

Review: behavioural interventions show the most promise for chronic fatigue syndrome

Whiting P, Bagnall AM, Sowden AJ, et al. *Interventions for the treatment and management of chronic fatigue syndrome: a systematic review*. JAMA 2001 Sep 19;286:1360–8.

QUESTION: In patients with chronic fatigue syndrome (CFS), what is the effectiveness of evaluated interventions?

Data sources

Published and unpublished studies in any language were identified by searching 19 databases, including Medline, EMBASE/Excerpta Medica, PsycLIT, ERIC, Current Contents, and the *Cochrane Library* (to 2000); the internet was searched using a meta-search engine; references of retrieved articles were scanned; and individuals and organisations were contacted through a website dedicated to this review and through members of 2 advisory panels.

Study selection

Studies were selected if they were randomised controlled trials (RCTs) or controlled clinical trials of any intervention used in the treatment or management of CFS in adults or children. Studies in which diagnoses were based on another syndrome with criteria similar to CFS, such as myalgic encephalomyelitis, chronic fatigue immune deficiency syndrome, or chronic Epstein-Barr virus infection, were included, but studies of fibromyalgia were not.

Data extraction

Data were extracted on study validity (randomisation and allocation concealment [RCTs], control group appropriateness and adjustment for confounders [controlled studies], baseline comparability of groups, blinding, follow up, drop outs, objectivity of outcome assessment, analysis, sample size, and cointerventions); intervention; diagnostic criteria; duration of follow up; and outcomes (psychological, physical, quality of life and health status, physiological, and resource use).

Main results

44 studies (n=2801; age range 11–87 y, 71% women) were included (32 studies of adults, 1 of children, and 2 of adults and children; 9 studies did not give age information). 31 different interventions were grouped by type of intervention (behavioural, immunological, pharmacological, supplements, complementary or alternative, and other interventions). 36 studies were RCTs. 18 trials (41%) showed an overall beneficial effect of the intervention (≥ 1 clinical outcome improved). The results from the RCTs are shown in the table. Cognitive

behavioural therapy (CBT) and graded exercise therapy (GET) had beneficial effects. Overall evidence from the other interventions was inconclusive.

Conclusions

In patients with chronic fatigue syndrome, 31 different interventions show mixed results for effectiveness. Cognitive behavioural therapy and graded exercise therapy show the most promise.

COMMENTARY

CFS remains a complex, disabling, and controversial disorder. This review by Whiting *et al* shows that behavioural interventions are helpful. Overall, the RCTs in this treatment category had high validity scores, indicating good methodological quality of the studies.

The essential elements of CBT (usually graded activity, problem solving, and challenging negative thinking) are not known. CBT is not universally available, but it might be possible to increase availability through self help materials or group CBT. GET is thought to work by correcting deconditioning. No specific evidence exists as to the optimal amount of exercise that should be prescribed, but 1 study started patients off with 5–15 minutes of exercise, 5 days/week, increasing this to 30 minutes with the intensity increasing as patients' tolerance increased.¹

Studies of CBT and GET had relatively high drop out rates (19% and 18%, respectively), suggesting a degree of patient unacceptability. The reasons for withdrawal are not known, and the studies did not report any adverse treatment effects.

Studies of immunological, pharmacological, and supplement interventions had variable results. Beneficial effects were found for hydrocortisone, fatty acids, and magnesium supplements, but these require further investigation. Severe adverse effects were seen with some immunological and pharmacological treatments.

The review highlights methodological problems that impede the quality and progress of CFS research. Some of these issues include a lack of reporting of baseline health status and demographic information, the need to use standardised outcome measures and scales that reflect patient concerns, and the paucity of long term follow up.

CBT and GET show promise as rehabilitative and coping treatments, but not as cures. It is not clear to whom the CBT and GET findings are generalisable because of inconsistencies in demographic characteristics, baseline health status, physical functioning, and severity of CFS, as well as the questions about the acceptability of the interventions to some patients. Further research on CBT and GET is clearly needed.

For the nurse encountering CFS patients, it is important to acknowledge the severity of the patients' symptoms, as they often feel doubted.

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1 Fulcher K, White PD. Randomised controlled trial of graded exercise in patients with the chronic fatigue syndrome. *BMJ* 1997;314:1647–52.

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RCTs of interventions for chronic fatigue syndrome*

Interventions	Number of RCTs	Number of patients	Overall effect: number of studies showing improvement or no difference
Behavioural	8	883	6 improvement; 2 no difference
GET	3	350	3 improvement
CBT	5	533	3 improvement; 2 no difference
Immunological	9	440	4 improvement; 5 no difference
Pharmacological	12	896	2 improvement; 10 no difference
Supplements	5	174	2 improvement; 3 no difference
Complementary or alternative	2	84	1 improvement; 1 no difference

*RCTs = randomised controlled trials; GET = graded exercise therapy; CBT = cognitive behavioural therapy. Intervention duration ranged from 2 weeks to 1 year (mean 16 wks); follow up ranged from 2 weeks to 5 years.