Cognitive behavioral therapy for depression in patients with heart failure: a critical review

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CRD summary
The author concluded that the current evidence is insufficient to recommend cognitive-behavioural therapy as a treatment for depressive symptoms in patients with cardiovascular illness. The review is limited by the poor quality of the available evidence and insufficient reporting of the review process. The author's cautious conclusions therefore appear justified.

Authors' objectives
To evaluate the effectiveness of cognitive-behavioural therapy (CBT) for depression in patients with cardiovascular-related illnesses.

Searching
MEDLINE, PsycINFO and CINAHL were searched from 1980 to 2007 for English language articles; the search terms were reported. The references of relevant articles were handsearched.

Study selection
Randomised controlled trials (RCTs) of CBT in patients with cardiovascular disease, nonhaemorrhagic stroke or type II diabetes were eligible for inclusion. The included studies were of both individual and group CBT, with the duration of the intervention ranging from one session to twice weekly intervention over 12 weeks. In some of the included studies other interventions, such as medication or exercise, were delivered in conjunction with CBT. The control conditions in the included studies were usual care, waiting list, health education class, cardiac rehabilitation, attention control, Lanoxin or placebo. The patients in the included studies had cardiovascular disease (myocardial infarction, angina, angioplasty, coronary artery bypass grafting surgery, implanted cardioverter defibrillators, congestive heart failure, or were survivors of sudden cardiac death), cardiovascular accident or type II diabetes. In some studies only patients with psychological distress or depression were eligible. The outcomes eligible for inclusion were depression or depressive symptoms. The majority of included studies used the Beck Depression Inventory (BDI); other standardised scales were also used. Secondary outcomes were also reported: mortality, risk of cardiac death, rehospitalisation and event-free survival. The duration of follow-up in the included studies ranged from 7 weeks to 30 months.

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

Assessment of study quality
Validity was not formally assessed, although aspects of methodological quality were highlighted in the text.

The author did not state how the quality 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 results were combined in a narrative. Further information was evident from the table.

Results of the review
Ten RCTs (n=3,138) were included in the review.

A formal validity assessment was not performed. However, the following methodological limitations were highlighted in the review: the combination of CBT with other interventions; insufficient description of the intervention; the lack of
a true control group; the potential crossover between groups; the lack of baseline measures; the high number of drop-outs; and the small sample sizes and short follow-up periods.

Cardiovascular disease (7 studies, n=2,945).

Six of the 7 studies evaluating CBT in patients with cardiovascular disease found a significant reduction in symptoms of depression in the intervention group compared with controls. For each intervention type there was only one study. Interventions showing positive findings were: CBT alone (6.9 in the BDI version II versus 15 with usual care, p=0.037; no baseline measures reported); CBT combined with selective serotonin re-uptake inhibitors where indicated (9.1 on the BDI compared with 12.2 in the usual care group, p<0.001); CBT combined with relaxation training and stress management (-5.2 versus -0.2 with cardiac rehabilitation on the Symptom Checklist 90 revised depression subscale, p<0.034); CBT combined with cardiac rehabilitation (-4.25 versus -0.2 with a waiting-list group on the Hospital Anxiety and Depression Subscale, p=0.001); CBT with exercise (52% decrease in BDI scores in the intervention group versus 15% and 25% increases in Lanoxin titrate and placebo control groups, respectively, p=0.04); and CBT combined with biofeedback and health education compared with a health education class (1 study; no statistical data provided).

Stroke (1 study, n=123).

One study evaluated CBT in patients with stroke and found no significant differences between the intervention group and controls or attention controls.

Type II diabetes (2 studies n=70).

One study found a significant benefit of CBT combined with diabetes education compared with an education only group (58.3% remission from depression versus 25.9% in controls, p=0.03). The other study found no significant benefit of CBT combined with progressive muscular relaxation and problem-solving compared with a waiting-list control group.

**Authors’ conclusions**
The current evidence is insufficient to recommend CBT as a treatment for depressive symptoms in patients with cardiovascular illness.

**CRD commentary**
Inclusion criteria were clear for the study design but broad for the intervention, participants and outcomes, resulting in considerable clinical heterogeneity between the included studies. Three databases were searched. However, the retrieved articles were restricted to those written in English and there were no apparent attempts to identify unpublished data, therefore language or publication bias cannot be ruled out. There was insufficient information about the study selection, validity assessment and data extraction processes to rule out the possibility of error and bias. A formal validity assessment was not carried out, although several methodological limitations were highlighted in the text. In particular, the inclusion of studies combining CBT with other interventions, the lack of appropriate control groups, and the incomplete description of CBT interventions, make it difficult to isolate the effects of CBT. Given the heterogeneity between the included studies, a narrative synthesis was appropriate. The review is limited by the poor quality of available evidence and insufficient reporting of the review process. However, the author’s cautious conclusions appear justified.

**Implications of the review for practice and research**
**Practice:** The author stated that the current evidence is insufficient to recommend CBT as a treatment for depressive symptoms in patients with cardiovascular illness, and that it may not be appropriate for all patients, particularly those who have difficulty adhering to the CBT treatment protocol.

**Research:** The author stated that further adequately powered trials investigating CBT alone, as well as in conjunction with other treatments, should be carried out. The CBT treatment should be replicated in a clinical setting and appropriate control groups should be used. A representative sample of women should be included, follow-up should cover a minimum of a year, and established outcome measures such as the BDI, the Inventory of Depressive Symptoms or the Hamilton Rating Scale for Depression should be used. Reporting of further research should adhere to the Database of Abstracts of Reviews of Effects (DARE)
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Consolidated Standards of Reporting Trials (CONSORT) guidelines.

**Funding**
Not stated.

**Bibliographic details**

**Indexing Status**
Subject indexing assigned by NLM

**MeSH**
Cognitive Therapy /methods; Depressive Disorder /complications /psychology /therapy; Heart Failure /complications /psychology; Humans; Nursing Research; Randomized Controlled Trials as Topic; Severity of Illness Index

**AccessionNumber**
12008102388

**Date bibliographic record published**
09/08/2008

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

**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.