CANNABIS AND PTSD

Post-Traumatic Stress Disorder (PTSD) is a severe medical condition resulting from exposure to one or more traumatic events. While most people who are exposed to trauma do not develop PTSD, it is a common condition for combat veterans. For groups such as veterans who may simultaneously experience traumatic events, some will develop symptoms, some will not.

Traumatic Brain Injury (TBI) is a contributing factor to PTSD symptoms, with veterans who have sustained TBI twice as likely to have them. The Department of Defense reports 287,861 diagnosed cases of TBI among active service members from 2000 through the third quarter of 2013.

PTSD if not treated adequately may lead to a variety of anxiety disorders, including Generalized Anxiety Disorder (six-times more likely), Panic Disorder (four-times more likely), Social Anxiety Disorder (three-times more likely), Obsessive Compulsive disorder, and specific phobias (seven-times more likely).[288, 289] Veterans with PTSD can exhibit many symptoms and may not be seen for weeks or months after a traumatic event. One study of Iraq war veterans estimated their incidence rate of PTSD at 30 percent.That incidence rate may be measured differently now, as diagnostic criteria for PTSD were changed in 2013.

To receive a diagnosis of PTSD, veterans must have been exposed to certain types of traumatic events and exhibit symptoms of four types—intrusion, avoidance, negative alterations in cognition and mood, and alterations in arousal and reactivity. Intrusion or re-experiencing symptoms can be triggered by a variety of events and include nightmares, frightening thoughts, and repeated flashbacks with physical symptoms such as elevated heart rate or sweating. Avoidance symptoms can also be triggered and commonly include actively avoiding things, events or places that remind the person of the trauma, but they can also include emotional numbness or loss of interest in enjoyable activities. Hyperarousal symptoms are generally constant, not triggered, and include difficulty sleeping, being easily startled or angered, or feeling tense or stressed. Hyperarousal may interfere with normal daily activities such as sleeping, eating, or concentrating. Depression, trouble remembering events, or feelings of worry, guilt, or depression are among the negative alterations in thought processes or moods characteristic of PTSD.

Many people will experience one or more of these symptoms following a dangerous or traumatic event, but they are only classified as PTSD when symptoms from each category are present for a month or more, interfere with normal functioning, and cannot be attributed to use of a substance or another medical condition.

Not everyone exposed to traumatic events will develop PTSD, but recently published research indicates that the endocannabinoid system in individuals with PTSD differs markedly from those without the condition, perhaps connected to the role of endogenous cannabinoids in management of memories and anxiety.

Those abnormalities in the functioning of the endocannabinoid system were further identified in research published in 2013. Brain scans using MRI (magnet resonance imaging) and PET scans (positron emission tomography) found people experiencing PTSD have substantially different cannabinoid CB1 receptors (17-19 percent more) and endocannabinoid systems than control groups that both had and had not experienced traumas. The receptor distribution abnormality predicted PTSD symptoms in 85 percent of the cases, with the difference most pronounced in female subjects
Direct studies of the effects of cannabis on PTSD among veterans have been blocked by the refusal of the federal government to provide research cannabis. However, studies have found many individuals with PTSD use cannabis.

For more than 20 years, researchers have known many veterans with PTSD symptoms also use cannabis, either under the direction of a physician or of their own accord.[299-302] The correlation between cannabis use and PTSD symptoms may corroborate anecdotal reports that cannabis provides symptomatic relief. Several studies have shown that cannabis and cannabinoids may alleviate some of the symptoms of PTSD.

A 2011 study of veterans who underwent residential treatment for PTSD found that those who had less reduction in the severity of symptoms of hyper-arousal and avoidance or numbing were using more cannabis four months following the treatment than those who had more significant improvement in symptoms. That difference was specific to cannabis and was not found with alcohol or other drugs, indicating that veterans were selecting cannabis specifically for its effects relative to PTSD symptoms.

In a review article published in August 2013, researchers noted that an "ideal treatment" for PTSD "would be a drug able to block the pathological over-consolidation and continuous retrieval of the traumatic event, while enhancing its extinction and reducing the anxiety symptoms." Cannabinoids fit that description in that they, as the researchers note, "regulate affective states and participate in memory consolidation, retrieval, and extinction."

Those effects have been both recounted by cannabis users and amply demonstrated in animal models. In cannabis, the psychoactive cannabinoid THC has those effects, but multiple animal studies have demonstrated that cannabidiol (CBD), which has no cognitive effects, also produces powerful anti-anxiety actions in an animal model of PTSD.

Multiple reviews of these and other recent studies of CBD similarly concluded that its anxiolytic action may be useful for treating PTSD, anxiety disorders, and compulsive behaviors.

In the past decade, researchers have begun to uncover the mechanism for that effect, with several studies indicating the endocannabinoid system modulates neuronal activity in parts of the brain involved in defensive responses, meaning the endocannabinoid system could be particularly engaged by highly stressful situations such as combat and other traumatic events.

The role of endocannabinoids in regulating memory formation mentioned earlier has suggested that targeting the system can be a way of effectively managing recurring traumatic memories that are one of the symptoms of PTSD. Israeli researchers have conducted promising studies of treating PTSD patients with cannabis, though methodology problems have prevented publication of the one that showed the best results. One Israeli psychiatrist reports seeing "spectacular results in patients with post-trauma," though the government has only authorized a handful of his PTSD patients to use cannabis. A published case study of a young man with severe PTSD symptoms, including intense flashbacks, panic attacks, and self-mutilation, who was treated with a cannabis extract showed some symptoms were reduced significantly.

One of the few double-blind randomized studies on cannabinoids and PTSD-related symptoms in humans assessed the efficacy of CBD in relieving the symptoms of Generalized Social Anxiety Disorder (SAD), one of the most common anxiety conditions that is sometimes also present in veterans with PTSD. The study with 24 subjects found treatment with CBD significantly reduced anxiety, cognitive impairment, and discomfort as compared to the placebo control group.

A similar double-blind study of the effects of CBD treatment on individuals with SAD not only found the subjects reported substantial subjective relief but used functional neuroimaging to identify its effects on activity in limbic and paralimbic brain areas.

How Cannabis Compares to Other Treatments

PTSD Medications

Two antidepressant medications are the only FDA-approved for treating PTSD symptoms: sertraline (Zoloft) and paroxetine (Paxil). In some individuals, these medicines may help control some PTSD symptoms, such as sadness, worry, anger, and feeling numb. Both drugs have common side effects,

including headache, nausea, drowsiness, agitation, and sexual dysfunction including reduced sex drive, difficulty having or enjoying sex, or difficulty climaxing. More serious side effects include increased risk of suicide or thinking about suicide.

Though other medications are not approved for treating PTSD, doctors may treat PTSD symptoms with other types of medications, such as benzodiazepines, antipsychotics, and other antidepressants such as tricyclic or atypical antidepressants and monoamine oxidase inhibitors (MAOIs) and mood stablizers such as carbamazepine (Tegretol) and lithium (Lithobid or Eskalith), though there is little information about how well they work for people with PTSD and each can produce significant side effects.

Side effects of benzodiazepines include memory problems and dependency. Antipsychotics are usually given to people with schizophrenia and other serious mental disorders; side effects include weight gain and increased chance of heart disease and diabetes. Prazosin (Minipress) may be prescribed to reduce recurrent nightmares; side effects may include hypotension (low blood pressure), fainting, and hallucinations. Side effects of carbamazepine include possibly fatal skin reactions and very serious blood disorders (aplastic anemia, agranulocytosis).

Cannabis vs. Other Medications

Cannabis: By comparison, the side effects associated with cannabis are typically mild and are classified as "low risk." Euphoric mood changes are among the most frequent side effects. Cannabinoids can exacerbate schizophrenic psychosis in predisposed persons, though it can also provide symptomatic relief in refractory schizophrenia. Cannabinoids impede cognitive and psychomotor performance, resulting in temporary impairment. Chronic use can lead to the development of tolerance. Tachycardia and hypotension are frequently documented as potentially adverse events in the cardiovascular system. A few cases of myocardial ischemia have been reported in young and previously healthy patients. Inhaling the smoke of cannabis cigarettes induces side effects on the respiratory system. Cannabinoids are contraindicated for patients with a history of cardiac ischemias. In summary, a low risk profile is evident from the literature available. Serious complications are extremely rare and are not usually reported during the use of cannabis.

THE EXPERIENCE OF PATIENTS

Perry Parks — Chronic Pain and PTSD

I am a retired Chief Warrant Officer (CW4) with 30 years service in the US Army and National Guard. I am also a disabled veteran. I flew helicopters in Vietnam for 30 months. Then I spent two years in Iran teaching helicopter pilots desert and mountain tactics. When I left active duty, I was recruited by the National Guard because of my experience with Cobra helicopters and spent 18 years with them. I retired in 2003.

I suffer from chronic pain from degenerative disc disease and PTSD that became worse with the beginning of the Iraq war. I was treated at Duke for two years with COX 2 inhibitors, Vioxx, Celebrex, needles in my back to control the pain. As the Iraq war ramped up, I began to experience more PTSD symptoms -- sleeplessness, feeling jumpy or jittery, a lot of different things. The narcotics didn't help me. And oxycodone and other drugs with acetaminophen worried me because of the liver damage they can cause.

I was told cannabis might provide relief, particularly for my chronic pain. I thought it was a joke. I was skeptical. I didn't believe it was real, even though I'd used marijuana when I was younger. I had used cannabis in college and had a 4.0 average, so I knew it didn't kill my motivation.

In Vietnam, I was first offered cannabis by the division flight surgeon. At first I thought it was kind of a joke, but I found that every night when we shared the pipe there was a certain calmness and sense of camaraderie. In a warzone, there aren't many moments when you have the chance to forget about the war.

Looking back, I see it provided tremendous relief. But I never used it during my 18 years in the National Guard.

Now that I was retired, I was no longer being drug tested, so I decided to try it. I was shocked. It worked, not just for my pain but for the PTSD, too. I sleep more peacefully and am more at ease. Duke had me down to Level 1 or Level 2 pain, but with cannabis combined with low doses of opiate narcotics I operate pain free. I can do anything I used to do. No pain in my back and I deal far better with the PTSD. I had a large supply of sleeping pills that I no longer use. I had a large supply of narcotics that I no longer take. I had prescriptions for ADHD, which I believe was misdiagnosed because of my PTSD symptoms.

After that, I attended conferences on medical cannabis, and I found out why it works.

I'm a 30-year soldier and disabled veteran, but I'm also a Christian. I was sitting in church one night, and we were reading Acts, and my soul was jarred. To recognize how cannabis worked for me and not tell people is not right. Every church has the goal of seeking the truth. It takes a deep prodding to give up your personal safety, but I have an obligation because this affects people's health. The truth hurts sometimes, but the truth has the greatest need to be told.

More soldiers today die of suicide than combat, and part of that is being denied medicine that can help. I was one of the five soldiers portrayed in the 2009 documentary The Good Soldier that won an Emmy for the shortened television version Bill Moyers Journal produced. Three of the soldiers, including me, were subject to arrest because they do not live in states that allow medical cannabis. That's wrong and it needs to stop. The treatment should be decided by a doctor, not by the state you live in. The US Conference of Mayors unanimously passed a resolution urging our government to stop forcing our veterans into the criminal justice system because they choose cannabis instead of narcotics. This issue cannot be dictated from the top down, it has to be demanded from the bottom up.