

Abstract

Disorders of postural stability seriously impair the quality of life. Falls are more common in the elderly, where they can have very serious consequences. However, this issue does not always concern only seniors. These disorders can be caused by a number of reasons. The diploma thesis is devoted to postural stability in patients with vestibular disorders. The aim of the theoretical part of the work is to present comprehensive information on the control of postural stability, its disruption and the integration of sensory systems needed for its maintenance. Further chapters describe postural control assessment and rehabilitation options. The aim of the experimental part was to determine the effect of vestibular rehabilitation on postural control. The evaluation was carried out with the help of a static stabilometric platform Kistler®.

9 patients with postural stability disorder in the chronic stage participated in the research part. A total of 5 men and 4 women, aged from 35 to 78 years, on average 59 with $SD \pm 16$ years, with peripheral (4), central (4) or combined (1) vestibular disorders were exposed to a 3-month rehabilitation program. Before starting the vestibular rehabilitation program, patients were examined for static stabilometry using the CTSIB and SLST tests. Every month, the stabilometric examination was repeated together with the individual modification of the rehabilitation program. The results were compared using exploratory analysis.

The results show a statistically significant overall decreasing linear trend in the sway area – total after each visit ($p < 0.0001$). It was possible to demonstrate a decreasing linear trend in the sway velocity – total ($p = 0.00202$). A statistically significant effect of vestibular rehabilitation on postural stability in various standing modifications was demonstrated in patients with peripheral vestibular disorder ($p = 0.0007$).