Multidisciplinary treatment for chronic pain: a systematic review of interventions and outcomes

Scascighini L, Toma V, Dober-Spielmann S, Sprott H

CRD summary
This systematic review concluded that multidisciplinary pain programmes were effective, although it was not known which programme components were important or whether all patients would benefit from all components. This was generally a well-conducted review and the authors’ conclusions followed from the evidence presented. But, the poor quality of the included studies limited the reliability of the conclusions.

Authors’ objectives
To assess the effectiveness of multidisciplinary treatments for chronic pain.

Searching
MEDLINE, CINAHL, EMBASE, PEDro, PSYCINFO, PSYNDEX and Cochrane Central Register of Controlled Trials were searched up to September 2006; search terms were reported. The authors searched the reference lists of included studies and relevant reviews, and contacted experts in the field for additional relevant studies. No language restrictions were applied. Only studies published in full were eligible for inclusion.

Study selection
Randomised controlled trials (RCTs) with at least three months of follow-up, assessing multidisciplinary treatments applied in a group setting for adult patients with chronic non-specific musculoskeletal pain (such as back pain or fibromyalgia) were eligible for inclusion in the review. Multidisciplinary treatments had to include at least three of the following categories to be eligible for inclusion: psychotherapy, physiotherapy, relaxation techniques, medical treatment or patient education and vocational therapy. The study had to include at least two of the following domains to be eligible for inclusion: pain, emotional strain, quality of life, disability, coping, physical capacity, return to work, sick leave, use of medicaments, use of the health care system, pain behaviour or subjective overall success. The primary outcomes of interest were psychological strain, disability in everyday life, health-related quality of life, pain and more appropriate coping strategies. Secondary outcomes of interest were physical capacity, return to work rate, sick leave, use of the health care system, medication, pain behaviour, quality of sleep and other domains (such as subjective improvement).

Most included studies were of patients with chronic low back or back pain. Others included patients with fibromyalgia or mixed chronic pain patients. Most multidisciplinary treatments were delivered in an outpatient setting with a treatment duration ranging from 15 to 135 hours (median 31 hours) over four to 15 weeks. Inpatient treatments were more intensive (median 150 hours over three to eight weeks). Control groups included non-multidisciplinary treatment strategies and waiting list or treatment as usual controls. The most common type of therapy was cognitive-behavioural therapy. Most studies also included a physical component, such as aerobic exercise, muscle stretching or exercise therapy. Most studies included a patient education component. Further details of included studies were presented.

Two reviewers independently assessed the studies for inclusion in the review; disagreements were resolved by consulting a third reviewer.

Assessment of study quality
A published checklist (CLEAR NPT) designed to assess the reporting of RCTs of non-pharmacological treatments was used to assess the quality of the included studies. The authors also assessed the comparability of the study groups at baseline and study eligibility criteria. The GRADE criteria were used to describe the quality of the included studies and the authors described the level of evidence according to defined criteria as strong, moderate, limited or no evidence.

Two reviewers independently assessed the methodological quality of the included studies.
Data extraction
Two reviewers independently extracted data on primary and secondary outcomes from the included studies. For the multidisciplinary treatment to be considered successful, it needed to be more effective than the control treatment on either at least two of the five primary outcomes or at least one of the primary outcomes and two of the secondary outcomes.

Methods of synthesis
A narrative synthesis was presented.

Results of the review
Twenty seven RCTs, along with six follow-up studies and two studies reporting additional analyses, were included in the review (n=2,407). Median follow-up was 12 months. Ten studies were classified as low quality, 11 studies were classified as moderate quality and six studies were classified as high quality (according to GRADE criteria). Further details of the quality assessment results were reported.

Thirteen of 15 studies that compared multidisciplinary treatment with waiting list control or treatment as usual control reported significant positive results in favour of multidisciplinary treatment; two studies did not demonstrate significant positive results: the authors described this as strong evidence in favour of multidisciplinary treatment.

There was moderate evidence that multidisciplinary treatment was more effective than the control treatment: 10 of 15 studies reported significant positive results in favour of multidisciplinary treatment; 5 studies showed no significant difference between groups.

Four studies compared inpatient with outpatient programmes: three reported superior long-term effects with inpatient treatment; one study showed no difference between inpatient and outpatient groups.

Further results were reported.

Authors’ conclusions
Multidisciplinary pain programmes were effective, although it was not yet known which components of the programme were important and whether all patients (those with different diagnoses, age, duration of pain and so on) would benefit from all components. The quality of the RCTs included in this review was generally poor.

CRD commentary
This review addressed a clear question and was supported by appropriate inclusion criteria. A number of databases were searched for relevant studies and experts in the field were contacted, but as only fully published studies were included, publication bias may have been present. The quality of the included studies was assessed using appropriate criteria, the results of which were presented and taken into account when presenting results of the review. Adequate details of the interventions and outcome measures used in the included studies were presented, although details of participants were vague. Two reviewers independently undertook study selection, data extraction and quality assessment processes, thus reducing the potential for reviewer bias and error. In view of the heterogeneity between included studies the authors appropriately presented a narrative synthesis. This was a well-conducted review and the authors’ conclusions follow from the evidence presented. But, the authors acknowledged that the quality of the included studies was generally poor and studies were clinically heterogeneous, which limited the reliability of their conclusions.

Implications of the review for practice and research
Practice: The authors stated that the set-up of multidisciplinary programmes for chronic pain patients appeared to be reasonable and that patients should be referred to adequately specialised institutions instead of being sent to various individual specialists sequentially.

Research: The authors stated that future studies should compare different methods, settings and durations of multidisciplinary pain treatments and assess which patient characteristics were associated with better outcomes. Further research should be directed at patients with mixed chronic pain conditions. The authors stated that future studies should be more methodologically rigorous and use internationally accepted outcome measures, and that cost effectiveness
should also be assessed.

**Funding**
Not stated.

**Bibliographic details**

**PubMedID**
18375406

**DOI**
10.1093/rheumatology/ken021

**Indexing Status**
Subject indexing assigned by NLM

**MeSH**
Case-Control Studies; Chronic Disease; Cognitive Therapy /methods; Combined Modality Therapy; Exercise Therapy /methods; Humans; Pain /psychology; Pain Management; Physical Therapy Modalities; Psychotherapy, Group /methods; Quality of Life

**AccessionNumber**
12008103852

**Date bibliographic record published**
01/12/2008

**Date abstract record published**
06/05/2009

**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.