Multidisciplinary interventions: review of studies of return to work after rehabilitation for low back pain
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CRD summary
The review concluded that there was evidence for a clinically relevant effect of multidisciplinary rehabilitation interventions on return to work for patients on sick leave due to low back pain. The authors' conclusions may be not reliable given methodological concerns in the review methods.

Authors' objectives
To assess the effectiveness of multidisciplinary rehabilitation interventions on return to work for people on sick leave due to low back pain.

Searching
PubMed was searched for published English-language studies from April 1998 to December 2006. Search terms were reported. Reference lists of retrieved publications were screened.

Study selection
Randomised controlled trials (RCTs) or controlled clinical trials which evaluated multidisciplinary rehabilitation interventions in adults of 19 to 64 years old with low back sub-acute pain (lasting five to 11 weeks) or chronic pain (lasting at least 12 weeks) were eligible for inclusion. Multidisciplinary interventions were defined as involving two or more healthcare disciplines. Studies that included patients with low back pain due to specific pathologies or conditions were excluded, as were studies with the drop-out rate of more than 30%. The review outcome was the incidence of return to work.

The included studies evaluated various multidisciplinary rehabilitation interventions. The control arm of included studies was conservative treatment. More than half of included patients were women. Most of the included studies were published in Scandinavia.

The authors did not state how many reviewers assessed studies for inclusion. [A: Three reviewers performed study selection.]

Assessment of study quality
The authors stated that study quality was assessed with a standard checklist, but did not report details of the criteria used. Studies that met all quality criteria were classed as high quality.

The authors did not state how many reviewers performed the validity assessment.

Data extraction
Data were extracted on the number of patients who returned to work. Relative risks (RRs) with 95% confidence intervals (CIs) were calculated. The study authors were contacted for additional data when necessary.

The authors did not state how many reviewers performed the data extraction. [A: Three reviewers performed data extraction.]

Methods of synthesis
Studies were combined in a meta-analysis. It appeared that the fixed-effect model was used to calculate the pooled relative risks with 95% CIs. Statistical heterogeneity was assessed with the I² statistic. Publication bias was assessed with a funnel plot. Subgroup analyses were performed in patients with different pain severity (sub-acute pain versus...
chronic pain) and studies from Scandinavia only.

**Results of the review**

Seven studies (n=1,450) were included in the review and another two studies from a previous review were included in the meta-analyses. Where reported, four studies were judged as moderately high quality. Follow-up ranged from six months to three years.

Compared with conservative treatment, multidisciplinary rehabilitation significantly increased the rate of return to work in all patients with sub-acute and chronic pain (RR 1.15, 95% CI 1.09 to 1.21; eight studies).

Subgroup analyses showed that multidisciplinary rehabilitation significantly increased the rate of return to work in patients with sub-acute pain compared with conservative treatment (RR 1.16, 95% CI 1.09 to 1.23; six studies). There was no significant difference in the rate of return to work between the two groups in patients with chronic pain.

When only studies from Scandinavia were considered, multidisciplinary rehabilitation significantly increased the rate of return to work compared with conservative treatment (RR 1.21, 95% CI 1.13 to 1.31; five studies).

Significant heterogeneity was only observed in the outcome of return to work when all the studies were pooled ($I^2=53.5\%$) and when only studies with patients of subacute pain ($I^2=62.5\%$) were pooled. The possibility of publication bias was found in the outcome of return to work when all the studies were pooled, but not when only studies from Scandinavia were pooled.

**Authors' conclusions**

There was evidence for a clinically relevant effect of multidisciplinary rehabilitation interventions on return to work for patients who were on sick leave due to low back pain.

**CRD commentary**

This review's inclusion criteria were clear. Only one database was searched, so relevant studies may have been missed. The decision to restrict the review to published studies reported in English may have increased the possibility of both publication and language biases. Publication bias was assessed, but use of a funnel plot to assess publication bias in the small number of studies might be not have been appropriate. [A: Based on the additional information provided by the authors, steps were taken to minimise reviewer errors and biases by having more than one reviewer undertake study selection and data extraction; it was unclear whether validity assessment was performed in duplicate.] A formal quality assessment was performed, but details of the criteria for assessment of study quality were not reported. Statistical heterogeneity was assessed. [A: There was no significant heterogeneity for the subgroup analysis by including studies from Scandinavia only, but significant heterogeneity was found for other pooled outcomes.] Use of a fixed-effect model to pool the results in the presence of significant heterogeneity might be not have been appropriate. Given the methodological concerns, the authors' conclusions may be not reliable.

**Implications of the review for practice and research**

The authors did not state any implications for practice or research.

**Funding**

Not stated.

**Bibliographic details**


**PubMedID**

19229442

**DOI**

10.2340/16501977-0297
Indexing Status
Subject indexing assigned by NLM

MeSH
Chronic Disease; Evidence-Based Medicine; Humans; Low Back Pain /rehabilitation; Outcome Assessment (Health Care); Rehabilitation, Vocational /methods; Sick Leave

Accession Number
12009103556

Date bibliographic record published
10/06/2009

Date abstract record published
20/10/2010

Record Status
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.