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From Medscape Medical News

Low-Frequency Vibration Improves Balance in Women With Fibromyalgia

Emma Hitt, PhD

Authors and Disclosures

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September 7, 2010 — A 12-week course of low-frequency vibration appears to be safe and feasible for improving dynamic balance in women with fibromyalgia, new research findings suggest.

Narcis Gusi, PhD, with the University of Extremadura in Caceres, Spain, and colleagues reported their findings in the August 2010 issue of *Arthritis Care & Research*.

"Whole-body vibration (WBV) has recently emerged as an intervention

that can have positive effects on the neural, muscular, and skeletal systems," the study authors note. "In WBV, a patient stands on a platform that oscillates at a particular frequency and amplitude, causing muscle contractions through stimulation of sensory receptors," they write.

The study included 41 women aged 41 to 65 years who were randomized either to a control group or to the vibration intervention, which included a 30-minute session of instruction plus 3 sessions of self-administered WBV per week for 12 weeks. Each session consisted of 6 repetitions of a 45- to 60-second, 12.5-Hz vibration while the patient assumed a lateral posture.

"We set the frequency at 12.5 Hz because it has been shown to improve body balance and bone mass density in women of a similar age using a tilt vibratory platform," the study authors note. Dynamic balance was assessed with a balance platform in 36 patients who completed the study.

Dynamic balance improved by 36% over baseline, whereas no benefit was observed in the control group. Differences in the dynamic balance index could be predicted by a calculation involving body weight, dynamic balance at baseline, and the group (WBV or control) to which patients were assigned (P < .001).

This finding is "novel and important because it raises the possibility of adding a new technology with potential health benefits to the usual exercise regimes recommended for patients with pain," Dr. Gusi and colleagues conclude. "The current study supports the development of novel approaches to physical therapy programs that utilize vibration therapy," they add.

According to Stuart Silverman, MD, with the rheumatology division at Cedars-Sinai Medical Center in Los Angeles, California, these findings support the use of this device in patients with balance problems due to fibromyalgia; however, "some of the unanswered questions include the effect of WBV on muscle conditioning, endurance, and pain."

"Vibration therapy is an effective therapy to increase bone density and balance in osteoporosis patients," Dr. Silverman told *Medscape Medical News*. "The major limitation is the availability of the device, which can cost \$1500 to \$3000 for home use," he added.

According to Dr. Silverman, balance problems as measured by simple testing, such as tandem walk or standing on 1 leg, are common in fibromyalgia patients. "Treating balance problems is 1 part of a physiotherapy approach to fibromyalgia," he said. Other approaches, which should be tailored to each patient, "may include aerobic exercise, strengthening exercise, and aquatherapy."

The study authors have disclosed no relevant financial relationships.

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