

Evidence in Action

My Patient Has Fibromyalgia Syndrome (FS)—What Can I Do?

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A young woman comes to your practice with a complaint of FS.

Our patient is a 43-year-old female who is seeking chiropractic help with her fibromyalgia. Previously, she sought care from her medical doctor. She is tired of medications that haven't been of much help. Exercise has helped a little.

The Condition History

Fibromyalgia syndrome (FS) has many associated symptoms include debilitating fatigue, sleep disturbance, and joint stiffness,¹ difficulty with swallowing,² bowel and bladder abnormalities,³ numbness and tingling⁴ and cognitive dysfunction.⁵ FS is frequently associated with psychiatric conditions such as depression and anxiety, as well as stress-related disorders such as posttraumatic stress disorder.⁶ Not everyone will experience all of these associated symptoms. FS is estimated to affect 2 to 4 percent of the population⁶ with a male-to-female incidence ratio of approximately 1:9.⁷

No single test will arrive at the diagnosis of FS. The most accepted criteria for diagnosis is from the American College of Rheumatology (also known as the ACR 1990). These criteria define FS by the presence of:

- A history of widespread pain lasting more than 3 months—affecting all 4 quadrants of the body, i.e., both sides, and above and below the waist.
- Tender points—there are 18 designated possible tender points (although a person with the disorder may feel pain in other areas, as well). The patient must feel pain at 11 or more of these points for fibromyalgia to be considered.⁸

Treatment options for FS include:

- Pharmacological interventions: Antidepressants, tramadol, anti-seizure medication, dopamine agonists, muscle relaxants, opioids, naltrexone, quercetin, and cannabinoids.
- Non-pharmacological interventions: Exercise

Finding the Evidence

The best strategy for finding the evidence asks the practitioner to use the PICO framework (**P**atient, **I**ntervention, **C**omparison, **O**utcome) to outline the patient's most important characteristics:

P-43-year old-female with fibromyalgia

I-Exercise

C-Normal treatment options, NSAIDs

O-Pain relief

Utilizing a search on PubMed under “Clinical Queries” and searching the terms “aerobic exercise and fibromyalgia” nets you many articles. One of the first citations that shows up seems to fit this patient pretty well:

“Effects of a prolonged exercise program on key health outcomes in women with fibromyalgia: a randomized controlled trial” This article was published in the *Journal of Rehabilitation Medicine* in May 2011.

A Closer look at Critical Appraisal

Methods: This study was well organized when setting a sample size, inclusion criteria, and randomization. Women ages 18-65 with a previous diagnosis of FS based on the American

College of Rheumatology Criteria were invited to participate. Exclusion criteria included any significant concomitant medical illnesses, respiratory or cardiovascular diseases that would prevent physical exercise, or severe psychiatric illness. If they had had physical or psychological therapy in the previous 3 months, the women were also excluded to avoid any possible carry over.

The primary outcome measure used was the Fibromyalgia Impact Questionnaire (FIQ). This questionnaire was previously studied to determine that a 14 percent change represented a clinically important change in the FIQ score. Demographic information, clinical details including medication and outcome questionnaire (perceived functional ability, QoL (quality of life), and psychological health status were also collected. Assessments were taken at baseline and after 24 weeks' intervention by a blind assessor to group allocation.

Intervention: The exercise group performed twice-weekly sessions of combined aerobic and muscle strength training exercises for 24 weeks. The intervention consisted of a 10-minute warm-up including multi-joint movements, followed by 10-15 minutes of aerobic exercise at 65-70 percent maximum heart rate ($220 - \text{age} = \text{max heart rate}$). Following the exercise, the women completed 15-20 minutes of muscle strengthening exercises in a circuit-style training setup focusing on 8 exercise stations targeting the shoulders, neck, hip, back, chest, and torso. Weight was set at about 1-3 kg with 8-10 repetitions. Finally, the women performed a cool-down consisting mainly of stretches for about 10 minutes. This intervention was based on the American Pain Society's guidelines for FS. The usual care group continued with the normal medical treatment for FS, which did not include any structured exercise.

Results: A total of 4 patients dropped out during the study. In the exercise group, three patients dropped out early, and in the usual care group, one patient was lost to follow up. The study used an intention-to-treat perspective.

A Closer Look at Intention-to-Treat Analysis

Intention-to-treat analysis is used to avoid the effect of crossover or patient drop-out in a randomized controlled trial. Crossover and patient drop-out are 2 ways the final statistics become skewed. "Intention-to-treat" locks each patient into the group they were originally assigned and analyzed. This is important because if all the participants that are having negative responses drop out of a trial so that only the positive responses remain, the final results can lead the reader to believe the intervention was successful. On the contrary, if those who dropped out were included, we would find that the results indicate a negative outcome. This is a way of protecting the rigor of the final statistics.

To correctly apply intent-to-treat analysis, all participants must have statistical input. Many studies misinterpret intent-to-treat analysis by not supplying complete information on the patient. In this study, the patients that dropped out were analyzed by carrying forward the last set of data gathered. Be advised that while this method can be useful in many cases, it could also be dangerous if long-term side effects are a possibility.

After reviewing this article and taking into account the traits of our patient, we decided to implement an aerobic exercise program. The inclusion criteria laid out in the article would have made our patient a candidate. The aerobic exercise program was initiated and evaluated regularly to ensure our patient was not overstepping her capacity level and working too hard. The progression of intensity in her workouts was monitored to match how her aerobic capacity changed with exercise. She began to report having more energy throughout the day. Her new exercise goals also inspired her to modify her diet and improve her overall lifestyle.

Will you decide to recommend aerobic exercise to your patients with fibromyalgia? The choice is yours. Follow the steps of critical appraisal and apply your freshly gained knowledge.

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References

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