

# Duration of the symptoms and brain aging in women with fibromyalgia: A cross-sectional study

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Fibromyalgia is a chronic syndrome that is characterized by widespread pain and an altered brain dynamic. The aim of this study was to analyze the effect of the duration of the symptoms on the cortical activity of women with fibromyalgia using electroencephalogram power spectrum analyses in an eye-closed resting state. Twenty-nine women participated in this cross-sectional study (N: 29; age: 55.59 [9.50]). Theta, alpha, beta-1, beta-2, and beta-3 frequency bands were analyzed using EEGLAB. Theta power significantly correlated with the duration of the symptoms, but not with age. In addition, participants were divided into two groups according to number the years for which they were suffering from fibromyalgia. Participants who had a longer duration of symptoms obtained higher theta power in the frontal (Fp1, F4, F7, F8, and Fz), central (C3, C4, and Cz), and parietal (P3 and Pz) areas than those who had a shorter duration of symptoms, which may be related to brain aging. This exploratory study demonstrates for the first time that the frontal, central, and parietal areas may be influenced by the years in which they were suffering from the symptoms of fibromyalgia. This might indicate that the duration of these symptoms may have a higher impact on brain aging than the actual age of the patient. © 2019 by the authors.

Brain

Chronic pain

EEG power spectrum

Fibromyalgia

Premature aging

Resting EEG

Symptoms