



VETERANS PTSD

Clinical Summary



HARVEST
MEDICINE

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Veterans & PTSD

Veteran in Canada is broadly defined as any former member of the Canadian Armed Forces.¹ Owing to their unique combat experience, they have a disproportionately high rate of mental health disorders and post-traumatic stress in comparison to civilians.² It is estimated that in Canada, up to 10% of war zone Veterans will eventually experience a chronic condition known as post-traumatic stress disorder (PTSD).³ Active or retired combat veterans, career veterans and civilians may also exhibit PTSD symptoms as it can affect people of any age, culture or gender.⁴



Photo by Ryan on Unsplash

PTSD is a psychological response to the experience of intense traumatic events, particularly those that threaten life.³ Traumatic events are not limited to single scenarios and may also include prolonged exposure to stressful situations. Symptoms are broadly divided into 3 groups: reexperiencing, avoidance and numbing, and hyperarousal. Reexperiencing refers to having flashbacks, nightmares, and reliving the traumatic experience.⁵ Avoidance-numbing refers to

emotional numbness, as well as avoiding certain factors (such as places or activities) that may remind the individuals of the traumatic events.⁵ Hyperarousal symptoms include difficulty sleeping or concentrating and irritability.⁵ While psychotherapy is considered the first-line treatment, psychiatric medications are generally used adjunctively.⁴ However, these drugs have questionable efficacy and are associated with significant undesirable side effects.⁴

The development of additional treatment agents is important because current medications, including selective serotonin reuptake inhibitors, serotonin/norepinephrine reuptake inhibitors, antiadrenergic

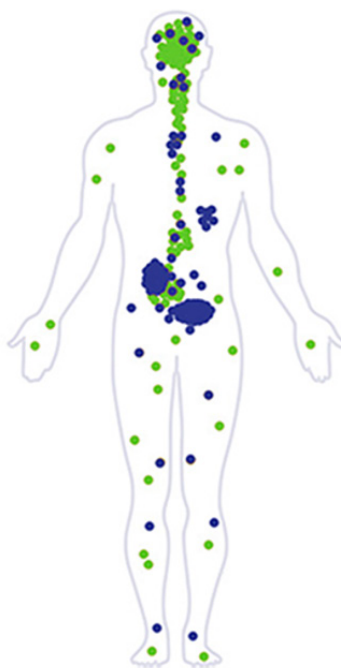


Figure 1 CB1 & CB2 receptor sites⁹
Adapted from [GreenLightMedicines](#)

agents, and second-generation antipsychotics, have questionable efficacy and often carry significant undesirable side-effect profiles.⁴ Although not clearly understood, the body's innate cannabinoid system is thought to play a role in extinction of aversive (unpleasant or distressing) memories. A study demonstrated that once a deficiency in endocannabinoid system was corrected in mice, stress inducing memories reduced. This enabled them to overcome their conditioned response to traumatic shock treatments.⁵



Figure 2 THC & CB1 receptor activation¹⁰
(de Sanctis, 2021)



Also, activation of CB-1 receptors (Figure 1 & 2) by cannabinoids has shown to prevent excessive neuronal activity and decrease anxiety.⁴ These findings suggest that MC may be an effective treatment for PTSD.



Veterans & PTSD

The effects of medical cannabis (MC) in PTSD treatment have been demonstrated in different clinical studies. A retrospective case series review of adult patients with PTSD revealed that CBD treatment, when used in addition to routine psychiatric treatment, led to reduction of symptom scores from 51.82 at baseline to 40.73 after 4 weeks of treatment.⁴ While some patients experienced a slight increase in their symptom scores at the 8-week appointment, these were still lower than their baseline scores, with an average decrease of 28%.⁴ In another retrospective chart review, patients with PTSD in New Mexico's Medical Cannabis Program reported a > 75% reduction in symptom severity while using cannabis.⁵ Their symptom severity scores were significantly reduced when they were using MC relative to

when they were not.⁵ In a cross-sectional study of Canadians, PTSD was strongly linked to major depressive episode and suicidal ideation in patients not using MC, but this association was not found in MC users.⁶ This suggests that MC plays a role in decreasing symptom severity in PTSD.

Harvest Medicine's self-reported data (Figure 3), with a sample size of 2471 patients treating PTSD symptoms with MC, shows that 87.98% have experienced a somewhat or very positive impact on their quality of life.⁷ Even though the effects of MC in PTSD treatment are promising, it is important to note that there are limitations. First, a randomized controlled study with a large sample size has yet to be published to produce more robust evidence. Second, some reported adverse effects of MC

include drowsiness, amnesia, cough, nausea, and dizziness.⁸ Third, the optimal dosing of MC in PTSD treatment has not been determined. However, when assessing risk factors, overdose from MC is unlikely due to the nature of the endocannabinoid system and the lack of endocannabinoid receptors in the brainstem. In comparison to opioids, MC does not have the same potential to shut down the cardiovascular or respiratory systems. Yet, underlying medical conditions can be made worse by using MC. Therefore, to ensure safe and effective MC use, experienced healthcare practitioners should be involved before, and throughout, the full treatment regimen.

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& Kang, A., University of Toronto
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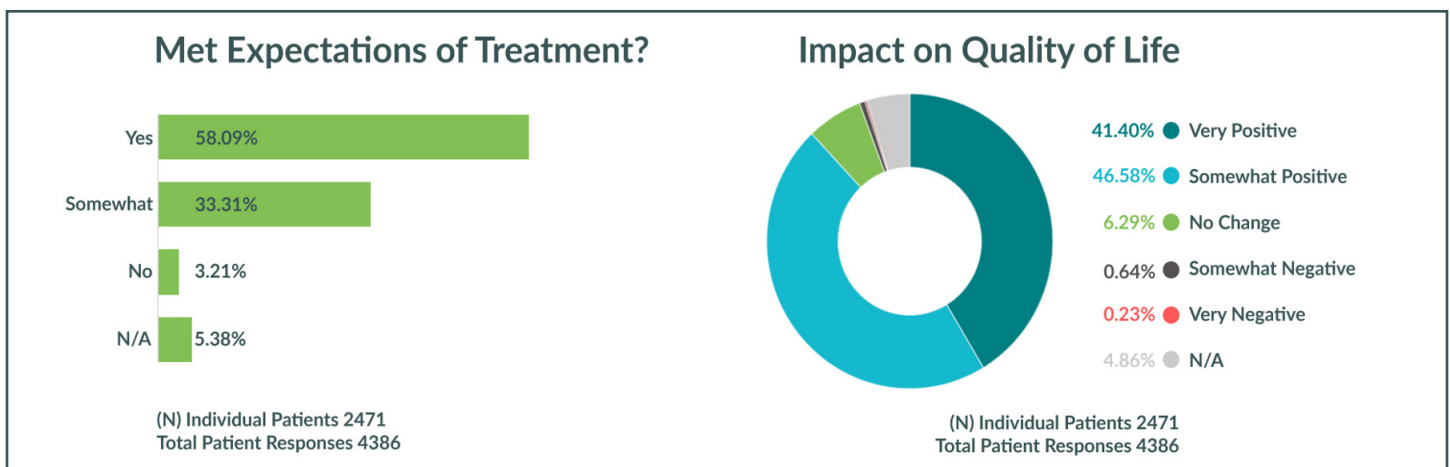


Figure 3 Harvest Medicine. (2021). PTSD patient self-reported outcomes⁷



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