

Abstract

Title: Improving the posture of a former volleyball player during a three-month intervention

Objectives: The aim of the bachelor's thesis is to process a literature search, to introduce beach volleyball and clarify its problems in the possible emergence of muscle imbalances and postural deviations. Another goal is to choose a former beach volleyball player, to perform an examination of the musculoskeletal system. The main goal of this work is to compile, describe, apply a compensatory exercise program and verify its effect in terms of posture adjustment and interpret the results of the examination and the applied intervention program.

Methods: The thesis is a case study of a former beach volleyball player with deviations from the correct posture, for which an intervention exercise program was compiled on the basis of musculoskeletal diagnostics. The program lasted three months and was aimed at compensating for poor posture and identified muscle imbalances. The program consisted of partial compensatory training units, which included breathing exercises focused on activating the muscles of the deep stabilization system, relaxation, stretching and strengthening exercises, which were modified after mastering lighter variants. A comprehensive kinesiological analysis, functional tests of spinal mobility and tests for the examination of muscle shortening according to M. Tichý (2000) were performed for the initial diagnostics and to verify the effect of the compiled program. In the laboratory, we evaluated the body composition of the test subject before and after the intervention using the Tanita (Japan) bioimpedance device.

Results: The kinesiological analysis of our subject showed deviations from the correct posture and muscle imbalance typical of a volleyball player. Muscle imbalances within the lower and upper cross syndrome were found from functional tests. After the application of the intervention program, we noticed a significant improvement in the subject's posture in terms of reducing torso tilt and lumbar lordosis and thoracic kyphosis, adjustment of shoulder and shoulder posture, strengthened shoulder muscles fixing the shoulder blades, relaxed pectoral muscles and trapezius muscle on both sides. The consequence of optimizing the diaphragmatic breathing and activating the deep stabilization system is that the abdomen no longer protrudes and the lower ribs are not in the inspiratory position.

Keywords: posture, posture improvement, beach volleyball, unilateral loading, muscle imbalance