Behavioral interventions in patients with an implantable cardioverter defibrillator: lessons learned and where to go from here?

Habibovic M, Burg MM, Pedersen SS

CRD summary
The authors concluded that behavioural interventions showed promise for reducing distress, in patients with an implantable cardioverter defibrillator. The conclusions broadly reflect the evidence presented, but the limitations of the review and the evidence, cast doubt on their reliability. The authors’ recommendations for further research seem appropriate.

Authors’ objectives
To evaluate the evidence for behavioural interventions to reduce distress in patients with an implantable cardioverter defibrillator.

Searching
PubMed and PsycINFO were searched for studies from 1980 to April 2012, that were published in English in peer-reviewed journals. Search terms were reported, and reference lists of included studies were searched.

Study selection
Studies, with an experimental design, that evaluated an intervention with a psychological component, designed to reduce distress, in patients with an implantable cardioverter, were eligible for inclusion. The outcomes of interest were anxiety and depression.

Included studies evaluated a variety of interventions, including support groups, education, cognitive-behavioural therapy, telephone support, and comprehensive cardiac rehabilitation. Some interventions had several components. Most control groups received usual care or were on a waiting list. The details of participants, and where studies were performed, were not reported.

The authors did not state how many reviewers selected studies for inclusion.

Assessment of study quality
The authors did not report that they assessed study quality.

Data extraction
Data were extracted to calculate the effect size (SMD; Cohen's d) for anxiety and depression. The authors did not state how many reviewers extracted the data.

Methods of synthesis
A narrative synthesis was presented. The effect sizes were reported as changes from baseline, for the intervention and control groups. Effects of 0.2 were considered small, 0.5 were medium, and 0.8 or more were large.

Results of the review
Seventeen studies (15 randomised controlled trials), with 1,268 participants, were included. Follow-up ranged from one to 12 months.

Positive effect sizes in intervention groups ranged from 0.10 to 1.79 for anxiety, and 0.23 to 1.20 for depression. The ranges for control groups were 0.07 to 0.40 for anxiety, and 0.03 to 0.39 for depression.

Seven trials investigated cardiovascular outcomes; only one reported a significant improvement in heart rate variability, in the intervention group, compared with the control group.

Authors’ conclusions
Behavioural interventions showed promise, for reducing distress, in patients with an implantable cardioverter defibrillator.

**CRD commentary**
The inclusion criteria were broad, but generally clear. The search covered two databases and the review was limited to studies published in English, so some relevant studies could have been omitted. Any studies that were not published in peer-reviewed journals would also have been omitted. The review methods were not reported in detail, so the risk of reviewer error and bias was unclear.

Study quality was not formally assessed, but the authors mentioned some relevant issues, particularly the small sample for most trials. A narrative synthesis was appropriate, but the reporting of the results made it difficult to assess the differences between the intervention and control groups.

The authors’ conclusions broadly reflect the evidence presented, but the limitations of the review and the evidence, cast doubt on the reliability and generalisability of these conclusions. The authors’ recommendations for further research seem appropriate.

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

**Practice:** The authors did not state any specific implications for practice.

**Research:** The authors identified a number of implications for research, including a need for: larger trials, improved reporting, improved patient engagement, development of easily available treatments, evaluation of a patient-tailored approach, exploration of the most opportune time to intervene, and exploration of cognitive-behavioural therapy components as part of the intervention.

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