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Appraisal

Critically Appraised Papers

Multimodal physiotherapy may be no better than sham treatment for people with hip osteoarthritis

Synopsis

Summary of: Bennell KL, Egerton T, Martin J, Abbott JH, Metcalf B, McManus F, et al. Effect of physical therapy on pain and function in patients with hip osteoarthritis: a randomized clinical trial. *JAMA*. 2014;311(19):1987-1997.

Question: Does a multimodal physiotherapy program lead to greater improvements in pain and physical function than sham physiotherapy among people with hip osteoarthritis? ***Design:*** A randomised, controlled trial with concealed allocation and 24-week follow-up. ***Setting:*** Nine private physiotherapy clinics in Melbourne, Australia. ***Participants:*** Men and women aged 50 years or older with hip osteoarthritis, according to the American College of Rheumatology classification criteria, with an average pain intensity during the past week of at least 40 on a 100-mm visual analogue scale, and at least moderate difficulty with performing daily activities. Key exclusion criteria included: lower limb surgery; physiotherapy, chiropractic treatment or prescribed exercises in past 6 months; more than 30 minutes daily walking; and regular exercise more than once a week. Randomisation allocated 49 people to the physiotherapy program and 53 to the sham treatment. ***Interventions:*** The physiotherapy program was semi-standardised with core components typical of clinical practice (manual therapy; spine mobilisation; deep tissue massage; muscle stretches; home exercises performed four times/week; education and advice; and provision of a walking stick, if appropriate), plus optional techniques and exercises depending on assessment findings. Participants were instructed to perform unsupervised home exercises three times a week during the 6-month follow-up. The sham intervention included inactive ultrasound and inert gel lightly applied to the hip region. Participants in both groups attended 10 individual physiotherapy sessions over 12 weeks; twice in the first week, once a week for 6 weeks, then approximately once every 2 weeks. ***Outcome measures:*** Primary outcomes were pain on a 100-mm visual analogue scale and physical function, measured on the Western Ontario and McMaster Universities Index (0 to 68), assessed by a blinded assessor at weeks 13 and 36. ***Results:*** A total of 96 patients (94%) completed the 13-week assessment; there were no statistically significant differences between the two groups. The mean difference in improvement for pain was 6.9 mm (95% CI −3.9 to 17.7), and 1.4 units (95% CI −3.8 to 6.5) for function, both favouring the sham treatment. Significantly more participants reported adverse events in the active group than in the sham treatment group (41 versus 14%, $p = 0.003$). No significant between-group differences in change were observed 24 weeks after the intervention. ***Conclusion:*** A multimodal physiotherapy program did not result in greater improvement in pain and function than sham treatment for people with symptomatic hip osteoarthritis.

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Commentary

A clear conclusion can be drawn from this high-quality randomised controlled trial: this multimodal physiotherapy program did not give additional clinical benefit over a placebo-controlled sham intervention, and was associated with relatively frequent, but mild, adverse effects.

Physiotherapy is typically delivered as a comprehensive package of care; therefore, Bennell et al aimed to test the hypothesis that a multimodal program could have beneficial effects on pain and function. However, focusing on several elements within the time limit of a treatment session may result in an ineffective dosage of each element. Mixed programs may even raise the risk of adverse interaction effects.[1] Thus, one implication of the findings of this trial is that physiotherapists should select modalities most appropriate for each individual patient rather than multimodal programs.

Supervision of exercise sessions increases the adherence to exercise programs, and better adherence has been shown to improve long-term results in people with osteoarthritis.[2] The effects of exercise programs are dependent on dosage and progression,[3] and recommendations underline the importance of meeting the minimal requirements to improve or maintain muscle strength, aerobic capacity and/or range of motion.[4] However, the exercise part in the study of Bennell et al was mainly delivered as home exercises, which limited the control of performance and adherence to the program; this provides a possible explanation for the observed lack of clinical benefit. The need for individually tailored, supervised exercise programs of adequate dosage alongside education is still the current recommendation for people with hip osteoarthritis.[4,5]

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