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ORIGINAL RESEARCH

Fibromyalgia and dissociative symptoms

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Background. Fibromyalgia (FM) is a chronic pain syndrome with a controversial etiopathogenesis. Patients with FM usually complain of cognitive symptoms, which are described as "fibrofog." These cognitive complaints might be caused partially by dissociative disorders (DD). The aim of this research is to determine the association between FM and DD.

Methods. The authors conducted a case-control study for this purpose, integrated by 3 groups: control (C), patients with rheumatic disorders (R), and patients with FM (FM), who were compared through the Dissociative Experiences Scale (DES).

The findings are as follows: 42% were taking medications in the FM group, and their differences in scores with those who were not under medications were then considered. In terms of the results, the FM group showed higher scores than both C and R groups ($p < 0.05$). Patients with FM who were taking antidepressants had lower scores than those who were not (Z-score -8.03; $p < 0.05$); and finally, 5.71% had a score over 30 ($\chi^2 = 3.73$, $p = 0.15$).

Conclusion. Patients with FM had higher scores, which might be related to the association of dissociative experiences, lifetime trauma, and victimization. Antidepressants might have some role on dissociative symptoms as well.

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Key words: Dissociation, dissociative disorder, fibromyalgia, pain.

Introduction

Fibromyalgia is a chronic, non-articular, pain syndrome that was initially described in the early 1980s.[1] However, the etiopathogenesis is controversial: genetic predisposition, environmental triggers, and neuromodulation are all considered to be involved in the onset and course of the disease.[2]

The diagnosis of fibromyalgia is clinical according to the criteria proposed by the American College of Rheumathology,[3,4] where women are 9 times more affected than men[5] and the prevalence is 2–5%,[6] although it might be higher.[7]

Patients with this chronic pain syndrome usually complain of loss of memory, attention, and concentration.[8] All this is described as "fibrofog," which is a sensation of having a cloud in the mind that causes forgetfulness; mental overload; and difficulty in thinking, processing information, or keeping up conversations; 51% of patients with FM report symptoms of fibrofog.[9]

Many studies revealed some cognitive disorders in patients with fibromyalgia.[10-12] However, Allegre denies such disorders to be primary and attributes memory complaints to a concomitant depressive syndrome.[13] Indeed, some researchers state that fibrofog might be caused partially by the presence of a dissociative disorder, which is described as a disorder characterized by a disruption of the normal integration of consciousness, memory, identity, emotion, body representation, motor control, and behavior.[14] Some investigators have demonstrated a high prevalence of dissociative symptoms in patients with fibromyalgia,[15] while others have found a low prevalence of such symptoms.[16]

In light of such differences, the aim of this research work is to determine the association between fibromyalgia and dissociative symptoms.

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Methods

A case-control study was carried out integrated using 3 groups: a control group, C; patients with other rheumatic disorders, R; and patients with fibromyalgia, FM; these were compared through the Dissociative Experiences Scale (DES), a self-administered screening test validated in Spanish.[17,18] The test results positive for a possible dissociative disorder (DD) if the score is over 30. Thus, the differences in scores among the 3 groups were subjected to consideration.

In addition, the study considered the differences in scores among patients with FM who received antidepressant medications and those who did not. In order to conduct this study, all participants gave written consent, and the study was approved by the local ethics committee.

A statistical analysis was carried out using a χ^2 test for categorical variables, and Mann-Whitney or Kruskall-Wallis with post-hoc tests for noncategorical variables due to non-Gaussian distribution. A p value < 0.05 was found to be statistically significant. XLSTAT for Microsoft Excel 2017 for Mac was used for analysis.

Results

In each group, 40 women were tested. Among them, 9 of the C group, 7 of the R group, and 5 of the FM group were excluded because they failed to respond to the 28 items of the DES questionnaire. Mean ages were 57.70 ± 10.47 in the C group, 57.07 ± 9.08 in the R group, and 56.02 ± 11.32 in the FM group ($p = 0.12$). In the R group, 20 patients had osteoarthritis, 11 had rheumatoid arthritis, 1 had Sjögren´s Syndrome, and 1 had systemic erythematous lupus. In the FM group, 42% were taking a chronic pain medication (duloxetine or pregabalin).

Mean, median, and (range) of scores of DES were as follows: for the C group, 5.58, 7.84 (0–15); for the R group, 4.08, 1.78 (0–23.21); and for the FM group, 9.89, 7.14 (0–51.78).

The Kruskall-Wallis test for nonparametric comparison among the 3 groups gave a p value < 0.05 (K-score = 14). Post-hoc analysis showed that scores in FM group were higher than those presented in both the C and R groups.

When we compare women in the FM group who received chronic pain medications with those who did not, the former showed a lower score (Z-score= –8.03; $p < 0.05$), and only 2 women in the FM group got a score over 30 (5.71%; $\chi^2 = 3.73$; $p = 0.15$).

Discussion

Dissociation is defined as the lack of normal integration of thoughts, feelings, conscious, and memory experiences. The cognitive symptoms associated with dissociation depend on emotional and attentional context.[19] Patients suffering from a dissociative disorder have a history of early severe traumatic experiences, thus this entity seems to be associated to a posttraumatic stress syndrome (PTSD).[20] Behavioral symptoms secondary to PTSD induce structural and functional changes in the hippocampus, amygdala, and medial prefrontal cortex, as has been evidenced in functional neuroimaging studies,[21,22] and dysfunction was found in these brain areas among patients with fibromyalgia as well.[23]

Previous research has searched for an association between fibromyalgia and dissociative experiences. Oliveira et al[24] have correlated dissociative symptoms in patients with fibromyalgia with dissociation in sleep-wake patterns.[24] Leavitt et al[25] found, in a study of 88 patients with fibromyalgia, that 63% had high dissociation compared to healthy individuals: fibromyalgia per se increases the risk of dissociative disorders.

Berkol et al[26] found higher DES scores in patients with fibromyalgia, which might be related to pain, sleep disorders, functional situations, and depression. In other research, 50 patients with fibromyalgia were compared with 80 patients with rheumatoid arthritis: traumatic experiences were frequent in the former group, but a low percentage had evidence of DD.[16]

In our research, although a low percentage of patients with fibromyalgia got a positive result that might be compatible with a DD, total scores were higher than in the other 2 groups: patients with fibromyalgia have more dissociative symptoms than those with other rheumatic diseases or asymptomatic women from the control group.

Furthermore, those who were taking chronic pain medications had less dissociation than those who were not. Our patients were treated with either pregabalin or duloxetine. Both are first-line "anchor" drugs approved by US Food and Drug Administration for fibromyalgia.[27] Pregabalin has been proven to be able to improve pain, as well as sleep quality, fatigue, and health-related quality of life. Duloxetine is recommended for patients with comorbid depressive disorder regardless of any general anxiety disorder.[28–30]

Considering the patients in our study, these medications seem to have some effect on the severity of their dissociative symptoms, albeit their primary effect on pain. However, psychotherapy interventions are indicated for this disorder, with different approaches in those patients with somatoform dissociation and those with psychoform dissociation.[31]

Although DD and PTSD are distinctive syndromes, adverse traumatic experiences may intensify dissociative symptoms.[32] It is well-known that there is an association

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between early-life stressor adversity (such as childhood abuse or neglect, family criminal behavior, traffic accidents) and an increased risk of chronic pain in later life due to alterations in the hypothalamic–pituitary–adrenal axis, as well as dopaminergic, opioid, serotoninergic, and, possibly, endocannabinoid circuits; finally, inflammation seems to play a role as well.

All above mentioned factors have an impact on nociceptive circuitry.[33] Childhood emotional neglect seems to predict somatoform dissociation, but childhood sexual abuse seems to predict psychoform dissociation. The dissociative depression related to trauma results as over-expression or under-expression of internal anger, which may manifest as psychoform or somatoform dissociation, respectively.[31] Trauma and victimization are associated with dissociation, and the prevalence rate of lifetime trauma is high in patients with fibromyalgia.[34]

Our study presents some limitations, such as the small number of persons assessed and the fact that we did not use the Fibromyalgia Impact Questionnaire for further evaluation and analysis. However, we did find some difference in scores among individuals with and without fibromyalgia.

In conclusion, patients with fibromyalgia have more dissociative symptoms than patients without fibromyalgia and asymptomatic women.

Disclosures

The authors have nothing to disclose.

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