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Cochrane review summary

Are exercise interventions beneficial for people with hip and knee osteoarthritis? - A Cochrane Review summary with commentary*

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ABSTRACT

The aim of this commentary is to discuss in a rehabilitation perspective the recently published Cochrane Review "Exercise interventions and patient beliefs for people with hip, knee or hip and knee osteoarthritis: a mixed methods review" by Hurley M. et al., 2018,1 under the direct supervision of Cochrane Musculoskeletal Group. This Cochrane Corner is produced in agreement with Journal of Musculoskeletal Science and Practice by Cochrane Rehabilitation.

1. Background

Osteoarthritis (OA) is of the major causes of musculoskeletal pain and mobility disability in the elderly populations (Peat et al., 2001). It is predicted that OA is going to be the fourth leading cause of disability by year 2020 due to the increase in life expectancy (Woolf and Pfleger, 2003). Exercise therapy is among the most important interventions for persons with OA, as well as patient education, weight reduction interventions, physical agent modalities, assistive devices and orthoses, work-place interventions and pharmacological treatment (Ilieva et al., 2013). Exercise is recommended to reduce joint pain and improve physical function. A Cochrane review provides evidence on the effectiveness of exercise programmes in persons with chronic pain due to OA (Hurley et al., 2018).

2. Exercise interventions and patient beliefs for people with hip, knee or hip and knee osteoarthritis: a mixed methods review Hurley et al., 2018

2.1. What is the aim of this cochrane review?

The aim of this Cochrane Review is to improve the understanding of the complex interrelationship between pain, psychosocial effects, physical function and exercise.

2.2. What was studied in the cochrane review?

The population addressed in this review were men and women, aged 45 years or older with clinical diagnosis of osteoarthritis (as defined in the study) or self-reported chronic hip or knee (or both) pain (defined as more than six months' duration). Twenty one trials with 2372 participants were included in quantitative synthesis and 12 studies (from 6 to 29 participants) in qualitative synthesis.

The interventions studied were exercise based rehabilitation programmes, consisting of land based or aquatic exercise programmes, delivered in hospitals or in the community. Programmes varied in content (range of motion, aerobics, Thai Chi), in delivery mode (group or individual therapy), duration, frequency and intensity. The intervention was compared to no treatment, waiting list group or other non-exercise intervention (medication, lifestyle/diet changes, information). The outcomes studied were pain, physical function, self-efficacy, depression, quality of life, adverse effects of exercise. For quantitative synthesis randomized control trials that measured pain, function and at least one psychosocial outcome were selected. For qualitative synthesis studies had to have reported people's opinions and experiences of exercise (views and beliefs about the effectiveness of exercise in the management of chronic pain, or barriers to adherence to exercise advice).

* The abstract/plain language summary of this Cochrane Review is taken from a Cochrane Review previously published in the Cochrane Database of Systematic Reviews (2018). Issue 4. CD010842. DOI: https://doi.org/10.1002/14651858.CD010842.pub2 (see www.cochranelibrary.com for information). Cochrane Reviews are regularly updated as new evidence emerges and in response to feedback, and Cochrane Database of Systematic Reviews should be consulted for the most recent version of the review.

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2.3. Search methodology and up-to-dateness of the cochrane review?

The review authors searched for studies that had been published up to March 2016.

2.4. What are the main results of the cochrane review?

The review included 21 trials that met the inclusion criteria for quantitative synthesis and 12 studies - for qualitative synthesis.

1. The main results from the quantitative synthesis are as follows:

Moderate quality evidence suggests that exercise reduces pain; (9 studies – mean duration 45 weeks), improves physical function (13 studies – mean duration 41 weeks), has small benefits for depression (7 studies-mean duration 35 weeks), little or no effect on anxiety, (4 studies – mean duration 24 weeks).

There is low quality evidence that exercise improves self-efficacy (11 studies – mean duration 35 weeks) and social interaction (5 studies – mean duration 36 weeks).

In most of the studies there was a risk of detection bias for self-reported outcomes (pain, function, self-efficacy, depression, anxiety) due to lack of blinding of participants to their participation in exercise interventions. The studies did not report side effects of exercise interventions. The duration of the studies was different (form 8 weeks to 30 months), so it is not clear whether the changes occurred quickly or whether improvements were achieved gradually throughout the studies.

2. The main results from the qualitative synthesis are as follows:

From the patients′ perspectives the delivery of exercise interventions could be improved by providing better information and advice about the safety and value of exercise; providing exercise tailored to individual′s preferences, abilities and needs; providing better support and challenge inappropriate health beliefs (high quality of evidence).

2.5. How did the authors conclude on the evidence?

The authors concluded that people with chronic hip and knee pain due to osteoarthritis should be encouraged to participate in exercise programmes that may slightly improve pain, physical function, depression, self-efficacy and social function, although there is probably little or no effect on anxiety. People need information and advice from health care professionals to change their believes and improve their adherence to physical activity. Providing advice about the value of exercise in controlling symptoms, and relevant exercise programmes may encourage greater exercise participation, which has benefits for this population.

2.6. Recommendations for research by the authors of the Cochrane Review (https://doi.org/10.1002/14651858.CD010842.pub2Hurley et al. (2018)

The main suggestion of the review authors is that future research is needed to establish effectiveness, mechanisms of action and methodology.

3. What are the implications of the Cochrane evidence for practice in rehabilitation?

Participation in exercise programmes could play an important role in the management of patients with osteoarthritis and may improve function, decrease pain, reduce depression, increase self-efficacy and social function. Patients should be encouraged to participate in exercise programmes tailored to their individual preferences, abilities and needs by the provision of advice and instructions from health care professionals.

The quality of evidence was moderate and low, pointing to the need of further research on this topic, including well-designed clinical trials in order to make conclusions about what are the most effective exercise programmes and which are the side effects, as these were not reported in the studies included in the review.

Disclosures

The author declares no conflicts of interest.

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