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Original Article

# A Randomized Trial of Tai Chi for Fibromyalgia

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## Background

Previous research has suggested that tai chi offers a therapeutic benefit in patients with fibromyalgia.

## Methods

We conducted a single-blind, randomized trial of classic Yang-style tai chi as compared with a control intervention consisting of wellness education and stretching for the treatment of fibromyalgia (defined by American College of Rheumatology 1990 criteria). Sessions lasted 60 minutes each and took place twice a week for 12 weeks for each of the study groups. The primary end point was a change in the Fibromyalgia Impact Questionnaire (FIQ) score (ranging from 0 to 100, with higher scores indicating more severe symptoms) at the end of 12 weeks. Secondary end points included summary scores on the physical and mental components of the Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36). All assessments were repeated at 24 weeks to test the durability of the response.

## Results

Of the 66 randomly assigned patients, the 33 in the tai chi group had clinically important improvements in the FIQ total score and quality of life. Mean ( $\pm$ SD) baseline and 12-week FIQ scores for the tai chi group were  $62.9\pm 15.5$  and  $35.1\pm 18.8$ , respectively, versus  $68.0\pm 11$  and  $58.6\pm 17.6$ , respectively, for the control group (change from baseline in the tai chi group vs. change from baseline in the control group,  $-18.4$  points;  $P<0.001$ ). The corresponding SF-36 physical-component scores were  $28.5\pm 8.4$  and  $37.0\pm 10.5$  for the tai chi group versus  $28.0\pm 7.8$  and  $29.4\pm 7.4$  for the control group (between-group difference, 7.1 points;  $P=0.001$ ), and the mental-component scores were  $42.6\pm 12.2$  and  $50.3\pm 10.2$  for the tai chi group versus  $37.8\pm 10.5$  and  $39.4\pm 11.9$  for the control group (between-group difference, 6.1 points;  $P=0.03$ ). Improvements were maintained at 24 weeks (between-group difference in the FIQ score,  $-18.3$  points;  $P<0.001$ ). No adverse events were observed.

## Conclusions

Tai chi may be a useful treatment for fibromyalgia and merits long-term study in larger study populations. (Funded by the National Center for Complementary and Alternative Medicine and others; ClinicalTrials.gov number, NCT00515008.)

## Source Information

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## Media in This Article



Figure 1

### Figure 1. Screening, Randomization, and Completion of 12-Week and 24-Week Evaluations.

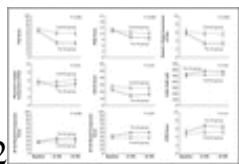


Figure 2

### Figure 2. Mean Changes in Nine Secondary Outcomes at 12 and 24 Weeks, According to Treatment Group.

Outcome scores are shown for the tai chi group (squares) and the control group (triangles). The values shown are unadjusted means; I bars indicate 95% confidence intervals. Measurements were obtained at baseline, 12 weeks, and 24 weeks, but data points are slightly offset for clarity. Scores on the Fibromyalgia Impact Questionnaire (FIQ) range from 0 to 100, with higher scores indicating more severe symptoms. Scores on the Pittsburgh Sleep Quality Index (PSQI) range from 0 to 21, with higher scores indicating worse sleep quality. Global assessments of pain were made on a visual-analogue scale (VAS) from 0 to 10, with 0 equaling no pain. Scores on the Center for Epidemiologic Studies Depression (CES-D) index range from 0 to 60, with higher scores indicating more severe depression. The 6-minute walk test is measured in yards (to convert values to meters, multiply by 0.9144). Summary scores on the physical and mental components of the Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36) range from 0 to 100, with higher scores indicating better health status. Scores on the Chronic Pain Self-Efficacy Scale (CPSS) range from 1 to 10, with higher scores indicating greater self-efficacy with respect to the management of chronic pain. In summary, for the FIQ, the PSQI, the patient and physician assessments on the VAS, and the CES-D, lower scores indicate improvement in outcome. For the SF-36 physical and mental components, the 6-minute walk test, and the CPSS, higher scores indicate improvement in outcome.

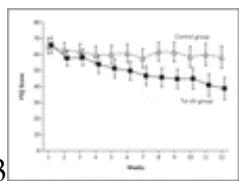


Figure 3

### Figure 3. Fibromyalgia Impact Questionnaire (FIQ) Scores during the 12-Week Intervention Period, According to Treatment Group.

FIQ scores, measured weekly over the 12-week intervention period, are shown for the tai chi group and the control group. The FIQ scores range from 0 to 100, with higher scores indicating more severe symptoms and lower scores indicating improvement in outcomes. The values shown are unadjusted means; the data points

are slightly offset for clarity. I bars indicate 95% confidence intervals.

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