Comparing Yoga, Exercise, and a Self-Care Book for Chronic Low Back Pain: A Randomized, Controlled Trial

Abstract

Background: Chronic low back pain is a common problem that has only modestly effective treatment options.

Objective: To determine whether yoga is more effective than conventional therapeutic exercise or a self-care book for patients with chronic low back pain.

Design: Randomized, controlled trial.

Setting: A nonprofit, integrated health care system.

Patients: 101 adults with chronic low back pain.

Intervention: 12-week sessions of yoga or conventional therapeutic exercise classes or a self-care book.

Measurements: Primary outcomes were back-related functional status (modified 24-point Roland Disability Scale) and “bothersomeness” of pain (11-point numerical scale). The primary time point was 12 weeks. Clinically significant change was considered to be 2.5 points on the functional status scale and 1.5 points on the bothersomeness scale. Secondary outcomes were days of restricted activity, general health status, and medication use.

Results: After adjustment for baseline values, back-related function in the yoga group was superior to the book and exercise groups at 12 weeks (yoga vs. book: mean difference, −3.4 [95% CI, −5.1 to −1.6] [P < 0.001]; yoga vs. exercise: mean difference, −1.8 [CI, −3.5 to −0.1] [P = 0.034]). No significant differences in symptom bothersomeness were found between any 2 groups at 12 weeks; at 26 weeks, the yoga group was superior to the book group with respect to this measure (mean difference, −2.2 [CI, −3.2 to −1.2]; P < 0.001). At 26 weeks, back-related function in the yoga group was superior to the book group (mean difference, −3.6 [CI, −5.4 to −1.8]; P < 0.001).

Limitations: Participants in this study were followed for only 26 weeks after randomization. Only 1 instructor delivered each intervention.

Conclusions: Yoga was more effective than a self-care book for improving function and reducing chronic low back pain, and the benefits persisted for at least several months.
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This is a randomized controlled trial for 320 predominantly low-income minority adults with chronic low back pain, comparing yoga, physical therapy, and education. Inclusion criteria are adults 18–64 years old with non-specific low back pain lasting ≥12 weeks and a self-reported average pain intensity of ≥4 on a 0–10 scale. Evidence from multiple studies supports a moderate benefit in cLBP for yoga as well as exercise therapy individually delivered by a physical therapist [35, 43, 59]. Education, in the form of physician advice and handouts, are a common part of primary care provided to patients with cLBP [15]. However, no studies to date have done a head-to-head comparison of the effectiveness of yoga, PT, and education for cLBP. 1975: Lancet — "Randomised controlled trial of yoga and bio feedback in management of hypertension." This is the first-ever randomized trial on yoga, and it found that yoga was more effective than relaxation in reducing high blood pressure. 1985: British Medical Journal — "Yoga for bronchial asthma: a controlled study." This is the first randomized trial on yoga for asthma, and it was one of the first to show the effects of yoga on the inner organs. 1998: JAMA — "Yoga-based intervention for carpal tunnel syndrome." 2005: Annals of Internal Medicine — "Comparing yoga, exercise, and a self-care book for chronic low back pain." This is the most important trial on yoga for lower back pain and the first really high-quality trial on yoga. Background: Chronic low back pain is a common problem lacking highly effective treatment options. Small trials suggest that yoga may have benefits for this condition. This trial was designed to determine whether yoga is more effective than conventional stretching exercises or a self-care book for primary care patients with chronic low back pain. Methods: A total of 228 adults with low back pain were randomized to 12 weekly classes of yoga (92 patients), conventional stretching exercises (91 patients) or a self-care book (45 patients). Back-related functional status (modified Roland Domanik scores) and pain intensity (0–10 scale) were documented at baseline and 12 weeks. Results: There were no significant differences in change in pain intensity or functional status between the yoga and stretching groups. However, the self-care group showed a significant improvement in both pain intensity and functional status compared to the other two groups. Conclusion: Yoga may be an effective option for managing chronic low back pain, but further research is needed to confirm these findings.