Review: psychological interventions do not reduce all cause or cardiac mortality in coronary heart disease


In patients with coronary heart disease (CHD), do psychological interventions (PSIs), particularly stress management training (SMT), reduce mortality and morbidity and improve psychological wellbeing?

METHODS

Data sources: Cochrane Controlled Trials register (Issue 4, 2001), Medline (1999–2001), EMBASE/Excerpta Medica (1998–2001), PsycINFO, and CINAHL (up to 2001); bibliographies of relevant articles; and experts.

Study selection and assessment: randomised controlled trials (RCTs) published in any language that lasted ≥6 months and compared non-pharmacological PSIs with usual care or no intervention in adults with CHD.

Outcomes: all cause and CHD related mortality; myocardial infarction (MI); revascularisation (coronary artery bypass grafting or percutaneous transluminal coronary angioplasty); and anxiety and depression (each measured using several different scales).

MAIN RESULTS

36 RCTs (12,841 patients) met the selection criteria. All PSIs. Comparisons included PSIs alone (15 RCTs) or PSIs plus other rehabilitation interventions (20 RCTs) with usual care, and PSIs plus other rehabilitation interventions with rehabilitation interventions alone (6 RCTs). Meta-analyses were done using a random effects model when significant heterogeneity was detected. The combined intervention and control groups did not differ for all cause or CHD related mortality or revascularisation (all p>0.05). However, the rate of non-fatal MI (with evidence of publication bias) was lower in the intervention group than in the control group (table). Reductions in anxiety (standardised mean difference [SMD] –0.08, 95% CI –0.16 to –0.01) (9 RCTs) and depression (SMD –0.3, CI –0.48 to –0.13) (11 RCTs) were greater in the intervention group than in the control group.

SMT (18 RCTs). The groups did not differ for rates of all cause mortality or revascularisation, or reduction in level of anxiety (all p>0.05). The intervention group had lower rates of cardiac mortality and non-fatal MI (borderline significance) than the control group (table). The intervention group had greater reduction in depression than the control group (SMD –0.32, CI –0.56 to –0.08) (8 RCTs).

CONCLUSIONS

In patients with CHD, combined psychological interventions have some beneficial effects on psychological wellbeing, but not on all cause or CHD related mortality. Stress management alone does not appear to significantly affect these outcomes.

For correspondence: Dr K Rees, Department of Social Medicine, University of Bristol, Canynge Hall, Whiteladies Road, Bristol, BS8 2PR, UK Source of funding: British Heart Foundation UK.

<table>
<thead>
<tr>
<th>Outcomes at 5 months to 5 years</th>
<th>Number of trials (n)</th>
<th>Comparisons</th>
<th>Weighted event rates</th>
<th>RRR (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-fatal MI</td>
<td>18 (10,200)</td>
<td>All PSIs v control</td>
<td>7% v 9%</td>
<td>20% (9 to 30)</td>
<td>50 (34 to 100)</td>
</tr>
<tr>
<td>Non-fatal MI</td>
<td>8 (3,990)</td>
<td>SMT v control</td>
<td>4% v 6%</td>
<td>29% (8 to 45)</td>
<td>50 (34 to 100)</td>
</tr>
<tr>
<td>Cardiac mortality</td>
<td>4 (1,412)</td>
<td>SMT v control</td>
<td>3% v 6%</td>
<td>37% (0 to 60)</td>
<td>34 (20 to 1)</td>
</tr>
</tbody>
</table>

*MI = myocardial infarction; SMT = stress management training. Other abbreviations defined in glossary; weighted event rates, RRR, NNT, and CI calculated from data in article using a fixed effects model.

†Borderline significance.