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The presence of headache intensifies central sensitization in individuals with temporomandibular disorders

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Introduction
Temporomandibular disorder (TMD) is a multifactorial condition frequently associated with chronic pain conditions, including headaches, which may contribute to central sensitization processes and the occurrence of cutaneous allodynia (CA).

Objective
To investigate the influence of headache on the presence of cutaneous allodynia and central sensitization in individuals with temporomandibular disorder.

Methods
This was a cross-sectional study conducted with a non-probabilistic sample composed of young adults aged between 18 and 40 years, of both sexes. Individuals with other chronic diseases, such as fibromyalgia, and those undergoing treatment for TMD were excluded. Participants were divided into two groups: a group with TMD and headache (GTMD) and a control group (CG), composed of individuals with headache without TMD. TMD diagnosis and severity were assessed using the Diagnostic Criteria for Temporomandibular Disorders (DC/TMD); cutaneous allodynia was investigated using the Brazilian version of the Allodynia Symptom Checklist (ASC-12/Brazil); central sensitization was assessed using the Central Sensitization Inventory (CSI); and headache presence was identified through the Headache Screening Questionnaire. Statistical analysis included the Shapiro-Wilk test to verify data normality and Pearson's correlation test to analyze associations between variables, adopting a significance level of $p \leq 0.05$.

Results
A total of 163 individuals were evaluated, including 113 in the GTMD group and 50 in the CG. The groups were homogeneous regarding age, height, body mass index, and sex ($p > 0.05$), except for body weight ($p = 0.023$). A strong and statistically significant positive correlation was observed between TMD associated with headache, cutaneous allodynia ($r = 0.875$), and central sensitization ($r = 0.911$), compared with the control group ($p < 0.001$).

Conclusion
Individuals with TMD and headache showed a greater association with cutaneous allodynia and central sensitization compared to those with headache without TMD, highlighting the importance of evaluating TMD in patients with headache in order to contribute to more targeted therapeutic strategies and improved clinical prognosis.

Keywords:
Central sensitization
Headache
Chronic pain
Temporomandibular disorder
Cutaneous allodynia

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