Rehabilitation programs for individuals with chronic fatigue syndrome: a review

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CRD summary
This poorly described review concluded that there is some evidence that both in- and out-patient rehabilitation programmes can improve a variety of outcomes for patients with chronic fatigue or chronic fatigue syndrome, but the current evidence is subject to a number of methodological flaws. Given the differences between the studies and the poor quality of the data, a cautious interpretation of the evidence is advised.

Authors' objectives
To review the evidence for rehabilitation programmes for individuals with chronic fatigue syndrome (CFS).

Searching
MEDLINE, PsycINFO, CINAHL, ERIC, Science Citation Index, Agency for Healthcare Research and Quality Clinical Guidelines and Evidence Reports, BMJ Clinical Evidence and the Cochrane Database of Systematic Reviews were searched up to June/July 2004. No details of the search strategy were reported.

Study selection
Empirical studies of in-patient, out-patient and community-based rehabilitation programmes for adolescents or adults with chronic fatigue or CFS were eligible for inclusion. Interventions could include any psychological, behavioural, physical or psychosocial approach to rehabilitation, however, studies assessing one single approach in isolation were excluded from the review. Eligible definitions of chronic fatigue or CFS could be based on any single published criterion or criteria. Studies of patients with only fibromyalgia and not chronic fatigue or CFS were excluded from the review, whereas all outcomes were eligible (e.g. physiological, behavioural, psychological and self-reported improvement). The included studies varied in their interventions, populations, outcomes and design; further details were reported in the review. The majority of studies included participants with more severe or debilitating disease, as defined using the Centers for Diseases Control and Prevention or Oxford criteria. The interventions included multidisciplinary programmes combining different aspects of physical, social and psychological rehabilitation; studies also used drug or herbal remedies and cognitive-behavioural therapy.

The author did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The review reported whether studies used a control group, how they assigned participants to different study groups, the drop-out rate and the timing of follow-up assessments.

The author did not state how the validity assessment was performed.

Data extraction
The author did not state how the data were extracted for the review, or how many reviewers performed the data extraction.

Methods of synthesis
The studies were grouped according to whether they were in-patient or out-patient/community-based and their findings summarised in a narrative with accompanying data tables. Some differences between the studies were evident from the review text and others from the data tables.

Results of the review
Six studies (n=245), one of which was a randomised controlled trial (n=47), were included in the review. The remaining studies compared cohorts of patients before and after an intervention or compared patients with CFS versus no-fatigue
controls (three within-participant designs, one controlled study of post/non-infectious patients versus no-fatigue controls, and one study comparing intervention versus no intervention control).

Where reported, the drop-out rates at follow-up were 0% in two studies, 33 to 34% in two studies and 4% in one study, with follow-up periods ranging from 9 months to 5 years; one study did not carry out any follow-up assessments.

Three studies of in-patient programmes reported increases in the Karnofsky scale (15 to 25 points from baseline in one study), the number of individuals returning to normal physical activity (19% reporting return to normal after follow-up in one study), and the improvement of physical and mental symptoms (as measured by the Cornell Medical Index in one study). One of the studies conducted in adolescent school children reported that, at follow-up, 78% of children had returned to school; in another study 89% of adults had returned to work.

One out-patient study (n=28) reported a 61% improvement in self-reported baseline symptoms and quality of life (8 out of 8 participants); two participants returned to normal work/school/physical exercise and five returned to previously normal function. One community-based study reported 61% of participants returned to work at follow-up and 27% were functioning at a level equivalent to employment. A community-based randomised controlled trial reported that participants receiving the rehabilitation programme (compared with control) had an improved Quality of Life Index, lower symptom severity (Symptom Severity Checklist), and increases in resource gain, energy, well-being and mastery resource (Conservation of Resources Evaluation Scale). The improvement in quality of life continued at the 12-month follow-up.

**Authors' conclusions**

Data were limited by selection bias, the lack of control groups, and the lack of valid and reliable measures. These limitations, in addition to the wide variations in intervention, population and outcomes measures, make it difficult to draw any definitive conclusions. However, it appears that both in-patient and out-patient rehabilitation programmes may lead to improvements in physical and occupational functioning, symptom severity, quality of life and resource acquisition for at least some subgroups of patients with CFS.

**CRD commentary**

This review answered a clear but broadly defined review question. A number of literature sources were searched, but it is unclear whether the review is at risk from publication and language bias. Similarly, the review methods were poorly described, making it difficult to assess the potential for reviewer error and bias. Some assessment of study validity was performed and this suggested that the overall quality of the data was poor and subject to a number of methodological failings. The outcome data varied and relied in some cases on self-reported measures or unreliable measures, with no indication of the clinical or statistical significance of differences in effect. Given the heterogeneity between the studies and the poor quality of the data, the author's use of a narrative synthesis is appropriate and the cautious conclusions justified.

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

Practice: The author stated that the findings support the need for further funding and support for comprehensive rehabilitation centres which provide both in- and out-patient programmes with follow-up sessions and ongoing evaluation.

Research: The author stated the need for further study of the effects of programmes on specific subgroups of patients with CFS. Methodological flaws of current evidence with regard to selection bias, the use of inconsistent and unreliable outcome measures, and the lack of experimental rigour, were also highlighted.

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Not reported.

**Bibliographic details**

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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.