

# **Sensomotoric Exercises in Chronic Non-Specific Low Back Pain – Preliminary Results of a Single Centre**

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**Abstract:** Background.

The basic non-pharmacological treatment for chronic non-specific low back pain (CLBP) are medical exercises, but there is no unique system of exercises applicable to each single patient. Objectives. Regarding to changes of central nervous system in patients with CLBP in the sense of central sensitization, in this pilot study we evaluated the effect of sensomotoric exercises on pain and functional disability in CLBP.

Methods.

The study included 20 patients with CLBP with intensity of pain > 3 on 0-10 visual analog scale (VAS). Patients were randomly assigned into two equally numbered groups. Patients in the first group performed sensomotoric exercises and in the second group conventional strengthening and range of motion flexion/extension exercises, in duration of 4 weeks. Data on 10 variables of interest (pain in rest and on movement, global patient's and examiner's assessment, Schober's test, reclinatio, lateral flexion on both sides, paravertebral musculature tension and Oswestry Disability Index) were collected before the therapy, after 20 therapies and one month after the end of therapy. Other treatment modalities, including pharmacotherapy did not change.

Results. In the sensomotoric group there was a significant improvement in 8/10 examined variables between 1st and 2nd and 1st and 3rd measurement with the exception in one variable only between 1st and 3rd measurement. In the conventional group the improvement was observed in 6/10 variables, while in 3 variables no statistical improvement occurred in 1st and 2nd measurement. When comparing two groups there was no significant difference in variables of interest.

Conclusions.

In our preliminary study of a patient with CLBP there was an improvement regarding majority of variables in both groups, sensomotoric and conventional exercise group. Although there was no significant difference regarding each single variable among two groups, we found the improvement in a larger number of variables and their faster and long-lasting positive effect in patients who underwent sensomotoric exercises in comparison to the group who performed conventional exercise.

**Key words:** low-back pain, chronic, sensomotoric, exercise