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Symptomatology of Central Sensitization in Subgroups of Migraine

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Categoria: Comorbidade das Cefaleias Primárias

Introduction
Central sensitization (CS) is highly prevalent in individuals with migraine. It has been proposed that an increase in sensitization mechanisms may play a key role in the chronicity of migraine, since with increased sensitization, there is a greater susceptibility to the next migraine attack, leading to a vicious circle, in which the increase in the frequency of headache becomes a risk factor for migraine chronification. Even with the evidence of presence of CS in migraine patients, the relationship between central sensitization and the frequency of migraine is still being discussed.

Objective
To assess if the presence of CS-related symptoms measure by Central Sensitization Inventory (CSI) questionnaire, differs according to migraine subgroups: migraine without aura (MoA), migraine with aura (MA), and chronic migraine (CM).

Methods
The local Research Ethics Committee (5,253,045/2022) approved this cross-sectional study. One hundred and five individuals diagnosed with migraine according to the third edition of the International Classification of Headache Disorders were recruited. Sociodemographic data were collected, along with clinical features of migraine and the CSI questionnaire, which scores from 0 to 100 and was developed to assess signs and symptoms related to central sensitization. The clinical characteristics of the individuals were analyzed through the mean and standard deviation (SD) for each group. Data normal distribution was verified, in addition to the homogeneity of variances, to determine the best statistical test to be performed. A posteriori, Welch's ANOVA, and Games-Howell Post-hoc Test were performed to verify the differences between the CSI mean score in migraine subgroups. Levene's test was performed to verify the homogeneity of the variances of the groups, and it was found that the variance of the groups is not homogeneous. Thus, a Welch's ANOVA was performed to verify the difference in CSI' scores between the migraine subgroups [$F(2, 64.673) = 10.827$; $p < 0.001$].

Results
The evaluated individuals had a mean age of 33.8 (SD=9.1), 36.6 (SD=10.1), and 40.1 years (SD=9.7) for the MoA, MA, and CM groups, respectively. Mean attacks frequency was 11.7 (SD=7.4), 8.8 (SD=5.7), and 20.1 (SD=11.7) for the MoA, MA, and CM groups, respectively. The MoA group presented a mean CSI score of 47.8 (SD=17.7), the MA group 46 (SD=14.2), and the CM group 58.6 (SD=10.2), $F(2, 64.673) = 10.827$; $p < 0.001$]. The Games-Howell Post-hoc Test showed that the CM group has 10.7 ($p=0.008$) points more in the CSI score when compared to the MoA group and has 12.5 ($p<0.001$) points more than the MA group. The difference between the MoA and MA groups was not significant, 1.7 points ($p= 0.889$).

Conclusion
The CM group presents more CS-related symptoms than the MoA and MA groups. There was no difference between the MoA and MA groups. These results suggest that chronic migraine exhibits more sings of CS than the episodic migraine. Furthermore, the presence of the aura does not seem to influence the symptoms of sensitization.

Keywords: Migraine Disorders;Headache Frequenc;Central Sensitization.