

Abstract

Title: Use of virtual reality to evaluate the dynamic postural stability in beachvolleyball players

Objectives: The aim of the study was to evaluate if the dynamic postural stability of trained beachvolleyball players is affected by training. Also I tried to evaluate, if the final score of equilibrium will be higher, than in regular population. For testing was also used virtual reality to stimulate vestibular apparatus. Virtual reality was used as a disturbing element. NeuroCom Smart Equi Test was used as an evaluation factor of dynamic postural stability.

Methods: The research involved a total of 20 females – 10 beachvolleyball players and 10 healthy persons performing activities of daily living. We investigated dynamic postural stability on device called NeuroCom Smart Equi Test. For evaluation of dynamic postural stability was used Head Shake Test – Sensory Organisation Test. This test was taken twice, second time after intervention by virtual reality. Data were analyzed by statistical t-test method.

Result: Statistically significant result was found only in the case of a Sensory Organisation Test condition 5 and 6 in comparison between both groups and Head Shake test-SOT2 in latero-lateral movement of the head at the control group. The results confirmed the effect of playing beachvolleyball on athletes postural stability. Also was found, that the postural stability of beachvolleyball players during retesting after video was played, is very good. Similar result was found at the second group. Therefore I can not confirm that training beachvolleyball has an influence on postural stability better than any other activities.

Key words: virtual reality, beachvolleyball, dynamic postural stability, vestibular apparatus, NeuroCom Smart Equi Test