Randomized controlled trials of interventions to change maladaptive illness beliefs in people with coronary heart disease: systematic review

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**CRD summary**
This review concluded that while evidence was limited, it was possible to change maladaptive illness beliefs in people with coronary heart disease. There was no clear link between changes in beliefs and changes in psychological or functional outcomes. The evidence came from small studies of varying quality and with differing interventions. The authors' conclusions appear suitably conservative.

**Authors' objectives**
To assess the effects of interventions on maladaptive illness cognition in people with coronary heart disease and which types of intervention are most effective. Also to assess whether any change was accompanied by changes in behavioural, functional and psychological outcomes.

**Searching**
MEDLINE, EMBASE, CINAHL, British Nursing Index, PsycINFO, The Cochrane Library and Web of Knowledge were searched. Search terms were reported. Reference lists of identified studies were checked and key papers tracked forwards. Key authors were contacted and general internet search engines searched. Only papers published in English were sought. Where necessary, authors of studies published only as abstracts were contacted for more information.

**Study selection**
Randomised controlled trials (RCTs) that compared either usual care, no intervention or another intervention to an intervention aimed at changing cognitions about coronary heart disease in adults with coronary heart disease were eligible for inclusion. Coronary heart disease was defined as angina, myocardial infarction, diagnosed coronary heart disease or eligibility for/recently received revascularisation. The primary outcome of interest was change in beliefs (or other illness cognition). Secondary outcomes were quality of life, behaviour change, change in anxiety or depression, change in psychological well-being, change in exposure to modifiable risk factors and exposure to protective factors.

The included studies included men and women who were in-patients and outpatients. Interventions differed between studies and consisted of counselling, cognitive behavioural or educational programmes. Comparators were generally standard care; some studies also included some educational elements. The outcomes varied between studies and a number of different outcome measures were used to assess beliefs. Follow-up ranged from immediately post-consultation to five years.

Two reviewers selected studies for inclusion. Ten per cent of search results were checked independently by a third reviewer. Disagreements were resolved by consensus.

**Assessment of study quality**
Detsky Quality Assessment Questions were used to assess quality based on items such as descriptions of randomisation (included blinding of treatment assignment), outcome measures (included blinding of assessors), details of inclusion/exclusion criteria, description of intervention, sample size justification and description of analysis. The maximum score was 15.

Two reviewers independently assessed study quality.

**Data extraction**
Data were extracted on outcomes that included whether differences between groups reached statistical significance.

Two reviewers independently extracted data.
Methods of synthesis
Results were described in tables and combined in a narrative synthesis. Differences in studies were investigated by comparing studies in three ways: intervention was multifaceted or stand alone; according to method (such as counselling and/or education, cognitive-behavioural therapy, self education); method of delivery (verbal, verbal and written, self-administered auditory and self-administered written).

Results of the review
Thirteen RCTs (1,709 participants) were included. Study size ranged from 40 to 243 participants.

Overall quality varied: single trials each scored 3.5, 7, 9, 10.5, 13, 13.5 and 15; and three trials each scored 10 and 12.

Belief change: Eight interventions had a statistically positive effect on belief change. One trial had either a positive effect or no difference (depending on cognition measure). Three trials had no statistically significant effect. One trials had a negative effect (control had a statistically significant positive effect).

Evidence suggested that both multifaceted and standalone interventions could be effective; it was not possible to assess any difference between these approaches.

Results of counselling and/or educational interventions were mixed: four trials resulted in positive effects, one had mixed results and two lower-quality studies showed no effect. Three good-quality studies on cognitive-behavioural interventions (verbal or self administered) resulted in statistically significant positive changes in beliefs.

One good-quality study that used cassette tape interventions was effective; two self-administered written interventions were not effective. Limited information meant it was not possible to assess differing effects of interventions delivered by healthcare professionals versus self-administered.

Secondary outcomes: Data was limited as outcomes varied across studies. There was no clear evidence that statistically significant change in illness cognitions was accompanied by change in psychological, functional or behavioural outcomes.

Authors' conclusions
There was a lack of good quality evidence; however, the available evidence suggested that it was possible to devise interventions to change maladaptive illness cognitions in people with coronary heart disease. Cognitive-behaviour interventions may be particularly effective and counselling/educational interventions can be effective in some circumstances.

CRD commentary
The aims of the review were clearly stated in terms of inclusion criteria for participants, interventions, and study design. The date of search was not given. The search covered a number of relevant sources. Unpublished studies were sought and this was likely to reduce any effect of publication bias, although this was not formally assessed. Only studies in English were eligible for inclusion and so language bias may have affected the review. Methods of study selection, data extraction and quality assessment aimed at reducing any effects of reviewer error and bias. The quality of RCTs was assessed using a checklist. Only the composite score was reported, which made it difficult to comment independently on the reliability of evidence presented. The decision to present results in narrative form was appropriate given the variations in the included studies and interventions. An attempt was made to investigate heterogeneity between studies. Little information was given about the participants. Diagnostic criteria for inclusion varied widely between studies and as it was possible that reactions to the intervention varied according to severity of disease, this could affect the generalisability of the results.

The authors' conclusions appear to be suitably conservative as the data came from small studies of varying quality and with differing interventions.

Implications of the review for practice and research
Practice: The authors stated that it may be beneficial for clinicians to identify and correct maladaptive beliefs with the
intention of encouraging coping strategies.

**Research**: The authors stated that further high-quality research was required to inform guidance for clinicians on the most effective methods to dispel misconceptions held by people with coronary heart disease.

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