

EXERCISE FOR OSTEOARTHRITIS OF THE KNEE

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ABSTRACT

Background

Biomechanical factors, such as reduced muscle strength and joint malalignment, have an important role in the initiation and progression of knee osteoarthritis (OA). Currently, there is no known cure for OA; however, disease-related factors, such as impaired muscle function and reduced fitness, are potentially amenable to therapeutic exercise.

Objective

To determine whether land-based therapeutic exercise is beneficial for people with knee OA in terms of reduced joint pain or improved physical function.

Criteria for considering studies for this review

Five electronic databases were searched, up until December 2007.

Selection criteria

All randomized controlled trials randomising individuals and comparing some form of land-based therapeutic exercise (as opposed to exercises conducted in the water) with a non-exercise group.

Data collection and analysis

Two review authors independently extracted data and assessed methodological quality. All analyses were conducted on continuous outcomes.

Main results

The 32 included studies provided data on 3616 participants for knee pain and 3719 participants for self-reported physical function. Meta-analysis revealed a beneficial treatment effect with a standardized mean difference (SMD) of 0.40 (95% confidence interval (CI) 0.30 to 0.50) for pain; and SMD 0.37 (95% CI 0.25 to 0.49) for physical function. There was marked variability across the included studies in participants recruited, symptom duration, exercise interventions assessed and important aspects of study methodology. The results were sensitive to the number of direct supervision occasions provided and various aspects of study methodology. While the pooled beneficial effects of exercise programs providing less than 12 direct supervision occasions or studies utilising more rigorous methodologies remained significant and clinically relevant, between study heterogeneity remained marked and the magnitude of the treatment effect of these studies would be considered small.

Authors' conclusions

There is platinum level evidence that land-based therapeutic exercise has at least short term benefit in terms of reduced knee pain and improved physical function for people with knee OA. The magnitude of the treatment effect would be considered small, but comparable to estimates reported for non-steroidal anti-inflammatory drugs.
