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High-Frequency Whole-Body Vibration Improves Balancing Ability in Elderly Women

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Abstract

Cheung W-H, Mok H-W, Qin L, Sze P-C, Lee K-M, Leung K-S. High-frequency whole-body vibration improves balancing ability in elderly women.

Objective

To investigate the efficacy of high-frequency whole-body vibration (WBV) on balancing ability in elderly women.

Design

Randomized controlled trial. Subjects were randomized to either the WBV intervention or the no-treatment control group.

Setting

Community-living elderly women.

Participants

Sixty-nine elderly women aged 60 or above without habitual exercise.

Intervention

Side alternating WBV at 20Hz with 3 minutes a day and 3 days a week for 3 months in the WBV intervention group. Those in control group remained sedentary with normal daily life for the whole study period.

Main Outcome Measures

Limits of stability in terms of reaction time, movement velocity, directional control, endpoint excursion, maximum excursion, and the functional reach test were performed at baseline and endpoint.

Results

Significant enhancement of stability was detected in movement velocity ($P<.01$), maximum point excursion ($P<.01$), in directional control ($P<.05$).

Conclusions

WBV was effective in improving the balancing ability in elderly women. This also provides evidence to support our user-friendly WBV treatment protocol of 3 minutes a day for the elderly to maintain their balancing ability and reduce risks of fall.



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Key Words

Accidental falls; Balance; Frail elderly; Posture; Randomized controlled trials; Rehabilitation; Vibration

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