Measurement Properties of the Central Sensitization Inventory

Background

- Central Sensitization (CS) is a phenomenon associated with several medical diagnoses, including post-cancer pain, low back pain, osteoarthritis, whiplash, and fibromyalgia.
- CS involves an amplification of pain sensitivity.
- The Central Sensitization Inventory is the first survey tool of its kind, designed to quantify CS symptom severity.

Purpose

- The purpose of this systematic review was to investigate the measurement properties of the CSI.
- Using the COSMIN scoring system, our goal was to assess the quality of all published evidence regarding the CSI.

Measurement Properties

<table>
<thead>
<tr>
<th>Cross-cultural Validity</th>
<th>The degree to which the items on a translated instrument are an adequate reflection of the items on the original version of the instrument</th>
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<tbody>
<tr>
<td>Internal Consistency</td>
<td>The degree of interrelatedness among the items of an instrument</td>
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<td>Reliability</td>
<td>The extent to which repeated measurements agree with one another</td>
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<td>Responsiveness</td>
<td>The ability of a measure to detect change over time in the phenomenon of interest</td>
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<td>Content Validity</td>
<td>The degree to which an instrument measures the construct that it is supposed to measure</td>
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<tr>
<td>Structural Validity</td>
<td>The degree to which the scores of an instrument are an adequate reflection of the complexity of the construct</td>
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<tr>
<td>Construct Validity</td>
<td>The degree to which the scores of an instrument are consistent with current hypotheses regarding the construct</td>
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<tr>
<td>Interpretability</td>
<td>The degree to which one can assign meaning to an instrument’s quantitative scores or change in scores</td>
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<tr>
<td>Criterion Validity</td>
<td>The degree to which the scores of an instrument are an adequate reflection of a gold standard</td>
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Methods

- Authors applied the Preferred Reporting Items for Systematic Reviews and Meta Analyses (PRISMA) Statement.
- Quality was assessed using the COSMIN four-point scoring system designed for systematic reviews.

Results

- Eight studies met inclusion criteria.
- Measurement property reports were good to excellent for all studies according to the COSMIN scoring system.
- Interpretability measures were consistent among publications.
- Construct validity was strong when examined among other CS validated measures.

Analysis

![Diagram showing disease states]

- Chronic Fatigue
- TMJ Dysfunction
- Depression
- Irritable Bowel Syndrome
- Depression
- Anxiety
- Fibromyalgia

- Quality of evidence from all publications was “Good” to “Excellent” according to COSMIN criteria.
- Interpretability and Construct Validity were qualitatively scored in lieu of COSMIN criteria.

Conclusions

- The CSI is a valid and reliable outcome measure.
- Items on the CSI are broad by design.
- A gold standard definition of CS is still needed to strengthen future CS-related outcome measures.
- Many items on the CSI are common elements of anxiety and depressive disorders.

Clinical Relevance

- The CSI is designed to quantify symptom severity, and does so effectively.
- Established threshold values make CSI scores easily interpretable.
- Translations of the CSI hold the same strong measurement properties as the original.

Acknowledgements / References