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Use of the Central Sensitization Inventory (CSI) as a treatment outcome measure for patients with chronic spinal pain disorder in a functional restoration program

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Abstract

Background context: The Central Sensitization Inventory (CSI) is a valid and reliable patient-reported instrument designed to identify patients whose presenting symptoms may be related to central sensitization (CS). Part A of the CSI measures a full array of 25 somatic and emotional symptoms associated with CS, and Part B asks if patients have previously been diagnosed with one or more specific central sensitivity syndromes (CSSs) and related disorders. The CSI has previously been validated in a group of patients with chronic pain who were screened by a trained psychiatrist for specific CSS diagnoses. It is currently unknown if the CSI can be a useful treatment-outcome assessment tool for patients with chronic spinal pain disorder (CSPD) who are not screened for comorbid CSSs. It is known, however, that previous studies have identified CS-related symptoms, and comorbid CSSs, in subsets of patients with CSPDs. Studies have also shown that CS-related symptoms can be influenced by cognitive and psychosocial factors, including abuse history in both childhood and adulthood, sleep disturbance, catastrophic and fear-avoidant cognitions, and symptoms of depression and anxiety.

Purpose: This study aimed to evaluate CSI scores, and their associations with other clinically relevant psychosocial variables, in a cohort of patients with CSPD who entered and completed a functional restoration program.

Study design/setting: A retrospective study of prospectively collected data from a cohort study of patients with CSPD, who completed the CSI at admission to, and discharge from, an interdisciplinary function restoration program (FRP) was carried out.

Patient sample: A cohort of 763 patients with CSPD comprised the study sample.

Outcome measures: Clinical interviews evaluated mood disorders and abuse history. A series of self-reported measures evaluated comorbid psychosocial symptoms, including pain intensity, pain-related anxiety, depressive symptoms, somatization symptoms, perceived disability, and sleep disturbance, at FRP admission and discharge.

Methods: Patients were grouped into five severity level groups, from mild to extreme, based on total CSI scores, at FRP admission, and then again at discharge. The FRP included a quantitatively directed and medically supervised exercise process, as well as a multimodal psychosocial disability management component.

Results: The CSI severity groups were strongly associated with Major Depressive Disorder and previous abuse history (p<.01), which are known risk factors for CS-related symptoms and diagnoses. The CSI scores were also strongly associated with patient-reported CSS diagnoses on CSI Part B. The percentage of patients who reported a comorbid CSS diagnosis increased in each higher CSI-severity group, from 11% in the Subclinical group, to 56% in the Extreme group. The CSI severity groups were significantly related to other CS-related patient-reported symptoms, including pain intensity, pain-related anxiety, depressive symptoms, somatization symptoms, perceived disability, and sleep disturbance (p's<.001). The CSI scores, along with all other psychosocial measures, decreased at treatment discharge.

Conclusions: In the present study, admission CSI scores were highly associated with previous CSS diagnoses, CS-related symptoms, and clinically relevant patient-reported psychosocial variables. All psychosocial variables, as well as scores on the CSI, were significantly improved at FRP discharge. The CSI may have important clinical utility, as a screener and as a treatment outcome measure, for patients with CSPD participating in an interdisciplinary FRP.

Keywords: CSI; Central Sensitization Inventory; Central sensitivity syndrome; Central sensitization; Chronic pain; Chronic spinal pain disorder; Functional restoration program.

Comment in

Additional evidence supporting the central sensitization inventory (CSI) as an outcome measure among chronic pain patients in functional restoration program care.
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