Home-based cardiac rehab was as effective as hospital-based rehab in improving cardiac risk factors

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Home-based cardiac rehab was as effective as hospital-based rehab in improving cardiac risk factors

**QUESTION**

Is home-based cardiac rehabilitation as effective as hospital-based rehabilitation in low-to-moderate-risk patients with recent myocardial infarction or revascularisation procedure?

**METHODS**

**Design:** randomised controlled trial. Current Controlled Trials ISRCTN 72884263.

**Allocation:** concealed.

**Blinding:** blinded (outcome assessors).

**Follow-up period:** 1 year.

**Setting:** 4 hospital-based cardiac rehabilitation centres in West Midlands, UK.

**Patients:** 525 patients (mean age 61 y, 77% men) who were referred to the rehabilitation programme within 12 weeks after myocardial infarction (49% of patients), percutaneous coronary angioplasty (40%), or coronary artery bypass graft surgery (11%). High-risk patients were excluded.

**Intervention:** home-based cardiac rehabilitation programme (a manual and ≥3 home visits and ≥1 telephone call from a specially trained rehabilitation nurse over 12 wks) (n = 265) or hospital-based programme (attended 1–2 sessions/wk for 8–12 wks) (n = 262). Both programmes included exercise, relaxation, education, and lifestyle counselling.

**Outcomes:** blood pressure, cholesterol concentrations, Hospital Anxiety and Depression Scale score, distance walked (incremental shuttle walking test), smoking cessation, and costs.

**MAIN RESULTS**

Most cardiac risk factors improved in both groups over the 1-year follow-up, but groups did not differ for any clinical outcome (table). Mean cost of the rehabilitation programme was £198 in the home-based group and £157 in the hospital-based group (p < 0.05), but 1-year costs did not differ (£807 and £596, respectively) when patient travel and health service resource use costs were included.

**CONCLUSION**

In low-to-moderate-risk patients, home-based cardiac rehabilitation was not inferior to hospital-based rehabilitation in improving cardiac risk factors and had similar costs.

**ABSTRACTED FROM**


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▶ **Clinical impact ratings:** Cardiology 6/7; Rehabilitation 5/7

<table>
<thead>
<tr>
<th>Outcome Measures</th>
<th>Home-based (n=265)</th>
<th>Hospital-based (n=262)</th>
<th>Difference in means (95% CI) †</th>
<th>RRR (CI) †</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systolic blood pressure (mm Hg)</td>
<td>124</td>
<td>132</td>
<td>1.9 (−1.1 to 5.0)</td>
<td></td>
</tr>
<tr>
<td>Diastolic blood pressure (mm Hg)</td>
<td>72</td>
<td>74</td>
<td>0.4 (−1.3 to 2.1)</td>
<td></td>
</tr>
<tr>
<td>Total cholesterol (mmol/l)</td>
<td>4.8</td>
<td>3.9</td>
<td>0.1 (−0.1 to 0.2)</td>
<td></td>
</tr>
<tr>
<td>HDL cholesterol (mmol/l)</td>
<td>1.2</td>
<td>1.3</td>
<td>0.1 (0 to 0.1)</td>
<td></td>
</tr>
<tr>
<td>HADS anxiety score</td>
<td>7.5</td>
<td>5.9</td>
<td>0 (−0.7 to 0.7)</td>
<td></td>
</tr>
<tr>
<td>HADS depression score</td>
<td>4.8</td>
<td>4.8</td>
<td>−0.4 (−1.0 to 0.3)</td>
<td></td>
</tr>
<tr>
<td>Distance walked (m)</td>
<td>–</td>
<td>391</td>
<td>−22 (−48 to 5)</td>
<td></td>
</tr>
</tbody>
</table>

Currently smoke | 34% | 22% | 10% (−85 to 50) |

*HADS, Hospital Anxiety and Depression Scale (scores of 0–21 [worst] on each subscale); HDL, high-density lipoprotein; other abbreviations defined in glossary.

†Adjusted for baseline score, age, sex, diagnosis, ethnicity, and centre.

Despite evidence that cardiac rehabilitation is an effective intervention, access, uptake, and adherence are problematic. Recent studies indicate that home-based programmes are as effective as hospital-based ones1 and that health gains and total healthcare costs are similar.2 Indeed, home-based programmes are an appealing alternative to hospital-based or centre-based programmes because they may fit better with patients’ lifestyles.

The randomised trial by Jolly et al compared clinical outcomes and costs at 12 months and found no difference between groups. Although the authors stated that “it is not appropriate to give primacy to 1 outcome measure,” they later said that “definition of adherence to cardiac rehabilitation was confined to the physical activity component,” implying that this aspect does have primacy, as indeed it does in many other studies of cardiac rehabilitation.

The low proportion of women (23%), high refusal rate, and exclusion of patients with comorbidities suggest that this was a restricted sample, which precludes generalisability. Also, although there were statistically significant within-group changes in outcomes over the 12 months, most baseline values were in the normal range; thus, the clinical significance of the changes is questionable.

The findings of Jolly et al, including the economic evaluation, are similar to those reported in other studies1 2 and suggest that home-based cardiac rehabilitation is no worse than hospital-based programmes and could be offered as a viable alternative to patients who are not willing or able to travel to a hospital.

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