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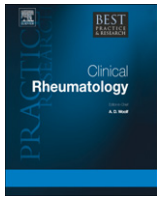

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Exercise therapy for chronic nonspecific low-back pain

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Exercise therapy is the most widely used type of conservative treatment for low back pain. Systematic reviews have shown that exercise therapy is effective for chronic but not for acute low back pain. During the past 5 years, many additional trials have been published on chronic low back pain. This articles aims to give an overview on the effectiveness of exercise therapy in patients with low back pain.

For this overview, existing Cochrane reviews for the individual interventions were screened for studies fulfilling the inclusion criteria, and the search strategy outlined by the Cochrane Back Review Group (CBRG) was followed. Studies were included if they fulfilled the following criteria: (1) randomised controlled trials,(2) adult (≥18 years) population with chronic (≥12 weeks) nonspecific low back pain and (3) evaluation of at least one of the main clinically relevant outcome measures (pain, functional status, perceived recovery or return to work).

Two reviewers independently selected studies and extracted data on study characteristics, risk of bias and outcomes at short-term, intermediate and long-term follow-up. The GRADE approach (GRADE, Grading of Recommendations Assessment, Development and Evaluation) was used to determine the quality of evidence.

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In total, 37 randomised controlled trials met the inclusion criteria and were included in this overview. Compared to usual care, exercise therapy improved post-treatment pain intensity and disability, and long-term function.
The authors conclude that evidence from randomised controlled trials demonstrated that exercise therapy is effective at reducing pain and function in the treatment of chronic low back pain. There is no evidence that one particular type of exercise therapy is clearly more effective than others. However, effects are small and it remains unclear which subgroups of patients benefit most from a specific type of treatment.

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Low back pain (LBP) is usually defined as pain, muscle tension or stiffness localised below the costal margin and above the inferior gluteal folds, with or without leg pain (sciatica). LBP is typically classified as being 'specific' or 'nonspecific'. Specific LBP refers to symptoms (such as hernia nucleus pulposus (HNP), infection, inflammation, osteoporosis, rheumatoid arthritis, fracture or tumour) caused by a specific patho-physiologic mechanism.. Only in about 10% of the patients specific underlying diseases can be identified [1]. The vast majority of patients (up to 90%) are labelled as having nonspecific LBP, which is defined as symptoms without a clear specific cause, that is, LBP of unknown origin. Spinal abnormalities on X-rays and magnetic resonance imaging (MRI) are not strongly associated with nonspecific LBP, because many people without any symptoms also show these abnormalities [2].

Nonspecific LBP is usually classified according to the duration as acute (less than 6 weeks), subacute (between 6 weeks and 3 months) or chronic (longer than 3 months) LBP. In general, prognosis is good and most patients with an episode of nonspecific LBP will recover within a couple of weeks. However, back pain among primary-care patients is often a recurrent problem with fluctuating symptoms. The majority of back pain patients would have experienced a previous episode and acute exacerbations of chronic LBP are common. LBP is not only a tremendous medical problem, but also a huge socioeconomic problem in Western countries due to high rates of disability and work absenteeism [3]. It is important to provide effective and cost-effective interventions to improve patient outcomes and receive maximum benefits within available health-care budgets.

Evidence-based medicine has become increasingly more important over the past decade. The management of LBP has been positively affected by the availability of more scientific research and better use of critical appraisal techniques to evaluate and apply research findings [4]. A large number of systematic reviews are available within and outside the framework of the Cochrane Back Review Group that have evaluated the therapeutic interventions for LBP [5,6]. This large body of evidence has greatly improved our understanding of what does and does not work for LBP. The evidence from trials and reviews has formed the basis for clinical practice guidelines on the management of LBP that have been developed in various countries around the world.

The management of LBP comprises a range of different intervention strategies, including surgery, drug therapy and non-medical interventions. Exercise therapy is probably the most widely used type of conservative treatment worldwide. This article summarises the state-of-the-art exercise therapy for LBP. Exercise therapy might be provided as a single treatment or be part of a multimodal or multidisciplinary treatment programme. Physiotherapists or specifically trained exercise therapists usually provide exercise therapy. Some differences may exist between countries. For example, in the Netherlands and Norway Mensendieck, therapists are officially registered exercise therapists. Exercise therapy may be given individually or to groups of patients, under therapist's supervision or consist of home exercises, conducted using machines or not and on land or in water. In addition, various types of exercises exist, such as aerobic, flexion, extension, stretching, stabilising, balance/coordination and muscle-strengthening exercises. Moreover, in the latter group, the exercises may focus on specific muscles (e.g., transversus abdominus or multifidus) or a group of muscles (e.g., trunk, abdomen and back). Finally, exercises may vary in intensity, frequency and duration.