

CBD, The Human Endocannabinoid System And Mental Health - A New Frontier

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Most people today are very appreciative of the many modern pharmaceutical medications, such as the newer antibiotics that are available to treat infections that, decades ago, would very likely have been fatal. There have also been great advances in the development of medications targeted toward the distressing symptoms people experience who are grappling with a mental health disorder, such as anxiety, depression, PTSD (post-traumatic stress disorder), ADD/ADHD (attention-deficit/attention deficit hyperactivity disorder), Asperger's syndrome and bipolar disorder.

But all of these psychiatric medications, as helpful as they can be in many cases, are likely to come with side effects, such as daytime sleepiness, insomnia, nausea, dry mouth, gastrointestinal upset and some have even been known to cause sexual problems. So it's no wonder that many people are looking for more natural alternatives, such as medical marijuana and CBD, to enhance their well-being and to promote optimal mental health.

So what is the science behind the use of these products for mental health conditions? Are they safe? And just how effective are they? Before we dive deeper into this, let's first distinguish between medical marijuana and CBD. To do that, we need to take a look at a remarkable class of compounds called cannabinoids, which are naturally occurring chemicals that are found in Cannabis plants.

Cannabis plants [have many subtypes](#), including marijuana, which contains the intoxicating cannabinoid THC. The Cannabis family also includes hemp, which is used for industrial purposes and has negligible amounts of THC but also contains a compound known as cannabidiol or CBD. Although both THC and CBD are classified as cannabinoids, and both have therapeutic effects, CBD does not have the ability to produce the intoxicating "high" that comes with the use of marijuana and its THC content.

So what exactly are these cannabinoids and how do they produce the effects they do? Cannabinoids, both THC and CBD, act on receptor sites that are scattered throughout your body but are found in larger numbers in brain tissue. Now you may be wondering why the human body would have cannabinoid receptors already built-in? This is because your body already naturally produces compounds called endocannabinoids, which are THC-like chemicals, and the receptors in your body and brain are there to enable these naturally occurring endocannabinoids to function.

The receptors themselves are made up of a couple of different types: CB1 and CB2. The CB1 receptors, although they can be found throughout the body, are principally concentrated in the brain and involve pain perception, body coordination, and movement, appetite, emotion, thinking, and memories. These CB1 receptors are the site of attachment for THC.

CB2 receptors are located primarily in your immune system and are involved with inflammation and pain. Researchers used to think that CBD attached to these CB2 receptors but more recent findings suggest that CBD does not actually attach to the receptor sites, but influences them in some way, perhaps allowing your body to utilize more of the cannabinoids your body naturally produces.

You can use products that contain cannabinoids because you already have these natural cannabinoid receptors in place, meaning you don't have to only rely on the cannabinoids your body produces. When you use a product that contains CBD, you can get the cannabinoid's therapeutic effect without the intoxicating "high" that is a part of THC-containing products. Some CBD products contain only "isolates" and but have none of the other naturally occurring chemical compounds found in Cannabis plants, such as the terpenes; aromatic, volatile compounds, which together with the cannabinoids, can be extremely beneficial to human health.

Note - Before we more closely examine the ways in which cannabinoids can be helpful for those with mental health conditions, you should be aware that while CBD products derived from hemp and contain less than 0.3% THC are federally legal, [in some states](#) they are still illegal. CBD products that are derived from cannabis are illegal on the federal level but are legal in some states, so you want to check your local laws and also keep this in mind when you are traveling.

So now that you understand the differences between THC and CBD, let's look at some of the specific mental health disorders in which the cannabinoids may be helpful:

Anxiety

Anxiety disorders are one of the most common mental health conditions and account for some 31 percent of adults in the United States. A 2020 review article, published in the [Journal of the American Pharmacists Association](#), found that CBD was safe and well-tolerated with minimal side effects when used in patients with anxiety and that it has a very promising role in the management of anxiety disorder. An earlier 2013 study in the [British Journal of Clinical Pharmacology](#), underscored the use of CBD and its effectiveness in the treatment of anxiety, as

well as a variety of other conditions. Some physicians will advise their patients to avoid products containing THC, as its presence can initiate feelings of anxiousness and at times paranoia, but CBD use does not have this effect in most people.

Depression/Mood Disorders

Because depression and anxiety disorders often coexist in many patients, it comes as no surprise that cannabinoids would be as [effective in depression](#) as they are in anxiety disorders. This dual-action appears to be due to CBD's effects on the serotonin receptors located in the brain, the very same receptors which are the targets of antidepressant drugs. A 2020 review article, [published in the journal *Biomolecules*](#), supports CBD's efficacy as an effective treatment for anxiety and depressive disorders, underscoring the favorable safety profile and lack of serious side effects that CBD products offer.

ADD/ADHD

Researchers have proposed that a [dopamine system dysfunction](#) is at the root of many of the clinical symptoms of ADHD, as it's been demonstrated that ADHD patients have low dopamine levels. Dopamine is a neurotransmitter that is known as the "reward" or "pleasure" brain chemical and is what gives people a feeling of enjoyment as well as the motivation to complete a task. There is an interaction between the human endocannabinoid system and the brain's dopamine production, plus the endocannabinoid system has also been shown to be involved in dopamine deficiency disorders. Increasing the levels of endocannabinoids has been shown to increase the release of dopamine, which has been shown to be of value in treating patients with ADHD.

PTSD

Because PTSD involves the dysregulation of neurotransmitter systems as well as stress hormones, the endocannabinoid receptor system, with its connections to anxiety and stress regulation, has been a promising target for the development of therapeutic agents. A 2021 review article [published in *Life*](#) looks closely at the endocannabinoid system as a therapeutic target for PTSD. The reviewers found that cannabinoids at specific doses and formulations represent promising strategies for improvement for all PTSD symptoms and can also target specific symptoms such as sleep disorders, hyperarousal, and suicidal thoughts as well as improve quality of life, and decrease pain.

Autism/Asperger's Syndrome

Changes in autistic patients' cannabinoid receptor systems have been previously identified which suggests that these patients have problems with the production and regulation of the endocannabinoids their bodies should naturally produce. Although a variety of pharmacological therapeutic agents such as anti-anxiety drugs, antidepressants, and even antipsychotics are used in an effort to lessen individual symptoms, these drugs can have major side effects.

None of these drugs has been shown to do anything to improve the generally poor social interaction and deficits in communication skills these autistic individuals display. A 2019 article published in [Frontiers in Neurology](#), reported an observational study of 18 autistic individuals, many of whom had marked improvements in symptoms of ADHD, sleep disorder, and seizure activity, as well as improvements in communication and social interaction.

Bipolar Disorder

Although the use of cannabinoids in the treatment of bipolar disorder has not been widely investigated, there is increasing interest in CBD's [use in bipolar depression](#). This is especially interesting to many researchers, given the major side effects of the drugs used to treat bipolar disorder.

Summary

The human endocannabinoid system with its network of receptors scattered throughout the body and concentrated in the brain underscores the appeal of using naturally derived CBD products to help alleviate the symptoms of many common mental health disorders. Cannabinoids, in addition to helping relieve specific symptoms, can also help to increase overall well-being and quality of life for people suffering from any of these common problems.

As a company, we believe that safe access to natural, herbal medicine is essential for well-being and a positive outlook. We are dedicated to offering patients superior-quality medicinal cannabis products with an emphasis on breeding terpene-rich strains that help promote optimum mental health. We specialize in creating pharmaceutical-grade cannabis products to help enhance the quality of life for people struggling with psychiatric issues, such as ADD/ADHD, depression, autism/Asperger's, PTSD, and bipolar disorder.

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