

Influence of depressive feelings in the brain processing of women with fibromyalgia An EEG study

Villafaina S.

Sitges C.

Collado-Mateo D.

Fuentes-García J.P.

Gusi N.

Depression is one of the most common mental health problems which affects more than 10% of the global population. The prevalence of this disorder is higher in fibromyalgia patients. However, the influence of the combination of depression and fibromyalgia in the brain processing is poorly understood. To explore the modifications of EEG power spectrum in women with fibromyalgia when depressive feelings are elicited. Twenty eight women with fibromyalgia participated in this cross-sectional study. They were classified as women with depression or women without depression according to the score in the Geriatric Depression Scale. This questionnaire was used to elicit depression symptoms during the EEG recording. Analyses were performed with the standardized LOw Resolution Electric Tomography (sLORETA) software. Power spectrum were compared in the following frequency bands: delta, theta, alpha-1, alpha-2, beta-1, beta-2, and beta-3. Fibromyalgia patients with untreated depression showed a hypoactivation of the left hemisphere when compared with fibromyalgia patients without depression. In addition, when compared fibromyalgia patients without depression and women with both fibromyalgia and depression who were taking antidepressant medications, differences in EEG power spectrum in the studied frequency bands were not found. The current study contributes to the understanding on the influence of the combination of fibromyalgia and depression in the brain activity patterns. Patients with untreated depression showed a hypoactivation of the left hemisphere while eliciting depression symptoms. However, further research is needed, antidepressant medication might reduce the differences between patients with depression and those who do not suffer from depression symptoms.

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Antidepressant

Depression

EEG

Fibromyalgia

Left hemisphere

Mood congruent recall

SLORETA

serotonin uptake inhibitor

antidepressant agent

alpha rhythm

Article

beta rhythm

brain region

clinical article

controlled study

cross-sectional study

delta rhythm

depression

electroencephalography

female

fibromyalgia

Geriatric Depression Scale

human

left hemisphere

low resolution brain electromagnetic tomography

power spectrum

priority journal

questionnaire

software

theta rhythm

brain

complication

depression

electroencephalography

fibromyalgia

middle aged

pathophysiology

psychological rating scale

psychology

Antidepressive Agents

Brain

Cross-Sectional Studies

Depression

Depressive Disorder

Electroencephalography

Female

Fibromyalgia

Humans

Middle Aged

Psychiatric Status Rating Scales