Yoga improved function and reduced symptoms of chronic low-back pain more than a self-care book


Clinical impact ratings: GIM/FP/GP ★★★★★☆ Phys Med & Rehab ★★★★★★★★★★★★★★★★ Rheumatology ★★★★★☆

**Question**
What is the relative effectiveness of yoga classes, exercise classes, and a self-care book for chronic low-back pain (LBP)?

**Methods**
**Design:** Randomized controlled trial.
**Allocation:** [Concealed]†. *
**Blinding:** Blinded (data collectors).*
**Follow-up period:** 12 and 26 weeks.
**Setting:** A nonprofit, integrated health care system in Washington and Idaho, USA.
**Patients:** 101 patients 20 to 64 years of age (mean age 44 y, 66% women) who had visited a primary care provider for LBP in the past 3 to 15 months. Exclusion criteria included complicated LBP, pain attributable to specific underlying diseases or conditions (e.g., pregnancy), pain ratings <3 on a “bothersomeness” scale of 0 to 10, receipt of other LBP treatments, participation in yoga or exercise for LBP in the past year, potential disincentives to improvement (e.g., workers’ compensation claim), unstable medical or severe psychiatric conditions or dementia, unwillingness to practice at home, or inability to speak or understand English.

**Intervention:** Yoga classes (n=36), exercise classes (n=35), or a self-care book (n=30). Yoga and exercise classes comprised 12 weekly 75-minute classes. Yoga classes were based on viniyoga and focused on relaxation, strength-building, flexibility, asymmetric poses, and breathing exercises. Exercise classes included warm-ups to increase heart rate; repetitions of 7 aerobic and 10 strengthening exercises; and unguided slow, deep breathing. The self-care book emphasized such strategies as adoption of a comprehensive fitness and strength program, lifestyle modification, and management of flare-ups.

**Outcomes:** Back-related dysfunction (Roland Disability Scale) and symptoms (11-point bothersomeness scale).

**Patient follow-up:** 95% at 12 weeks and 94% at 26 weeks (intention-to-treat analysis).

**Main Results**
At 12 weeks, the yoga group had greater improvement in functioning than the exercise group (mean score difference [MSD] =−1.8, 95% CI −3.5 to −0.1) and book groups (MSD =−3.4, CI =−5.1 to −1.6). The exercise and book groups did not differ (P =0.12). However, in analyses of the proportion of patients who had Roland score reductions of ≥2 points or ≥50%, the yoga group did not differ from the exercise group (Table). At 26 weeks, the yoga and exercise groups had greater improvements in functioning than the book group (MSD =−3.6, CI =−5.4 to −1.8 and −2.1, CI =−4.1 to −0.1, respectively), but the yoga and exercise groups did not differ (P =0.092). The 3 groups did not differ for bothersomeness of symptoms at 12 weeks (P =0.135), but the yoga group had greater reductions in symptoms than the exercise (MSD =−1.4, CI =−2.5 to −0.2) and book groups (MSD =−2.2, CI =−3.2 to −1.2) at 26 weeks.

**Conclusion**
Yoga improved function and reduced symptoms in chronic low-back pain more than a self-care book at 26 weeks; yoga reduced symptoms, but did not improve function more than exercise.

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*See Glossary.
†Information provided by author.

<table>
<thead>
<tr>
<th>Outcomes of 12 wk</th>
<th>Comparisons</th>
<th>Event rates</th>
<th>RBI (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥2 point reduction in Roland score</td>
<td>Yoga vs exercise</td>
<td>78% vs 63%</td>
<td>20% (−11 to 70)</td>
<td>Not significant</td>
</tr>
<tr>
<td>Yoga vs book</td>
<td>78% vs 47%</td>
<td>70% (10 to 150)</td>
<td>3 (2 to 22)</td>
<td></td>
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<tr>
<td>≥50% reduction in Roland score</td>
<td>Yoga vs exercise</td>
<td>69% vs 50%</td>
<td>40% (−9 to 110)</td>
<td>Not significant</td>
</tr>
<tr>
<td>Yoga vs book</td>
<td>69% vs 30%</td>
<td>130% (30 to 320)</td>
<td>3 (1 to 12)</td>
<td></td>
</tr>
</tbody>
</table>

*Abbreviations defined in Glossary; NNT calculated from data in article.

We also know that effects from placebos vary. For example, sham acupuncture is superior to placebo pills for relieving chronic arm pain, a differential “benefit” that can persist for months (2).

Are patients really better off if the results are attributable to nonspecific placebo effects? Should physicians avail themselves of any possible therapeutic advantage and prescribe yoga for their patients with high expectations? What does the principle of informed consent demand? These are important questions for interpretation of the evidence presented by Sherman and colleagues.

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References