

Acute effects of whole-body vibration exercises at 2 different frequencies versus an aerobic exercise on some cardiovascular, neuromotor and musculoskeletal parameters in adult patients with obesity.

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Whole-body vibration exercise (WBVE), a nonimpact, viable and safe type of exercise, has been reported to be useful in the physical rehabilitation of obesity. Aim of the study was to compare the acute effects of WBVE with a session of walking and running (AER) on cardiovascular, neuromotor and musculoskeletal parameters in obese subjects. Sixteen adult obese subjects performed 3 tests (WBVE at 30 and 45 Hz, AER) randomly in different days. An increase in heart rate was recorded after AER and 45 Hz WBVE ($p < 0.001$), while only AER increased systolic ($p = 0.003$) and diastolic blood pressure ($p = 0.004$) and ratings of perceived exertion ($p < 0.001$). All 3 exercises determined lactate increase [AER $p < 0.001$, 45 Hz ($p = 0.04$), 30 Hz ($p = 0.03$) WBVE] and sit-and-reach (AER $p = 0.002$, 45 and 30 Hz WBVE $p < 0.001$) and fingertip-to-floor improvements (AER $p = 0.003$, 30 and 45 Hz WBVE $p < 0.001$), while only 30 Hz WBVE determined improvement in stair climbing test ($p < 0.05$). Considering the lack of effects of 30 Hz WBVE on the cardiovascular system and fatigue and its positive effect on flexibility and muscle power, this procedure can be considered an appropriate exercise protocol for the obese population.

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