Abstract

Title: The effect of chosen manual techniques on static and dynamic postural stability in physiotherapy students.

Aims: The main aim of this study is to assess the effect of chosen manual techniques on participants‘ static and dynamic postural stability.

Summary: The study was done from May to December 2019. A total of 100 subjects aged 19-38years took part in the study. Participants were randomly divided into two groups – experimental and control. Postural stability was measured by the following tests: Star Excursion Balance test, Unipedal Stance test, Timed Up and Go test and Sit to Stand test. These standardised measurements were taken before intervention, after intervention and a week from intervention. Experimental group undertook the intervention by manual techniques, which took 20 minutes. Outcomes were written into recording sheets. Final data were processed using Microsoft Excel 2013, IBM SPSS Statistics V26 and TIBCO Statistica 13.3.0. To calculate differences, the following statistical methods were used: Shapiro-Wilk test, independent T-test and Mann-Whitney U test. To measure effect size, Cohen’s d was used. The level of statistical significance was determined to $\alpha = 0,05$. The clinical significance was assessed by these levels: $d = 0,2\text{-}0,49$ (small effect), $d = 0,5\text{-}0,79$ (medium effect), $d \geq 0,8$ (large effect).

Results: Results of this study showed that one intervention of manual techniques on lower limbs is not enough for a statistically significant difference between experimental and control group in young, healthy adults aged between 19-38 years, assessed by four standardised tests. After an analysis of individual parts of the statistical tests, trends favouring the used intervention emerged.

Key words: posture, postural stability, Star Excursion Balance test, Unipedal Stance test, Timed Up and Go test, Sit to Stand test, manual techniques, mobilization, physiotherapy