015.

GRAÇA, MCS *Cannabinoids: chemical structure, pharmacological effects and therapeutic use*. 2020. Dissertation (Master's) — Egas Moniz School of Health & Science, Portugal.

GRAY, RA; WHALLEY, BJ. *The proposed mechanisms of action of CBD in epilepsy*. *Epileptic Disorders*, v. 22, p. 10-15, 2022.

GUYATT, GH et al. *GRADE: an emerging consensus on rating quality of evidence and strength of recommendations*. *BMJ*, vol. 336, no. 7650, p. 924-926, 2014.

HAUSER, RM; LUBIN, FD. *The epigenetics of epilepsy and its progression*. *Neuroscientist*, v. 24, p. 186-200, 2018.

HEGMANN, K. *Chronic Pain Guideline*. American College of Occupational and Environmental Medicine, 2017. Available at: <https://www.dir.ca.gov/dwc/MTUS/ACOEM-Guidelines/Chronic-PainGuideline.pdf> . Accessed on: April 16, 2024.

HOTTEN, W. et al. *Assessment and Management of Chronic Pain*. Institute for Clinical Systems Improvement, 2014. Available at: <https://www.mnmed.org/application/files/3516/7173/5894/ChronicPain.pdf>. Accessed on: November 14, 2024.

IASP – International Association for the Study of Pain. *Classification of Chronic Pain*. IASP, 2017.

LIGGIERI, A. et al. *Treatise on musculoskeletal pain*. São Paulo: Alef, 2019. p. 25-35.

LÖSCHER, W. et al. *Drug resistance in epilepsy: clinical impact, potential mechanisms, and new innovative treatment options*. *Pharmacological Reviews*, vol. 72, no. 3, p. 606-638, 2020.

MARQUES, RC et al. *Use of cannabidiol in pediatric treatments*. *Annals of COMED*, v. 7, p. 133-137, 2023.

MAZZEO, F.; MECCARIELLO, R.; GUATTEO, E. *Molecular and epigenetic aspects of opioid receptors in drug addiction and pain management in sport*. *International Journal of Molecular Sciences*, vol. 24, no. 9, p. 7831, 2023.

OLIVEIRA, A. et al. *Metasynthesis: notes for systematizing broad reviews and internal criticism of scientific production*. *CIAIQ*, v. 1, 2015.

PERUCCA, P.; PERUCCA, E. *Identifying mutations in epilepsy genes: impact on treatment*



Year V, v.2 2025 | Submission: 11/15/2025 | Accepted: 11/17/2025 | Publication: 11/19/2025

selection. Epilepsy Research, vol. 152, p. 18-30, 2019.

PESSOA, DOC; LIRA, IV; SIQUEIRA, LP. *Cannabis sativa: an integrative review of legal, toxicological and pharmacotherapeutic aspects*. Research, Society and Development, v. 10, n. 15, p. e18101522408, 2021.

PINHEIRO, BS et al. *Importance of incorporating Cannabis sativa L. into the SUS*. Electronic Scientific Journal of Applied Sciences of FAIT, n. 1, 2021. Available at: http://fait.revista.inf.br/imagens_arquivos/arquivos_destaque/8LmnPaDHrfIMdZe_202.pdf.

Brazilian Society of Rheumatology (Sociedade Brasileira de Reumatologia). *Osteoarthritis (Arthrosis): Treatment*. v. 8, 2014. Available at: http://www.projotodiretrizes.org.br/projeto_diretrizes/077.pdf. Accessed on: November 14, 2024.

RAJA, SN et al. *Revised definition of pain by the International Association for the Study of Pain: concepts, challenges and compromises*. IASP, 2020.

ROTHER, M.; CONAGHAN, PG *A randomized, double-blind, phase III trial in moderate osteoarthritis knee pain comparing topical ketoprofen gel with ketoprofen-free gel*. The Journal of Rheumatology, vol. 40, no. 10, p. 1742-1748, 2014.

SCHEFFER, IE et al. *ILAE classification of the epilepsies: Position paper of the ILAE Commission for Classification and Terminology*. Epilepsy, vol. 58, n. 4, p. 512-521, 2017.

SILVA, PN; BARBOSA, MLC *New perspectives for antiplatelet therapy: the evolution of P2Y12 receptor antagonists*. Virtual Chemistry Journal, v. 13, n. 4, p. 999-1016, 2021.

IASP. *IASP Taxonomy*. Available at: <http://www.iasp-pain.org/Taxonomy>. Accessed on: October 6, 2024.

YONESHIGUE, B. *Medicinal cannabis: demand in Brazil has grown 9,311% since authorization, but faces challenges in access and in the training of doctors*. O Globo, Rio de Janeiro, February 4, 2023. Available at: <https://oglobo.globo.com/saude/medicina/noticia/2023/02/cannabis-medicinal-demanda-no-brasil-cresceu-9311percent-desde-autorizacao-mas-enfrenta-desafios-no-acesso-e-no-preparacao-de-medicos.ghtml>.