ABSTRACT

A Study on Central Sensitization in Chronic Non-specific Low Back Pain

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Background:
The possibility of the presence of central sensitization (CS) among chronic non-specific low back pain (CNSLBP) patients to predict treatment response by related outcome measures has not been adequately explored.

The purpose of this study was to determine the effects of ‘McKenzie exercise program’ (MEP) and ‘Conventional physiotherapy program’ (CPP) on various outcomes for subjects having CNSLBP with or without CS, investigate whether any difference in outcome was related to CS, pain, pressure pain threshold, disability, fear-avoidance beliefs, trunk flexors & extensors muscles endurance, and Global rating of change scores for overall improvements.

Objectives:
The present study tests whether MEP reduces CS better in CNSLBP patients having CS compared to CPP.

Materials and Methods:
One hundred twenty-eight patients with CNSLBP were randomly allocated to two groups. The experimental group (n=64) received only MEP and control group (n=64) received only CPP. Each group received specific weekly
treatment five times during the study for two months. Outcome measures were Central sensitization Inventory-Gujarati (CSI-G) for the presence of CS, Numerical pain rating scale (NPRS) for pain intensity, pressure pain threshold by pressure algometry, Roland Morris Disability Questionnaire-Gujarati (RMDQ-G) for disability, Fear-avoidance-beliefs Questionnaire-Gujarati (FABQ-G) for fear-avoidance beliefs, trunk flexors & extensors endurance tests, and Global rating of change scores for overall improvements.

**Results and Discussion:**
Both the groups irrespective of having CS or without CS showed a decrease in NPRS, CSI-G, RMDQ-G and FABQ-G scores and increase in PPT and trunk flexors and extensors endurance scores. But decrease in NPRS, CSI-G, RMDQ-G and FABQ-G scores and increase in PPT scores were significantly better in the experimental group with \( p<0.05 \). In contrast, control group performed significantly better on trunk flexors and extensors endurance scores with \( p<0.05 \).

Similarly, when compared the CNSLBP patients of experimental and control group having CS; results were same as above.

**Conclusion:**
McKenzie exercises are effective in reducing central sensitization, pain, disability and fear avoidance beliefs but it does not improve trunk flexors and extensors endurance in CNSLBP patients with central sensitization.