Oral Communication

OC-150

Effect of Whole-Body Vibration Training on Fibromyalgia: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

Topic: Physical Modalities

Po-Chuan Chang[1], Fu-An Yang[2], Yu-An Chen[3], Yi-Tien Su[4] Jheng-Dao Yang[3], Hung-Chou Chen[3]

[1]*Department of General Medicine, Shuang Ho Hospital, Taipei Medical University, New Taipei City, Taiwan ROC*
[2]*Department of Physical Medicine and Rehabilitation, Far Eastern Memorial Hospital, New Taipei City, Taiwan ROC*
[3]*Department of Physical Medicine and Rehabilitation, Shuang Ho Hospital, Taipei Medical University, New Taipei City, Taiwan ROC*
[4]*Department of Physical Medicine and Rehabilitation, Far Eastern Memorial Hospital, New Taipei City, Taiwan ROC*

BACKGROUND

Fibromyalgia is a chronic disorder characterized by chronic widespread musculoskeletal pain, fatigue, sleep disturbance, cognitive problems, headache, muscle stiffness, irritable bowel syndrome, depression and lower functional ability affecting patients' overall quality of life. Its management remains challenging due to limited understanding and a lack of strong evidence. Previous studies on the effects of whole-body vibration training for fibromyalgia have shown inconsistent results. This systematic review and meta-analysis aimed to evaluate the effects of whole-body vibration training in improving symptoms and functional outcomes of individuals with fibromyalgia.

METHODS

We conducted a comprehensive search of the PubMed, Cochrane Library, Embase, and Scopus databases from their inception through October 9, 2024, to identify relevant studies. The inclusion criteria were as follows: (1) studies that enrolled participants diagnosed with fibromyalgia; (2) studies that implemented whole-body vibration training as the intervention; (3) studies that used exercise, standard care, or no intervention as the control treatment; and (4) studies that included clinical outcomes such as the Fibromyalgia Impact Questionnaire, pain, quality of life, stability index, and motor function tasks. The analysis was conducted using RevMan 5.4 software. The risk of bias and quality of evidence were assessed using the Physiotherapy Evidence Database (PEDro) scale and the Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) method.

RESULTS

Information was extracted from seven randomized controlled trials. The analyses demonstrated statistically significant improvement, indicating a preference for whole-body vibration training in the outcomes of Fibromyalgia Impact Questionnaire scores (SMD of -0.37, with a 95% CI of [-0.73, -0.01]), pain scores (SMD of -1.31, with a 95% CI of [-1.82, -0.79]), overall stability index (SMD of -0.55, with a 95% CI of [-0.95, -0.15]), and six-minute walking test (SMD of 1.65, with a 95% CI of [1.11, 2.20]).

CONCLUSION

The findings suggest that whole-body vibration training may be a viable therapeutic option for fibromyalgia. However, certain limitations including the relatively small sample size, variations in diagnostic criteria, and the absence of standardized guidelines, should be acknowledged. To further confirm its benefits, additional larger-scale, well-designed randomized controlled trials are required.

Statement of Disclosures

None

Corresponding Author:
Po-Chuan Chang
Department of General Medicine, Shuang Ho Hospital, Taipei Medical University, New Taipei City, Taiwan ROC
Email: pcc120256@gmail.com

Doi: 10.5606/archisprm.2026.OC-150