Cognitive-behavioral therapy for somatization and symptom syndromes: a critical review of controlled clinical trials

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Authors' objectives
To critically review and synthesise evidence from trials of cognitive-behavioural therapy (CBT) for somatisation and symptom syndromes.

Searching
MEDLINE was searched from 1966 to July 1999; the search terms were listed. The bibliographies of retrieved articles, recent reviews and monographs were checked for additional references.

Study selection

Study designs of evaluations included in the review
Randomised controlled trials (RCTs) and non-randomised controlled trials were eligible for inclusion. Uncontrolled pre-test post-test studies were excluded.

Specific interventions included in the review
Studies that compared CBT or cognitive therapy (CT) with a control group not receiving CBT or CT were eligible for inclusion. The comparison groups in the included trials were: active and placebo immunologic therapy, usual care, daily symptom monitoring, relaxation therapy, self-help group, wait-list, operant behavioural therapy, wait-list/attention, physiotherapy, attention-placebo control, assessment only, pseudo-meditation, headache control, active and placebo aural masker (for tinnitus), yoga, active and placebo benzodiazepine, stress management, and 'not interested' controls. Some studies also included an intervention group that received CBT therapy combined with another intervention.

Studies that used behavioural therapy techniques were excluded.

Participants included in the review
Studies of people with somatisation, somatoform disorders, or persistent symptoms or symptom syndromes were eligible for inclusion. Studies that evaluated CBT or CT for other mental disorders such as depression were excluded. The patients in included studies had the following conditions: chronic fatigue, irritable bowel, abdominal pain, back pain, chest pain, headache, TMJ syndrome, tinnitus, insomnia, burning mouth, chronic pain, electric sensitivity, fibromyalgia, somatic symptoms, and hypochondriasis. The duration of the symptoms, where reported, ranged from 2.7 to 16.8 years. The majority of the participants were women. The average age of the participants was typically 35 to 45 years.

Outcomes assessed in the review
No inclusion criteria were stated in relation to the outcomes. The primary outcomes reported in the review were: symptom severity (severity of the symptom or symptoms for which the intervention was given), functional status, and psychological distress (mostly depression or anxiety). Secondary variables such as the duration of patient symptoms, dysfunctional cognitions and behaviours, and durability of treatment effects, were also reported.

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

Assessment of study quality
The authors did not state that they assessed validity. However, some aspects of validity, such as the description of participants, were discussed in the text.
**Data extraction**
Two reviewers independently extracted the data. It was not stated how any disagreements were resolved. Data were extracted on: symptom or disorder, sample size, intervention, the number and format of sessions, length of follow-up, outcomes, results, duration of symptoms, setting, durability of treatment effects, and other methodological issues.

**Methods of synthesis**

How were the studies combined?
A narrative synthesis of the studies was undertaken. A vote-counting approach seems to have been taken in terms of whether the studies showed positive results for symptoms, function or psychological outcomes.

How were differences between studies investigated?
Some differences between the studies, in terms of the participants, therapists and interventions, were discussed in the text.

**Results of the review**

Thirty-one studies (n=1,689) were included: 29 RCTs (n=1,523) and 2 non-randomised controlled trials (n=166).

Many studies did not clearly describe the number and characteristics of non-participants. The details of the CBT and CT interventions given in the included articles suggested considerable variability in the degree to which cognitive, behavioural and relaxation strategies were emphasised.

Physical symptoms (28 studies): patients receiving CBT benefited more than control group patients in 20 studies (71%) and showed a non significant trend towards improvement in 3 studies (11%).

Psychological distress (26 studies): patients receiving CBT benefited more than control group patients in 10 studies (38%) and showed a non significant trend towards improvement in 2 studies (8%).

Functional status (19 studies): patients receiving CBT benefited more than control group patients in 9 studies (47%) and showed a non significant trend towards improvement in 5 studies (26%).

Cognitions and behaviour: patients receiving CBT showed greater improvement than controls on one or more of these domains in 12 studies. In 6 studies cognitive-behavioural measures did not improve more with CBT. The durability of treatment effects was not rigorously assessed in 12 of the 30 studies providing follow-up, but treatment benefits that were present immediately after treatment persisted at follow-up in all but one study. In 6 studies there was evidence of continuing additional improvement between the post-treatment and follow-up periods.

An inspection of the included studies did not suggest a greater benefit for individual versus group therapy, more treatment sessions versus fewer, or CBT versus predominantly CT. The efficacy of CBT did not appear to be related to the intensity of treatment provided to the comparison groups.

**Cost information**

One study reported that health care utilisation and costs were increased in individuals with somatisation and symptom syndromes relative to non-somatising primary care patients.

**Authors' conclusions**

CBT can be a useful treatment for patients with somatisation or symptom syndromes. Benefits can occur whether or not psychological distress is ameliorated. Since chronic symptoms are exceptionally common and most studies were conducted in referral populations, the optimal sequencing of CBT in treating primary care patients and the identification of those most likely to accept and respond to therapy should be further evaluated.

**CRD commentary**
The review had clearly stated inclusion criteria, but included a diverse group of participants with different conditions, who were related only by the perception that the conditions are medically poorly understood and difficult to treat. There were also variations in the setting and type of CBT or CT given. The pooling of all studies may not, therefore, have been appropriate since all patient types were pooled together with the results grouped by outcome. However, the results for individual conditions or therapies from individual trials can be evaluated from the table of included studies. Not much information was given about the outcome measures used, but it is likely in this field that a diverse collection of scales and measures were used within each of the three dimensions. A discussion about the clinical heterogeneity of the studies was undertaken, but the results were still pooled.

The methodological validity of the included studies does not seem to have been formally assessed, although some aspects of study validity were discussed in the text. Information on blinding and the validity of measuring instruments varied widely. Aspects of validity could be particularly important given that the study samples were mostly ‘referred’ participants, who might be expected to benefit more from treatment than the general population. The literature search was limited to MEDLINE plus bibliographies. In this field, it is likely that studies would have been published in journals not indexed on MEDLINE, so relevant studies may have been missed by this strategy.

The authors’ conclusions follow from the results presented, but these should be treated with caution given the diverse population evaluated.

Implications of the review for practice and research
Practice: The authors suggested that CBT could be used either as a first-line intervention for persistent somatic symptoms, or as adjunctive therapy for patients who fail other treatment strategies.

Research: The authors stated that further work is needed to elucidate the relationship between symptom improvement with CBT and cognitive and behavioural changes. The efficacy of CBT in reducing health care costs and improving patient or provider satisfaction should be evaluated in future studies. Future studies should also examine what proportion of primary care patients with persistent somatisation and symptom syndromes who are offered CBT accept and complete therapy.

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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.