Whole body vibration added to endurance training in obese women - a pilot study

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Whole body vibration (WBV) training is an increasingly popular training method that is strongly promoted for weight loss, but scientific data on its effectiveness, particularly in obese subjects, are sparse. 14 obese women (BMI: 37.4±1.3 kg/m2) randomized to 2 different groups (each n=7) participated in a 6-week endurance training program that was either combined or not combined with additional WBV training. Anthropometric measures, phase angle and body composition (assessed by bioelectrical impedance analysis; BIA), and resting energy expenditure (REE) were obtained before and after the training program. Body weight did not change during the training period (P=0.87), but waist circumference decreased in both groups (P=0.007; WBV: -3.4±1.4 cm; no-WBV: -1.7±0.7 cm) independent of WBV training (P=0.29 for group×time interaction). BIA revealed an enhancing effect of WBV training in comparison to no-WBV training on the phase angle (+0.20±0.12° vs. -0.19±0.12°; P=0.04) and calculated body cell mass (+0.8±0.2 vs. -0.3 ±0.4 kg; P=0.02), while calculated percentage fat mass decreased in both conditions (P=0.05) to similar extent (P=0.59; WBV: -0.8±0.2%; no-WBV: -0.4±0.5%). REE increased across the training (P=0.01; WBV: +77±33 kcal/24 h; no-WBV: +68±34 kcal/24 h), with this increase again not depending on WBV condition (P=0.85). Results of our pilot study in obese women provide preliminary evidence for a beneficial effect of WBV, when added to endurance training, on the bioelectrical phase angle, an increasingly recognized marker of individual's health status.
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