Abstract

This bachelor thesis summarizes the findings on osteoarthritis of the medial compartment of the knee joint and explores its potential management through physiotherapy. The theoretical part presents knowledge about osteoarthritis of the medial compartment of the knee joint, describes the physiological and pathological gait patterns in of these patients and outlines possible physiotherapeutic techniques for its management. The practical part examines whether physiotherapy can modify the pathological gait pattern in these patients, thereby improving the symmetry of knee joint loading, enhancing its function, and alleviating symptoms.

In the practical section, a case study was conducted where one subject was monitored for 4 weeks. Before the therapy, the subject underwent a complete kinesiological analysis, the 6-Minute Walk Test, and completed the WOMAC questionnaire, which assesses pain, joint stiffness and the effort required for daily activities. Pain was evaluated using a Numeric Rating Scale. For the qualitative assessment of gait patterns, video analysis of gait was performed both before and after the therapeutic intervention.

The subject participated in four individual physiotherapy sessions and was instructed in a daily self-therapy regimen. In self-therapy, the patient performed daily exercises including strengthening the knee joint extensors with weights, self-traction of the knee joints, lunge standing and more.

After 4 weeks of self-therapy, pain decreased in all surveyed areas according to the Numeric rating scale and resting pain completely disappeared. In the WOMAC questionnaire, the score dropped from 38/96 to 17/96, and the distance covered in the 6MWT increased from 405 m to 450 m. According to the video analysis the subject's gait pattern matched the patterns described in the literature. The therapeutic intervention did not have a significant impact on the qualitative assessment of gait before and after the therapy. Smaller knee flexion angles in the stance phase and reduced knee varus in degrees were measured at the final examination. According to the video analysis, the subject's gait pattern matched the patterns described in the literature, except for individual deviations.