E-Poster

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Efficacy of Specific Skilled Motor Versus General Exercise Training on Muscle and Neural Alterations in Recurrent Low Back Pain: A Randomized Clinical Trial

Topic: Exercise

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BACKGROUND

Structural and functional alterations of the brain and paravertebral muscles have been suggested as underlying mechanisms for the recurrence of non-specific low back pain (LBP). Exercise therapy is generally recommended as treatment, yet the most effective type of exercise intervention and the mechanisms underlying its observed effects remain unclear. This study aims to examine the intermediate and long-term effects of skilled motor training versus general exercise training on muscle and neural alterations.

METHODS

In this double-blind randomized controlled clinical trial, 42 people in remission from recurrent LBP will be randomly allocated to a 13-week exercise program consisting of 18 treatment sessions of either skilled motor training or general exercise training. The primary outcomes include brain structure (gray and white matter micro- and macro-structure), brain function (resting-state functional connectivity), paravertebral muscle structure (cross-sectional area and muscle fat index), and paravertebral muscle function (metabolic muscle function). Secondary outcomes encompass lumbopelvic sensorimotor control, pain sensitivity and pain modulation, psychosocial factors, self-reported pain, LBP-related disability, and LBP recurrence. Measurements will be conducted at baseline, midway through the training program (after 9 sessions), upon completion of the training program (after 18 sessions), and at 1, 2, 3, 6, and 9 months post-treatment.

RESULTS

The therapy was completed in February. The pre- and post-therapy results will be analyzed in the coming months and will be available in September.

CONCLUSION

Findings from this study will provide novel insights for clinicians in guiding treatment decisions for individuals with recurrent LBP.

Statement of Disclosures

None

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