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Relationship between clinical headache variables and pain catastrophizing in individuals with migraine

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Introduction
Pain catastrophizing is an exaggerated negative orientation toward aversive stimuli and is associated with poorer pain coping strategies. It can be assessed using the Pain Catastrophizing Scale (PCS). Although the presence of catastrophizing has been established across various chronic conditions, few studies have investigated its presence and its relationship in individuals with migraine.

Objective
The aim of this study was to evaluate the association between pain catastrophizing, measured by the Pain Catastrophizing Scale (PCS), and migraine frequency and impact, as well as to examine how clinical headache characteristics are associated with catastrophizing. Additionally, the secondary aim was to assess positive responses for catastrophizing and to compare PCS scores between episodic and chronic migraine.

Methods
A total of 113 individuals with migraine, aged 18–55 years, were assessed for migraine clinical characteristics (frequency, intensity, and duration) and completed the Headache Impact Test (HIT-6) and the Pain Catastrophizing Scale (PCS). Descriptive statistical analysis was performed to determine the frequency of positive responses on the questionnaire. Multiple linear regression analyses were conducted to examine whether catastrophizing predicts headache frequency and headache-related impact, as well as whether catastrophizing predicts clinical headache characteristics.

Results
The multiple linear regression analysis showed that catastrophizing predicted 10% of headache frequency (R^2=0.10, p<0.01). In addition, clinical characteristics and headache-related impact explained 36% of the variance in total PCS scores (R^2=0.36, p<0.01). For each catastrophizing domain, headache frequency, intensity, and duration (hours), as well as headache-related impact, were associated with higher levels of catastrophizing, including rumination (R^2=0.34, p<0.01), magnification (R^2=0.33, p<0.01), and helplessness (R^2=0.31, p<0.01). More than 80% of the total sample reported positive responses for catastrophizing, particularly reflecting a strong desire for the pain to disappear and persistent concern about pain. Among individuals with chronic migraine, over 80% reported fear-related thoughts that the pain would worsen. Finally, individuals with chronic migraine presented higher PCS scores (p=0,034).

Conclusion
Catastrophizing is a factor that predicts headache frequency. Clinical characteristics as well as headache-related impact were also shown to have predictive values associated with catastrophizing. These findings reinforce for researchers and clinicians the importance of considering the assessment and treatment of catastrophizing in the management of individuals with migraine.

Keywords:
Migraine disorders
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