Efficacy of multidisciplinary team care programs in rheumatoid arthritis
Vliet Vlieland T P, Hazes J M

Authors' objectives
To assess the efficacy of multidisciplinary team care programmes in rheumatoid arthritis (RA).

Searching
MEDLINE was searched from 1966 to January 1997 using the search terms 'RA', 'rehabilitation', 'hospitalisation', 'ambulatory care', 'patient care team' and 'disability evaluation', and 'multidisciplinary care' as free text. Additional citations were identified through manual searches of references in retrieved articles, review articles, editorials, textbooks, and proceedings from congresses. Colleagues and authors were contacted for additional references. Only papers published in the English language were considered.

Study selection
Study designs of evaluations included in the review
Controlled and uncontrolled clinical trials. The mean duration of treatment ranged from 10.4 to 28 days in studies comparing in-patient MTCP with regular out-patient care, and from 12 to 24 months in studies comparing out-patient MTCP with routine out-patient care. The mean duration of follow-up after treatment ranged from 2 to 24 months in studies comparing in-patient MTCP with regular out-patient care; this was not reported in studies comparing out-patient MTCP with routine out-patient care.

Specific interventions included in the review
In-patient and out-patient multidisciplinary team care programmes (MTCP). No specific definition of MTCP was provided. In the included studies, MTCP ranged from daily physiotherapy to teams that included a rheumatologist, nurse, physical therapist, occupational therapist, social worker, podiatrist and dietitian.

Participants included in the review
In- or out-patients with RA with an average disease duration of 3 to 14 years. In studies evaluating in-patient MTCP versus regular out-patient care, the mean age of the participants ranged from 50 to 65 years and 65 to 85% of the patients were women.

Outcomes assessed in the review
The end point measures considered most relevant for the evaluation of MTCP were:

the overall measurement of functional status, preferably using the Health Assessment Questionnaire;

the overall pain score, preferably using a visual analogue scale or a rating scale;

the articular index, preferably the Ritchie Articular Index; and

measures of psychosocial functioning, such as measures of anxiety and depression;

Information was also obtained on the treatment costs and changes in health care utilisation during the follow-up.

How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the authors performed the selection.

Assessment of study quality
The authors did not formally assess validity. However, validity issues such as randomisation and blinding were
discussed narratively.

**Data extraction**
The studies were reviewed by both authors, and any discrepancies between the reviewers were settled by consensus.

**Methods of synthesis**
How were the studies combined?
The studies were combined narratively. The data presentation usually consisted of mean scores at the start and end of the study, but not of changes with a measure of variability. The various outcome measures used and the data presentation did not allow the data to be pooled, or a formal meta-analysis to be conducted. Instead, from the mean scores at the start and end of the studies, the percentages of change were calculated for the four most relevant outcome measures whenever possible.

How were differences between studies investigated?
The authors do not state how differences between the studies were investigated.

**Results of the review**
Thirty-five clinical trials were included in the review: 15 controlled trials (9 of which were randomised) with a total of 1,044 participants, and 20 studies without a control group for comparison. Of these 20 studies, 18 were on in-patient and 2 were on out-patient multidisciplinary team care.

In-patient MTCP was compared with regular out-patient care in 6 controlled trials. In the 2 randomised trials, a significantly greater improvement of disease activity was seen in the in-patient group immediately after treatment. The difference between the groups diminished after one year. In the 2 controlled non-randomised trials, a greater improvement of disease activity and functional status was shown immediately after hospitalisation. One study reported greater improvement in disease activity directly after treatment, with declining benefit during the follow-up. Another noted a beneficial effect on disease activity, functional status and mental health, one year after treatment.

The effects of in-patient MTCP for RA were described in 18 uncontrolled studies. Eleven studies showed functional improvement, while 8 showed a moderate decrease in disease activity between admission and discharge. Seven studies showed that the level of functional status or disease activity at discharge was maintained for periods up to 2 years for most patients. However, one study found the treatment effect decreased within 6 months.

Six controlled trials compared out-patient MTCP with regular out-patient care. Of the 4 trials that were randomised, a significantly greater improvement in overall physical function and overall health was found in the multidisciplinary group at the end of the treatment programme in one study. In another study, none of the differences in improvement between the treatment and control groups reached significance. Another study provided no statistical comparison of the change scores between the treatment and control groups, but improvement in disease activity seemed greater in the former group. The final randomised study showed that significantly fewer patients in the treatment group deteriorated in activities of daily living and, in comparison with controls, more patients were socially well adjusted after 12 months. No significant differences in disease activity were seen. There were 2 controlled non-randomised studies. In one study, the treatment groups showed more improvement in depression score and the patient's global assessment, and in the other, treatment groups showed more improvement in disease activity, deformity and psychosocial adaption.

Two uncontrolled studies examined the effect of MTCP on RA. One study found an improvement in disease activity and functional status; the other noted a significant improvement in articular index and subscales of a generic health status measure in a 1-year out-patient team care programme.

Three controlled trials compared in-patient MTCP with similar out-patient programmes. One study showed that inpatient care was more effective, while 2 studies showed that similar results were obtained in both groups.

**Cost information**
Two studies investigating the cost of MTCP found that in-patient care was more expensive than the out-patient alternatives. Neither of these studies used general quality of life measures. Therefore, a comparison of a cost-effectiveness or cost-utility ratio with other interventions or across other specialities could not be made.

**Authors' conclusions**
Favourable effects on disease activity were seen in most trials comparing short-term care with regular out-patient care. Proof of the efficacy of prolonged out-patient care was scanty. The results of trials comparing in-patient with out-patient team care remain inconclusive.

**CRD commentary**
The authors presented a well-defined review question, and appropriate inclusion and exclusion criteria were reported.

Details of the primary data were clearly tabulated, and the patients’ characteristics were reported in the text.

The search was limited to MEDLINE and a manual search of references of retrieved articles, which could have resulted in a retrieval bias. The search could have been extended to include other databases and an attempt to identify unpublished literature.

The validity criteria were not adequately assessed. Some of the papers described appeared to be of a fairly poor quality.

Tests for heterogeneity were not performed. The primary studies were summarised appropriately.

The authors’ conclusions follow from the results.

**Implications of the review for practice and research**
Future research should be aimed at an analysis of both the clinical effectiveness and economic costs of team care programmes of short duration, with strategies that differ with respect to the contents and settings being compared. The end point measures must be standardised and should be suitable for evaluating the central goal of rehabilitation: the improvement of maintenance of functional ability and independence. Sufficient numbers of patients need to be included in order to identify those patients who would benefit from multidisciplinary care.

**Funding**
Vrienden van Sole Mio.

**Bibliographic details**

**PubMedID**
9355209

**Indexing Status**
Subject indexing assigned by NLM

**MeSH**
Arthritis, Rheumatoid /rehabilitation /therapy; Controlled Clinical Trials as Topic; Delivery of Health Care /standards; Female; Humans; Inpatients; Male; Outpatients; Patient Care Team /standards; Program Evaluation; Randomized Controlled Trials as Topic

**AccessionNumber**
Date bibliographic record published
31/08/1999

Date abstract record published
31/08/1999

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.