

# Twelve weeks of whole body vibration training improve regucalcin, body composition and physical fitness in postmenopausal women: A pilot study

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(1) Background: Regucalcin or senescence marker protein 30 (SMP30) is a Ca<sup>2+</sup> binding protein discovered in 1978 with multiple functions reported in the literature. However, the impact of exercise training on SMP30 in humans has not been analyzed. Aging is associated with many detrimental physiological changes that affect body composition, functional capacity, and balance. The present study aims to investigate the effects of whole body vibration (WBV) in postmenopausal women. (2) Methods: A total of 13 women (aged 54.3 ± 3.4 years) participated in the study. SMP30, body composition (fat mass, lean mass, and bone mass) and physical fitness (balance, time up and go (TUG) and 6-min walk test (6MWT)) were measured before and after the 12 weeks of WBV training. (3) Results: The WBV training program elicited a significant increase in SPM30 measured in plasma (27.7%, p = 0.004) and also in 6MWT (12.5%, p < 0.001). The WBV training also significantly reduced SPM30 measured in platelets (38.7%, p = 0.014), TUG (23.1%, p < 0.001) and total body fat mass (4.4%, p = 0.02). (4) Conclusions: There were no significant differences in balance, lean mass or bone mass. The present study suggests that 12 weeks of WBV has the potential to improve SPM30, fat mass, TUG and 6MWT in postmenopausal women. © 2020 by the authors. Licensee MDPI, Basel, Switzerland.

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