Abstract

This research thesis with one case study focuses on the impact of a herniated disc on spinal movements in the sagittal plane. The theoretical section describes the anatomy and kinesiology of the intervertebral disc, spinal kinesiology with an emphasis on analysing movements in the sagittal plane. Furthermore, it presents insights into the influence of an intervertebral disc herniation on spinal movements and examines the correlation between posture and disc herniation. The aim of the research paper is to summarize the existing knowledge, particularly regarding the effect of a disc herniation on spinal movements in the sagittal plane. In the practical part, a case study of a single subject with a lumbar herniated disc is presented. This subject underwent two examinations with a six-week interval, aiming to evaluate the impact of improved trunk stability using the Dynamic Neuromuscular Stabilization (DNS) method on spinal parameters and their development in the sagittal plane. Objective evaluation methods include the Thomayer test, Schober's test, Stibor's test, selected functional tests according to DNS, Oswestry Disability Index (ODI), Roland-Morris Disability Questionnaire, and Visual Analog Scale (VAS) for pain assessment. Kinesiological examinations were performed for standing and walking, and the lumbo-sacral transition area was palpated. The patient showed significant improvement in spine mobility tests, better results in DNS functional tests, and improved subjective perception. The aim of the practical section is to determine spinal movements in the sagittal plane in a patient with a herniated disc, assess how the herniation influences these movements, and confirm whether improved postural stability leads to an enhancement of these ranges.