

Study links adult fibromyalgia to childhood sexual abuse

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A new Tel Aviv University study finds that fibromyalgia syndrome—a chronic condition characterized by widespread pain, fatigue and cognitive difficulties—may be a consequence of post-traumatic physical and psychological distress associated with childhood sexual abuse.

The research suggests that survivors of childhood [sexual abuse](#) who develop [fibromyalgia](#) may be effectively treated with hyperbaric oxygen therapy, the application of hyperbaric pressure in conjunction with increased oxygen delivery to oxygen-deprived tissue.

The new study is part of an ongoing collaboration between TAU, the University of Haifa and Assaf Harofeh Medical Center investigating new therapeutic strategies with which to treat survivors of childhood sexual abuse. It was conducted by Prof. Shai Efrati of TAU's Sackler School of Medicine and Sagol School of Neuroscience and Director of the Sagol Center for Hyperbaric Medicine and Research at Assaf Harofeh Medical Center and published online in *Frontiers in Psychology* on December 14, 2018.

"We now know that severe emotional stress, such as that caused by sexual abuse, can induce chronic brain injury," says Prof. Efrati. "These non-healing brain wounds may explain certain unremitting long-term physical and psychological disorders like fibromyalgia.

"We also now know that fibromyalgia takes root in the part of the brain responsible for pain interpretation. Using novel brain imaging

technologies, we have now, for the first time, identified the injured areas of the brain injured by traumatic abuse.

"We believe our results serve as an explanation for the often limited results of psychological intervention, which do not provide physiologic repair of the damaged brain tissue," Prof. Efrati continues. "The study shows that when these brain wounds are treated with hyperbaric oxygen therapy, neuroplasticity can be induced and the related clinical symptoms significantly improved."

Over two years, 30 women suffering from fibromyalgia and bearing a history of childhood sexual abuse were randomly assigned to one of two treatment groups: 60 hyperbaric oxygen therapy sessions or psychotherapy. After the [hyperbaric oxygen therapy](#) sessions, the participants reported a significant improvement in all measures of quality of life, including symptoms of fibromyalgia and post-traumatic stress disorder.

The clinical findings were accompanied by an improvement in brain functionality, observed in brain nuclear imaging scans (SPECT) and novel MRI scans (MRI-DTI).

"Even though some of the areas of the brain have previously been associated with fibromyalgia and PTSD, the correlation we found also added new knowledge on brain function," says Dr. Amir Hadanny, of TAU, Bar-Ilan University and Assaf Harofeh Medical Center, a co-author of the study. "In the future, we hope to be able to diagnose the so-called 'psychological' disorders through objective brain imaging."

According to the study, the ability to recall sexual abuse is by no means a prerequisite for effective treatment of fibromyalgia in cases of childhood sexual abuse. "Lately, we have witnessed women in the #MeToo movement who knew they were sexually harassed and abused

but could not recall the details of the attack," says Prof. Rachel Lev-Wiesel of the University of Haifa, a co-author of the study. "Our new approach demonstrates that not being able to remember [traumatic events](#) is a biological rather than an emotional limitation.

"Repeated exposure to traumatic events creates the need to suppress these events," Prof. Lev-Wiesel continues. "Biologically, that means that the areas of the [brain](#) responsible for those memories are actually being shut down in order to cope with reality. This may be the key for the reason why survivors are unable to recall the details or the traumatic event itself."

The scientists are now researching novel early interventions for childhood sexual [abuse](#) survivors.

More information: Rachel Lev-Wiesel et al, Brain and Mind Integration: Childhood Sexual Abuse Survivors Experiencing Hyperbaric Oxygen Treatment and Psychotherapy Concurrently, *Frontiers in Psychology* (2018). [DOI: 10.3389/fpsyg.2018.02535](https://doi.org/10.3389/fpsyg.2018.02535)

Provided by Tel Aviv University

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