

ABSTRACT

Diabetes mellitus (DM) is an important health condition of the population and its prevalence continues to increase due to population aging, economic development and urbanization. Whole body vibration is a type of physical exercise that improves functionality, metabolic control and decreases the risk of cardiovascular disease in individuals with diabetes. The aim of this study was to evaluate the immediate effect of whole-body vibration on skin temperature, circulation, peripheral sensitivity and plantar pressure in adults and the elderly with and without type 2 diabetes. This is a controlled, randomized clinical trial (RCT), and triple-blind, which followed the guidelines established in the Consolidated Standards of Reporting Trials (CONSORT). It was carried out at the Laboratory of Kinesiotherapy and Manual Therapeutic Resources (LACIRTEM) of the Department of Physiotherapy of the Federal University of Pernambuco (UFPE), from February 2019 to January 2020. Patients who met the eligibility criteria were randomly divided into 6 groups: 24 Hz full body vibration group in diabetics (G1), “simulated” vibration group in diabetics (G2), diabetic control group (G3), group of full-body diabetics with 24 Hz vibration in non-diabetics (G4), simulated vibration group in non-diabetics (G5) and non-diabetic control group (G6). A single treatment session was carried out, consisting of 8 sets of 45 seconds with an interval of 30 seconds between sets, for G1, G2, G4 and G5. The diabetic and non-diabetic control group (G3 and G6) was evaluated, received pamphlets and guidelines on diabetes, answered the survey questionnaires and was reassessed shortly thereafter. The study is in accordance with Resolution 466/12 of the National Health Council and the Declaration of Helsinki and the authors declare that there is no conflict of interest. For statistical analysis of the results, a significance level of 95% was assigned, performed using the statistical software SPSS version 23.0. The results are presented in 3 articles. ARTICLE 1 (Pilot study) showing a reduction in temperature and blood flow in the feet of diabetic elderly people; ARTICLE 2 (pilot study with elderly people with no significant difference between VCI and Sham in sensitivity and peripheral circulation and ARTICLE 3 (RCT) where it was found that there was no significant improvement in VCI over Sham and Control in the analyzed variables.

Keywords: *Diabetes Mellitus; Blood Flow Speed; Skin temperature; Postural Balance; Vibration.*