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The effect of exercise program in water on pain level and functional status in patients with chronic lower back pain: A single-blind randomised controlled trial

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BACKGROUND: Lower back pain is one of the most widespread health issues today. Water-based exercise is an effective treatment to reduce pain intensity and disability.

OBJECTIVE: To assess the effect of a water exercise program on pain level and functional status of patients suffering from chronic low back pain.

METHODS: One hundred and twenty-four volunteers with chronic lower back pain, aged 19 to 70, were randomly assigned to either a water exercise group or a land exercise group. Both groups performed exercises that combined local deep muscles transversus abdominis and the multifidus with diaphragm activity, with the integration of movements of routine daily life. Both programs lasted three months, 28 twice-weekly 45-minute sessions.

RESULTS: Significantly better improvement of all pain variables and functional status was found in the water group. The major significant ($p < 0.001$) contribution of the water group was obtained for pain description improvement. A multivariate linear regression model examined the predictors for pain and functional status improvement. The independent predictors for pain and functional status were pre-intervention status and the assigned group.

CONCLUSIONS: The water program has a greater potential than the land program for pain reduction and improving functional status of patients with chronic lower back pain.