

## **BACHELOR THESIS ABSTRACT**

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**Title:** Compensatory exercise with dual-task elements for people with sedentary work

### **Abstract:**

The bachelor thesis deals with the issue of sedentary job and its compensation using exercise with the Kommo® bar. Sedentary behaviour leads to many health problems and affects physical and mental health. Prolonged sitting is often associated with inappropriate posture and is one of the most common causes of back pain. Treatment and prevention of back pain is an important part of the physiotherapist's work.

The bachelor's thesis aims to investigate the effect of the new type of compensatory exercise in individuals with sedentary jobs on pain and spinal mobility.

The bachelor's thesis involved a group of individuals with office-based sedentary jobs who have experienced back pain. The exercise program lasted 8 weeks and included 1 hour of group exercise per week. The exercise used a special Kommo® bar and the use of motor and cognitive so-called dual-task tasks. The effect of the therapeutic intervention was assessed using the spinal mobility tests (Schober, Stibor, Čepoj, Otta, Thomayer), the functional mobility tests (the Timed Up and Go test, the Five Times Sit to Stand test) and the subjective pain questionnaires (the Visual Analogue Pain Scale, the McGill University Pain Questionnaire and self-reported pain questionnaire).

A total of 15 subjects (11 women, 4 men) with a mean age of 41.83 years were included. After completing the exercise program, there was a significant reduction in perceived back pain intensity and also a statistically significant improvement in spinal mobility on the Stibor and Otta's inclination tests, as well as the Timed Up and Go test without and with the addition of a cognitive task.

The new type of exercise with the Kommo® bar may be a possible therapeutic tool to increase spinal mobility and reduce back pain.

**Key words:** sedentary job, dual-task, Kommo® bar, back pain, spinal mobility