Low-Volume Whole-Body Vibration Training Improves Exercise Capacity in Subjects With Mild to Severe COPD.

The objective of this study was to investigate the benefits of a low-volume out-patient whole-body vibration training (WBVT) program on exercise capacity in comparison with a calisthenics training program in subjects with COPD. In this single-center randomized controlled trial, 29 subjects with mild to severe COPD were randomized to WBVT or to calisthenics training, including relaxation and breathing retraining in combination with calisthenics exercises. Both groups equally exercised for a duration of 3 months with 2 sessions of 30 min/week. Outcome parameters were 6-min walk distance (6MWD, primary outcome), 5-repetition sit-to-stand test, leg press peak force, Berg balance scale, St George Respiratory Questionnaire, and COPD assessment test. Twenty-seven subjects completed the study (WBVT, n = 14; calisthenics training program, n = 13). Baseline characteristics between groups were comparable. Subjects in the WBVT group significantly improved median (interquartile range) 6MWD (+105 [45.5-133.5] m, P = .001), sit-to-stand test (-2.3 [-3.1 to -1.3] s, P = .001), peak force (28.7 [16.7-33.3] kg, P = .001), and Berg balance scale (1.5 [0.0-4.0] points, P = .055). Changes in 6MWD, sit-to-stand test, and leg press peak force were also found to be...
significantly different between groups in favor of the WBVT group. Only the between-group difference of the COPD assessment test score was in favor of the calisthenics training group (P = .02). A low-volume WBVT program resulted in significantly and clinically relevant larger improvements in exercise capacity compared with calisthenics exercises in subjects with mild to severe COPD. (ClinicalTrials.gov registration DRKS9706.).