Temporomandibular disorders and Central Sensitization Inventory: an exploratory study

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Objectives: Temporomandibular disorders (TMD) can be associated with impaired pain mechanisms often defined as Central Sensitization (CS) (1–3). The Central Sensitization Inventory (CSI) was designed to identify and quantify key symptoms associated with CS (4–6). Evidence regarding the construct validity of the CSI and its use for TMD patients is however lacking. Therefore, the aim of this study was to assess factors associated with the CSI score.

Methods: In a cross-sectional exploratory study patients, with TMD filled-out several questionnaires including the CSI, Neck Disability Index (NDI), Headache Impact Test (HIT-6), Pain Catastrophizing Scale (PCS), Hospital Anxiety and Depression Scale (HADS), Brief Pain Inventory (BPI), MOS 36-item short-form (SF-36), Nijmegen questionnaire and indicated the locations of their pain on a Body Chart. Correlations between the CSI score and other outcomes measures were analysed. Then, a model was developed to explain the CSI variance with linear regression stepwise.

Results: In total, 71 patients with TMD were included (56 females, 15 males). The CSI score was strongly correlated with the Nijmegen (r=0.8), HIT-6 (r=0.68) and NDI (r=0.66) scores. Moreover, 75% of the CSI variance was explained by dysfunctional breathing related symptoms, headaches related functional impact and neck related disability.

Conclusion: The strong relationship between CSI scores and dysfunctional breathing related symptoms, headaches related functional impact and the widespread nature of pain

provide further evidence regarding the construct of the CSI. These preliminary findings are a step to a better understanding of the CSI construct and the assessment of impaired pain mechanisms in TMD.

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