

Can whole body vibration exercises promote improvement on quality of life and on chronic pain level of metabolic syndrome patients? A pseudorandomized crossover study.

L.L. Paineiras-Domingos , D.D.C. Sá-Caputo, A. Francisca-Santos, A. Reis-Silva, R.P. Carvalho-Lima, M.F.T. Neves, V.L. Xavier, H. Quinart, F.C. Boyer, A. Sartorio, R. Tair, M. Bernardo-Filho

Journal of Applied Physiology (1985) 128: 934-940, 2020.

Quality of life (QoL) is one of the most important health outcome concepts expressed subjectively. Chronic pain (CP) is an unpleasant sensory and emotional experience associated with actual or potential tissue damage. Taking into account the poor QoL and the CP already described in metabolic syndrome (MSy) individuals, this study aimed to evaluate the effects of whole body vibration exercises (WBVE) on these parameters in this population. Thirty-three MSy patients were divided in *subgroups A* [whole body vibration exercise group (WBVeG), $n = 17$, 15 females/2 males, 61.1 ± 8.4 yr] and *B* (control group, $n = 16$, 14 females/2 males, 58.2 ± 9.1 yr). *Subgroup A* performed 10 sessions (2 times/wk) of WBVE (18 min/session, with a frequency from 5 up to 14 Hz and a peak-to-peak displacement of 2.5, 5.0, and 7.5 mm) on a side-alternating vibrating platform (VP). *Subgroup B* did the same protocol, but the VP was turned off. The individuals answered the World Health Organization Quality of Life bref (WHOQoL-bref) questionnaire before the first and after the 10th session. The chronic pain level (CPL) was measured by a numeric rating scale (0-10) before and at the end of each session. Significant improvements were found in physical health ($P = 0.05$) and psychological health ($P = 0.04$) domains of WHOQoL-bref in WBVeG. A significant acute reduction of the CPL was found in the WBVeG after the protocol, considering the first session and at the last session. WBVE marginally improved physical health and psychological health and decrease the CPL in acute interventions. **NEW & NOTEWORTHY** Metabolic syndrome patients experience poor quality of life, frequently associated with lack of exercise and bad dietary habits. Additionally, factors such as obesity, neuromusculoskeletal impairment, and peripheral endothelial dysfunction result in a chronic pain level. Whole body vibration exercise might represent a suitable physical therapy, since it is easy to perform, low cost, safe, and capable of promoting an improvement of quality of life and reducing chronic pain level during acute interventions in metabolic syndrome individuals.

Se desidera avere la fotocopia di questo lavoro, per esclusivo uso personale, può fare richiesta per mail a: info@cresceresani.it indicando il titolo, gli autori, la rivista e il proprio recapito lavorativo (nome, cognome, indirizzo, CAP, città).