

ABSTRACT

Objective: The main objective of this study is to verify the effectiveness of four-week intervention program based on the sensory motor stimulation method on postural stability of street dance dancers.

Methods: This non-randomized intervention study was conducted on 14 probands who were divided into a control and an experimental group. The experimental group underwent four-week long intervention program using the sensory motor stimulation method. The control group did not participate in the program. Postural stability was measured using the Footscan pressure plate, where total traveled way of COP (TTW of COP) was monitored in different positions such as single leg stance and narrow stance, both with eyes open and closed. To further assess postural stability, the clinical tests Triple Single Leg Hop Test, Single Leg Stance Test on Firm Surface and Jarocki test were used. Results of measures were compared between both groups. Comparison between probands with and without history of lower limb injury within the experimental group was made. Statistical processing and assesment of statistical significance between groups was performed using t-test and non-parametric Wilcoxon test. The level of statistical significance was determined as $\alpha = 0.05$.

Results: Statistically significant values of the TTW parametr ($p < 0,05$) were found in some of the positions in the experimental group. Specifically in right leg stance with eyes open and closed and in left leg stance with eyes open. In other positions there was no significant difference in the resulting values. In clinical tests, the values of the Single Leg Stance Test on Firm Surface for both lower limbs and the Triple Single Leg Hop Test for the right lower limb were significant.

Conclusion: The results of this study show that a training program based on the sensory motor stimulation method could have a positive effect on postural stability of street dancers, primarily in more challenging positions such as standing on one lower limb with and without visual control. These results need to be verified by research with a larger number of probands.

Keywords: postural stability, street dance, dance, proprioceptive training, sensory motor stimulation method