
Advice for the management of low back pain: a systematic review of randomised controlled trials

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CRD summary

The authors concluded that advice to stay active was sufficient for acute low back pain, but patients with chronic low back pain required advice to stay active plus specific advice about relevant exercise. The absence of an adequate synthesis of the included studies means it is not possible to assess the evidence or the reliability of the authors' conclusions.

Authors' objectives

To evaluate the effectiveness of advice for patients with acute, sub-acute and chronic low back pain.

Searching

MEDLINE, PubMed, AMED, CINAHL, PsycINFO and the Cochrane Library (including DARE and the Cochrane CENTRAL Register) were searched from 1985 to September 2004; the search terms were reported. In addition, reference lists of included studies, relevant journals, reviews and meta-analyses were screened and citations tracked. Studies were excluded if they were reported only as abstracts.

Study selection

Study designs of evaluations included in the review

Randomised controlled trials (RCTs) that were classified as high or medium quality, and had at least 10 patients per treatment group, were eligible for inclusion in the review. Studies using alternate allocation were excluded.

Specific interventions included in the review

Studies that evaluated interventions that included advice and/or patient education were eligible for inclusion. The included studies evaluated advice alone and advice in conjunction with a variety of different interventions (including exercise, 'the Back Book', general practitioner advice, Back School, bed rest, functional restoration programme, manipulation, massage, stretching and motivation), either alone or in combination. Control interventions included advice plus booklets or leaflets, advice only, analgesics, bed rest, usual care, versions of Back School, intensive physical training, exercise, sham exercise and behavioural treatment.

Participants included in the review

Studies of symptomatic patients with acute (less than four weeks), sub-acute (four to 12 weeks) and chronic (more than 12 weeks) low back pain were eligible for inclusion. Studies of patients with possible serious spinal pathology, spinal surgery in the previous year or fibromyalgia were excluded. Studies had to report sufficient information on the category of low back pain and report results separately for the different phases of low back pain. Male and female patients in the included studies were aged from 16 to 79 years.

Outcomes assessed in the review

Inclusion criteria were not specified in terms of the outcomes. The recommended review outcomes were back-specific function (Roland-Morris/Oswestry Disability Questionnaire), generic health status (Short-Form 36/EuroQol Questionnaire), pain (frequency and severity of low back pain/ Body Pain Scale of the Short-Form 36), work disability and patient satisfaction (Patient Satisfaction Scale/Global question). Outcomes assessed using the McGill Pain Questionnaire, Aberdeen Back Pain Scale, Sickness Impact Profile and Waddell Disability Index were also acceptable. Studies that included non recommended outcomes were also included. The review also assessed adverse effects.

How were decisions on the relevance of primary studies made?

Two reviewers independently selected the studies and resolved any disagreements by consensus.

Assessment of study quality

Validity was assessed using items for internal validity, quality of description and quality of statistical analysis (the items were specified in the review). Studies that met at least 50% of the validity criteria were classified as high or medium quality. High- and medium-quality studies were also assessed for five Cochrane Guidelines criteria: allocation concealment, drop-out rate, blinding of the patients and outcome assessor, and intention-to-treat analysis. The authors did not state how many reviewers performed the validity assessment.

Data extraction

Two reviewers independently extracted the data using standardised forms and resolved any disagreements by consensus. Interventions in which there was a significant post-treatment difference ($p < 0.05$) between treatments in one of the recommended outcomes were classified as positive. For studies that did not report the recommended outcomes, a significant difference in two other outcomes was required before a study was classified as positive.

Methods of synthesis

How were the studies combined?

The numbers of studies reporting positive, negative or no difference in outcomes between treatments were reported.

How were differences between studies investigated?

Clinical homogeneity between the studies was assessed. Studies were described under the following headings: intervention approach (advice used as adjunct to exercise or back school); phase of low back pain; advice at follow-up; and the effect of the method used to measure outcome.

Results of the review

Thirty-nine high- or medium-quality RCTs (7,347 patients) were included.

Twenty-five studies were classified as high quality and 14 as medium quality. Twenty-eight studies met at least three of the five Cochrane Guidelines criteria; the other studies met at least two.

Thirteen studies were in patients with acute low back pain, seven in patients with sub-acute back pain and nineteen in patients with chronic low back pain.

Advice as an adjunct to exercise: for patients with acute and chronic low back pain, the most common intervention was advice as an adjunct to exercise (8 out of 13 acute low back pain studies and 8 out of 19 chronic low back pain studies). Advice as an adjunct to exercise was most effective in improving pain, back-specific function and work disability in chronic low back pain, but it was no more effective than advice to stay active for acute low back pain.

Advice as part of back school: this intervention was most commonly used for sub-acute back pain (3 out of 7 studies). It was most effective in improving back-specific function in sub-acute low back pain.

Twenty-two studies (56%) reported positive results for the intervention compared with control. Sixteen studies (41%) reported no difference between treatment groups. One study reported a negative outcome for the intervention compared with control.

Phase of low back pain: positive results for interventions that included advice were found in 15% of studies (two out of 13) of acute low back pain, 86% of studies (six out of seven) of sub-acute low back pain and 74% of studies (14 out of 19) of chronic low back pain.

Advice at follow-up: advice was not often part of follow-up. Six positive studies (43%) of chronic low back pain included advice into follow-up and another six positive studies of chronic low back pain provided advice throughout treatment.

Methods used to measure outcomes: studies used a median of four outcome measures; these included a median of two recommended outcome measures.

Authors' conclusions

Advice to stay active was sufficient for patients with acute low back pain, but patients with chronic low back pain

required advice to stay active plus specific advice about relevant exercise and/or functional activities to encourage active self-management.

CRD commentary

The review addressed a clear question that was defined in terms of the participants, intervention and study design. Recommended outcomes were reported but studies reporting other outcomes were also included. Several relevant sources were searched, but it is not clear whether any attempts were made to minimise either publication or language bias. Methods were used to minimise reviewer error and bias in the study selection and data extraction processes, but it is unclear whether similar steps were employed for the validity assessment.

Study quality was assessed and the results of this assessment reported. Most of the studies assessed more than one outcome, but only one level of statistical significance was reported for each study and it was not clear which outcome this referred to; this raises the possibility of selective reporting of positive results. The diversity of the studies with respect to the intervention and controls would have made it difficult to summarise the studies. However, even given these potential problems, the synthesis of evidence was inadequate. The results were summarised by briefly reporting the number of studies with a few characteristics of interest, but this vote counting approach has limitations, as the authors correctly acknowledged. There were apparently no adequate attempts to compare different interventions.

The absence of an adequate synthesis of the included studies means it is not possible to assess the evidence or the reliability of the authors' conclusions.

Implications of the review for practice and research

Practice: The authors stated that the review supports the current recommendations that advice to stay active is sufficient for patients with acute low back pain and should be more widely implemented. There was strong evidence that patients with chronic low back pain require advice to stay active plus specific advice about relevant exercises and/or functional activities to encourage self-management.

Research: The authors stated the need for high-quality studies addressing the management of sub-acute low back pain, the development of a standardised back school programme, the efficacy of follow-up advice for patients with chronic low back pain, and the measurement of appropriate clinically relevant outcome measures.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.