

Abstract

Title:

Evaluation of the effect of circuit training with the use of labile surfaces on the postural stability in the general population

Objectives:

The main aim of this diploma thesis is to evaluate the effectiveness of circuit training using unstable surfaces on the static and dynamic postural stability in the general population.

Methods:

This study is among quantitative experimental studies. The research was done from June 2021 to January 2022. The research involved 40 probands of the general population. The probands were randomly divided into two groups of twenty. The intervention group practiced during circuit trainings for 2 months with unstable surfaces, the control group practiced circular training without any unstable surfaces. Dynamic and static postural stability was measured by functional tests: Star Excursion Balance test, Unipedal Stance test, Timed Up and Go test, Sit to Stand test and Functional Reach test. These tests were used before and after the intervention. The following statistical methods were used in both of their groups: Shapiro-Wilk test, paired T-test, Mann-Whitney U test. The level of statistical significance was determined using $\alpha = 0.05$. Clinical significance was calculated by using Cohen's d.

Results:

The results of the study showed that unstable surfaces have some effect on postural stability. The difference with great clinical and statistical significance was found in the Star Excursion Balance test, Unipedal Stance test, Timed Up and Go test and Sit to Stand test. No statistical significance was found for the last Functional Reach test, but there was a clinical significance.

Key words:

Postural stability, posture, labile surfaces, circuit training, general population, Star Excursion Balance test, Unipedal Stance test, Timed Up and Go test, Sit to Stand test, Functional reach test