



## Relationship between central sensitization, headache impact and neck disability in migraine

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### Introduction

Neck pain is a frequent symptom of migraine. The presence of neck pain is associated with more severe headache symptoms. Central sensitization (CS) is a feature of migraine and may be related to the development of neck pain and the process of migraine chronification. There's no gold standard tool to access CS, but the Central Sensitization Inventory (CSI) has been suggested. However, the relation between CSI and other assessment tools, such as the headache impact and neck pain disability, is still unclear.

### Objectives

To evaluate the correlation between CS, measured by CSI and headache impact, measured by Headache Impact Test (HIT-6) and neck disability, measured by Neck Disability Index (NDI).

### Methods

The local Research Ethics Committee (5,253,045/2022) approved this cross-sectional study. One hundred individuals diagnosed with migraine, according to the third edition of the International Classification of Headache Disorders, were recruited. Sociodemographic data were collected, plus the CSI, HIT-6 and NDI questionnaires. Clinic and demographic data were analyzed by mean and standard deviation. The Shapiro-Wilk test was performed to verify data distribution, and Pearson's correlation was used to verify the association between CSI and the HIT-6. A posteriori, the correlation between the CSI and NDI was performed. The correlation was interpreted using a range of -1 to 1, considering <0.3 as a weak correlation, between 0.3 and 0.7 as a moderate correlation and >0.7 as a strong correlation.

### Results

The evaluated individuals had a mean age of 36.6 years (SD= 9.7), with a mean body mass index of 26.1 (SD= 4.2). The mean illness duration was 17.1 (SD=10.1), with a mean frequency of 13.8 (SD=8.8) headache days per month, with a mean intensity of 7.9 (SD= 1.8). The mean score of the CSI questionnaire was 50 points (SD=15.8), from HIT-6 was 63 points (SD=9) and from NDI was 13 points (SD= 8). A positive and moderate correlation was found between CSI and HIT-6 ( $r= 0,43$ ;  $p<0,001$ ) and between CSI and NDI ( $r= 0,42$ ;  $p<0,001$ ).

### Conclusion

The CSI correlates moderately with HIT-6 and NDI, two validated assessment tools for migraine. Therefore, we can suggest the use of CSI to evaluate migraineurs.