

Fibromyalgia

Fibromyalgia (FM) is a medical condition characterised by chronic widespread [pain](#) and a heightened and painful response to pressure.

An imbalance between excitatory and inhibitory neurotransmission has been linked to Fibromyalgia (FM). Magnetic resonance spectroscopy (MRS) has shown increased levels of glutamate in the insula and posterior cingulate cortex in FM as well as reduced insular levels of GABA. Both of these changes have been associated with increased pain sensitivity. However, it is not clear whether excitatory and/or inhibitory neurotransmission is altered across the brain. Therefore, the aim of this study was to quantify GABAA receptor concentration on the whole brain level in FM to investigate a potential dysregulation of the GABAergic system.¹⁾ 51 post-menopausal women (26 FM, 25 matched controls) underwent assessments of pain sensitivity, attention and memory, psychological status and function as well as positron emission tomography imaging using a tracer for GABAA receptors, [¹⁸F]flumazenil. Patients showed increased pain sensitivity, impaired immediate memory and increased cortical GABAA receptor concentration in the attention and default-mode networks. No decrease of GABAA receptor concentration was observed. Across the two groups, GABAA receptor concentration correlated positively with functional scores and current pain in areas overlapping with regions of increased GABAA receptor concentration. This study shows increased GABAA receptor concentration in FM, associated with pain symptoms and impaired function. The changes were widespread and not restricted to pain-processing regions. These findings suggest that the GABAergic system is altered, possibly indicating an imbalance between excitatory and inhibitory neurotransmission. Future studies should try to understand the nature of the dysregulation of the GABAergic system in FM as and in other pain syndromes ¹⁾.

Clinical features

Symptoms other than pain may occur, leading to the use of the term fibromyalgia syndrome (FMS). Other symptoms include feeling tired to a degree that normal activities are affected, sleep disturbance, and joint stiffness. Some people also report difficulty with swallowing, bowel and bladder abnormalities, numbness and tingling, and cognitive dysfunction.

Fibromyalgia is frequently associated with psychiatric conditions such as depression and anxiety, and with stress-related disorders such as posttraumatic stress disorder.

Not all people with fibromyalgia experience all associated symptoms.

¹⁾

Pomares FB, Roy S, Funck T, Feier NA, Thiel A, Fitzcharles MA, Schweinhardt P. Up-regulation of cortical GABAA receptor concentration in fibromyalgia. *Pain*. 2019 Sep 27. doi: 10.1097/j.pain.0000000000001707. [Epub ahead of print] PubMed PMID: 31569142.

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