Physiotherapy, aerobics, and training devices reduced pain intensity and frequency in chronic low back pain


QUESTION: In patients with chronic low back pain (LBP), are physiotherapy, specific conditioning with training devices, and aerobics equally effective for reducing pain and disability?

Design
Randomised [allocation concealed]*†, [unblinded]‡,* controlled trial with 12 months of follow up.

Setting
A hospital in Switzerland.

Physiotherapy v aerobics v devices in chronic low back pain at 12 months

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Physiotherapy</th>
<th>Aerobics</th>
<th>Devices</th>
<th>p Value§</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest pain (range 0 to 10)</td>
<td>4.8 (6.5)</td>
<td>4.7 (6.4)</td>
<td>4.5 (6.6)</td>
<td>0.99</td>
</tr>
<tr>
<td>Average pain (range 0 to 10)</td>
<td>3.2 (4.4)</td>
<td>3.2 (4.1)</td>
<td>2.9 (4.2)</td>
<td>0.90</td>
</tr>
<tr>
<td>Pain frequency (range 1 to 4)</td>
<td>3.0 (3.4)</td>
<td>2.9 (3.4)</td>
<td>2.9 (3.4)</td>
<td>0.82</td>
</tr>
<tr>
<td>Disability (range 0 to 24)‡</td>
<td>7.4 (8.0)</td>
<td>6.2 (7.6)</td>
<td>5.8 (8.3)</td>
<td>0.03**</td>
</tr>
</tbody>
</table>

§Used a repeated measures analysis of variance. †Higher scores = greater disability. **The physiotherapy group differed from the aerobics and devices groups in pattern of change over the course of the study.

Main outcome measures
Pain intensity (visual analogue scale, score range 0 to 10), frequency of pain (pain free = 1, sporadic = 2, often = 3, or continuous = 4), and disability (Roland and Morris, score range 0 to 24).

Main results
Analysis was by intention to treat. Decreases in highest and average pain intensity scores and pain frequency were seen in each group, but the groups did not differ in the extent of their decreases (12 mo data are in the table). The devices and aerobics groups showed reductions in disability scores over time, but the physiotherapy group (which had an increase from post-treatment values in disability scores at 6 mo) differed statistically from the other groups (12 mo data are in the table).

Conclusions
In patients with chronic low back pain, physiotherapy, specific conditioning with training devices, and aerobics were similarly effective for reducing the pain intensity score and pain frequency. In contrast to the physiotherapy group, the aerobics and devices groups maintained their post-treatment reductions in disability after 12 months of follow up.

*See glossary. †Information provided by author. ‡Roland M, Morris R. Spine 1985;8:141–4.