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Effects of whole-body vibration exercise for non-specific chronic low back pain: an assessor-blind, randomized controlled trial

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Abstract

Objective:

To confirm the benefits of whole-body vibration exercise for pain intensity and functional disability in patients with non-specific chronic low back pain.

Design:

Single-blind randomized controlled trial.

Setting:

Outpatient.

Subjects:

Eighty-nine patients with non-specific chronic low back pain met the inclusion criteria, they were randomly allocated to either the intervention group ($n = 45$) or the control group ($n = 44$).

Intervention:

The intervention group received whole-body vibration exercises three times a week for 12 weeks. The control group received general exercise protocol three times a week for 12 weeks.

Main outcomes:

The primary outcome measures were pain intensity and functional disability measured by the visual analog scale scores and Oswestry Disability Index. The secondary outcome measures included lumbar joint position sense, quality of life (Short Form Health Survey 36) and overall treatment effect (Global Perceived Effect).

Results:

A total of 84 subjects completed the 12-week study program. After 12 weeks, compared with the control group, the mean visual analog scale and Oswestry Disability Index scores decreased by additional 1 point (95% confidence interval (CI) = -1.22 to -0.78; $P < 0.001$), 3.81 point (95% CI, -4.98, -2.63; $P < 0.001$) based on adjusted analysis in the intervention group. And the intervention group provided additional beneficial effects for in terms of lumbar joint position sense ($P < 0.05$), quality of life ($P < 0.05$), and Global Perceived Effect ($P = 0.012$).

Conclusion:

The study demonstrated that whole-body vibration exercise could provide more benefits than general exercise for relieving pain and improving functional disability in patients with non-specific chronic low back pain.

Keywords [Whole-body vibration](#), [low back pain](#), [randomized controlled trials](#), [exercise](#), [rehabilitation](#)
