

Use of cannabinoids could help post-traumatic stress disorder patients

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Use of cannabinoids (marijuana) could assist in the treatment of post-traumatic stress disorder patients. This is exposed in a recent study carried out at the Learning and Memory Lab in the University of Haifa's Department of Psychology. The study, carried out by research student Eti Ganon-Elazar under the supervision of Dr. Irit Akirav, was published in the prestigious *Journal of Neuroscience*.

In most cases, the result of experiencing a traumatic event - a car accident or terror attack - is the appearance of medical and [psychological symptoms](#) that affect various functions, but which pass. However, some 10%-30% of people who experience a traumatic event develop [post-traumatic stress disorder](#), a condition in which the patient continues to suffer stress symptoms for months and even years after the traumatic event. Symptoms include reawakened trauma, avoidance of anything that could recall the trauma, and psychological and physiological disturbances. One of the problems in the course of treating [trauma patients](#) is that a person is frequently exposed to additional stress, which hinders the patient's overcoming the trauma.

The present study, carried out by Dr. Akirav and research student Eti Ganon-Elazar, aimed to examine the efficiency of cannabinoids as a medical treatment for coping with post-traumatic stress. The researchers used a synthetic form of marijuana, which has similar properties to the natural plant, and they chose to use a [rat model](#), which presents similar physiological responses to stress to that of humans.

The first stage of the research examined how long it took for the rats to overcome a traumatic experience, without any intervention. A cell colored white on one side and black on the other was prepared. The rats were placed in the white area, and as soon as they moved over to the black area, which they prefer, they received a light electric shock. Each day they were brought to the cell and placed back in the white area. Immediately following exposure to the traumatic experience, the rats would not move to the black area voluntarily, but a few days later after not receiving further electric shocks in the black area, they learned that it is safe again and moved there without hesitation.

Next, the researchers introduced an element of stress. A second group of rats were placed on a small, elevated platform after receiving the electric shock, which added stress to the traumatic experience. These rats abstained from returning to the black area in the cell for much longer, which shows that the exposure to additional stress does indeed hinder the process of overcoming trauma.

The third stage of the research examined yet another group of rats. These were exposed to the traumatic and additional stress events, but just before being elevated on the platform received an injection of synthetic marijuana in the amygdala area of the brain - a specific area known to be connected to emotive memory. These rats agreed to enter the black area after the same amount of time as the first group - showing that the synthetic marijuana cancelled out the symptoms of stress. Refining the results of this study, the researchers then administered marijuana injections at different points in time on additional groups of rats, and found that regardless of when exactly the injection was administered, it prevented the surfacing of stress symptoms.

Dr. Akirav and Ganon-Elazar also examined hormonal changes in the course of the experiment and found that synthetic marijuana prevents increased release of the stress hormone that the body produces in

response to stress.

According to Dr. Akirav, the results of this study show that cannabinoids can play an important role in stress-related disorders. "The results of our research should encourage psychiatric investigation into the use of cannabinoids in post-traumatic stress patients," she concludes.

Source: University of Haifa ([news](#) : [web](#))

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