

# Tai Chi Beats Aerobic Exercise for Fibromyalgia

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Compared with aerobic exercise, the traditional martial art of tai chi is as good as, or better than, aerobic exercise, for improving the overall severity of fibromyalgia symptoms, new research shows.

Results of a 52-week single-blind trial showed that in addition to fibromyalgia symptom relief, tai chi was associated greater improvements in depression, anxiety, self-efficacy, and the mental component of the Short-Form Health Survey (SF-36) quality-of-life measure.

"Compared with aerobic exercise, the most commonly prescribed non-drug treatment, tai chi appears as effective as or better for managing fibromyalgia," the investigators, led by Chenchen Wang, MD, Tufts University School of Medicine in Boston, Massachusetts, write. "This mind-body approach may be considered a therapeutic option in the multidisciplinary management of fibromyalgia."

The study was [published online](#) March 21 in the *BMJ*.

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## Complex Disorder

A complex disorder, fibromyalgia is characterized by chronic widespread musculoskeletal pain, fatigue, sleep disturbance, and prominent physical and

psychological impairment, the investigators note. Estimates suggest it affects 2% to 4% of the general population aged 18 to 65 years.

Aerobic exercise is recommended as a standard treatment for fibromyalgia, but many patients find it difficult to exercise because of fluctuations in symptoms. Some trials have suggested that tai chi alleviates pain and improves physical and mental health in patients with fibromyalgia but concluded that larger and more rigorous trials are needed to confirm the results.

In addition, the duration and frequency of tai chi required to achieve optimal benefit are unknown, as is its efficacy compared with that of aerobic exercise in this patient population.

To find out more, the investigators conducted a prospective, randomized, 52-week, single-blind, comparative effectiveness trial.

The study included 226 people with fibromyalgia who were randomly assigned to receive supervised aerobic exercise for 24 weeks, twice weekly (n = 75), or one of four Yang-style supervised tai chi interventions, 12 or 24 weeks once or twice weekly (n = 151). Participants were followed for 52 weeks. Investigators report adherence was "rigorously" encouraged in person and by telephone.

The study's primary outcome was change in the revised Fibromyalgia Impact Questionnaire (FIQR) scores at 24 weeks compared with baseline. Secondary outcomes included changes of scores in patients' global assessment, anxiety, depression, self-efficacy, coping strategies, physical functional performance, functional limitation, sleep, and health-related quality of life as measured by the Short-Form Health Survey (SF-36).

The mean age of participants was 52 years, 92% were women, the racial/ethnic composition was diverse (61% white), and mean body mass index was 30 kg/m<sup>2</sup>. The average duration of body pain was 9 years.

Participants had poor health status at enrollment, indicated by an average SF-36 physical score that was about 2 standard deviations below that of the general US population.

Each supervised session lasted 1 hour, and all participants were encouraged to include at least 30 minutes of tai chi or aerobic exercise in their daily routine during the intervention period. The researchers also asked participants to continue their exercise routines for up to the 52-week follow-up.

Research staff blinded to group assignment measured body mass index, treatment expectations, adherence, safety, and physical performance on the 6-minute walk test.

People in the tai chi groups attended 62% of classes vs 40% of participants in the aerobic exercise group.

"Participants assigned to the mind-body therapy maintained higher and more consistent attendance than those assigned to aerobic exercise. Tai chi, which consists of a gentler, low impact meditative sequence of movements with minimal side effects, may be better embraced by patients with fibromyalgia in the long term," the authors write.

FIQR scores improved for participants in all groups compared to baseline at the 12-, 24- and 52-week evaluations. Participants in all five groups demonstrated a similar reduction in use of analgesics, antidepressants, muscle relaxants, and antiepileptic agents over time.

A total of 183 participants (81%) completed the 24-week evaluation. At this time point, improvement in FIQR scores in the combined tai chi groups was significantly greater than in the aerobic exercise group ( $P = .03$ ).

The duration of tai chi mattered, with people in the 24-week groups reporting greater improvements in FIQR scores compared with those in the 12-week groups. The difference was statically significant ( $P = .007$ ).

When the investigators looked at the frequency of tai chi, they found no significant difference in effectiveness at 24 weeks between those who participated in tai chi once a week and those participating twice a week, suggesting tai chi once a week may be sufficient to see the reported improvements.

Secondary outcomes at 24 weeks that also significantly favored the tai chi groups included patient global assessment ( $P = .005$ ), Hospital Anxiety and Depression Scale anxiety scores ( $P = .006$ ), self-efficacy ( $P = .004$ ), and coping strategies ( $P = .005$ ).

A total of 154 adverse events (AEs) were reported in the study. This included 117 AEs among 115 participants assigned to tai chi and 37 among 75 participants in the aerobic exercise group. Most were minor musculoskeletal events, the authors noted, but 8 AEs in the tai chi group and 4 in the aerobic exercise group were considered related to the interventions.

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## Rethinking the Standard Treatment

"It may be time to rethink what type of exercise is most effective for patients with fibromyalgia," Wang writes in an [opinion piece](#) accompanying the study.

"Despite the well-established benefits of aerobic exercise as a core standard treatment for fibromyalgia, patients in our trial had difficulty adhering to the aerobic exercise programme. This may not be surprising — many patients with fibromyalgia find performing and adhering to exercise programs hard. Complaints such as 'the floor is too hard,' 'I cannot stand this,' 'I'm too tired,' or 'I'm in too much pain' were common."

Three instructors taught tai chi in the study. The outcomes were consistent across these instructors, suggesting that the "classic Yang style tai chi can be deployed in other settings in a standardized manner for fibromyalgia," the authors write.

In another accompanying [opinion piece](#), Amy Price, a trauma survivor with chronic pain and a former neurocognitive rehabilitation consultant, notes that her "balance was poor from brain and spinal damage, and I could only see the depressing future of being a patient with chronic pain. I didn't expect tai chi to work, but thought I'd give it a chance."

"Initially, I could only do ten minutes, three times a week, with constant supervision, because of memory and balance problems. Gradually, over about six weeks, my balance improved and this reduced anxiety and increased strength in my broken body," she writes. She would generally recommend tai chi for others with fibromyalgia but recommended patients discuss the option with their physician first, that they stop and speak up if they feel any pain, and that the quality of the instructor matters.

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