

Yoga Improves Function in Patients with Chronic Low Back Pain

Sherman KJ, Cherkin DC, Erro J, et al. Comparing yoga, exercise, and a self-care book for chronic low back pain: a randomized, controlled trial. *Ann Intern Med* 2005;143:849–56.

Study Overview

Objective. To determine if yoga is more effective than back care education or a conventional exercise regimen for relieving chronic low back pain.

Design. Randomized controlled trial.

Setting and participants. 101 patients aged 20 to 64 years were identified as having chronic low back pain via the electronic medical records of an integrated health care system in the Pacific Northwest. Patients were randomized to 12-week sessions of yoga or a conventional exercise class or were provided a self-care book.

Main outcome measures. Back-related functional status was measured by the 24-point Roland Disability Scale and an 11-point numerical scale of “bothersomeness” of pain. A change of 2.5 points on the Roland scale and 1.5 points on the bothersomeness scale was considered clinically significant. Patients were assessed at 6, 12, and 26 weeks.

Main results. At 12 weeks, back-related functional status in the yoga group was statistically significantly improved as compared with the book group (mean difference, -3.4 [95% confidence interval (CI), -5.1 to -1.6]; $P < 0.001$). Greater improvements in functional status were seen in the yoga group compared with the exercise group at 12 weeks, but the difference was not statistically significant (mean difference, -1.8 [95% 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, back-related function in the yoga group was still clinically superior to the book group (mean difference, -3.6 [95% CI, -5.4 to -1.8]; $P < 0.001$), and the yoga group was superior to the book group in symptom bothersomeness (mean difference, -2.2 [95% CI, -3.2 to -1.2]; $P < 0.001$).

Conclusion. For carefully selected patients, yoga can be more effective than self-care education for improving back-related function and reducing chronic low back pain. Benefits may persist for several months.

Commentary

Up to 85% of adults will have low back pain at some point in their lives, and each year, at least 2% of U.S. workers are disabled as a result of such symptoms [1]. A recent meta-analysis of exercise therapy for nonspecific low back pain showed that exercise is only modestly effective at decreasing pain and improving function in adults with chronic low back pain [2]. Due to the prevalence of this condition and the lack of a significantly effective therapy, patients with back pain have sought alternative forms of therapy, including chiropractic manipulation, relaxation, and yoga [3,4]. Because yoga combines exercise with relaxation techniques, benefits of yoga may be more pronounced.

Although this study by Sherman and colleagues is robust in terms of its randomization and control, volunteer bias is significant, as participants typically were college-educated, employed, white women aged 40 to 50 years, demographics that correspond with known data about users of complementary and alternative medicine in the United States. In addition, participants reported at baseline that they expected to experience greater improvement from yoga or exercise than from the book; hence, self-reporting of symptom improvement in the book group may have been skewed. Furthermore, participants in the yoga group may have felt more connected to their yoga instructor (who specifically designed this yoga program) and may have been more likely to recommend such a class as a result. Finally, while yoga did show a trend toward greater functional improvement as compared with exercise therapy, improvements were not clinically significant. Thus, it seems yoga derives its main benefit from the physical exercise but appeals to those who tended to use complementary and alternative medicine. In addition, this yoga program was designed exclusively for this trial, and therefore other styles of yoga may not have the same benefits or safety.

Applications for Clinical Practice

Yoga is more effective than a self-help book for improving chronic low back pain. For patients who are inclined to try yoga in lieu of traditional exercise therapy, it may be worthwhile to consider a yoga program geared for beginners with

chronic back pain.

—Review by Mark S. Horng, MD

References

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