

## Effect of Exercise On Pain In Fibromyalgia Patients

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### Abstract

A common symptom in fibromyalgia syndrome (FMS) patients is chronic ongoing pain. These pain are general muscle pain and can occur at certain points on the body. In addition to pain, physical effects such as fatigue, depression and insomnia that affect the person's quality of life can also be observed. Therefore, the patient's quality of life decreases and difficulty in performing daily tasks begins. Exercise aims to increase people's quality of life by reducing their pain and minimizing the physical effects that affect them.

As the pain decreases, the patient begins to feel better psychosocially and his sleep pattern improves. Another effect of exercise is the increase in muscle strength. It can be seen that this increase makes it easier to do daily tasks. Exercise planning can be made by taking into account the complaints of errors, needs in daily life socio-economic status and can be referred to the necessary specialists in this direction. The literature indicates that exercise may affect the quality of life in fibromyalgia patients. For this reason, directing fibromyalgia patients to exercise can help reduce their pain and minimize the physical effects that may occur.

Key Words: Exercise, Pain, Fibromyalgia, Quality Of Life

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## **ENTRANCE**

Fibromyalgia (FM) is a complex disease characterized by somatic symptoms including chronic widespread pain, tenderness, fatigue, cognitive dysfunction, and sleep disturbance. The burden of such a complex clinical picture leads to an increased prevalence of depression, anxiety, stiffness, and functional disability (Selefi et al, 2020).

Fibromyalgia is a disease characterized by generalized pain with increased responses to nociceptively perceived stimuli as well as somatic symptoms; The pain is chronic and may or may not be associated with joint stiffness. It is often associated with fatigue, sleep disorders, cognitive dysfunction and depression (Rodriguez&Mendoza,2020).

Fibromyalgia is known to result from a central sensitization phenomenon characterized by dysfunction of neurocircuitry involving the perception, transmission and processing of afferent nociceptive stimuli, together with the widespread occurrence of pain at the level of the locomotor system. In recent years, the pathogenesis of fibromyalgia has also been linked to other factors such as inflammatory, immune, endocrine, genetic and psychosocial factors. A rheumatologist typically diagnoses fibromyalgia when the patient describes a history of pain radiating to all quadrants of the body for at least three months and when the pain originates from finger pressure on at least 11 of 18 allogeneic points, called tender points. (Siracusa et al, 2021). Its incidence is higher in women than men.

Patients with FM syndrome should not be treated with medication alone. ‘Given the different mechanisms of pain sensitivity, treatments should include multidisciplinary programs targeting the peripheral, central, cognitive-emotional and interpersonal causes of chronic pain that characterize the pathophysiology of FM’ (Siracusa et al, 2021).

There is no definitive cure for FM, and treatment focuses primarily on managing symptoms and improving quality of life. In recent years, research on non-pharmacological treatments has increased, focusing on physical therapy as alternative treatments that provide patients with fewer or no side effects. (Araujo&Desantana, 2019).

### **Exercise in Treatment**

Research shows that pharmacological treatments alone are no longer sufficient in the treatment of FM. Physical exercise, which is the strongest indicator of non-pharmacological treatments, is based on aerobic exercises, resistance exercises for muscle strengthening and stretching exercises (Araujo & Desantana, 2019).

A systemic study concluded that aerobic exercise provides moderate evidence for pain intensity, fatigue, stiffness, and physical function. Three studies also provided low-level evidence about the long-term effects of aerobic exercise. However, it has been observed that its benefits for pain continue. Aerobic exercises such as running, brisk walking, cycling, swimming were included in the review, and articles of low to moderate intensity lasting 6 to 24 weeks, lasting an average of 35 minutes, were



examined. The review found that aerobic exercise may be effective for pain relief, but further studies are recommended due to the low level of evidence for other findings. (Bidonde et al, 2017).

Another exercise recommended for fibromyalgia is resistance exercise. Resistance training is exercise performed against progressive resistance for the purpose of improving muscle strength, muscular endurance, or a combination of these. Patients with FM often remain immobile due to their pain, and as a result, muscle strength may decrease.

A Cochrane study compared eight weeks of progressive resistance training using free weight resistance exercise (at the intensity as tolerated) with aerobic training (i.e., progressive treadmill walking, indoor and outdoor walking), and one study compared 12 weeks of low-intensity resistance training (hand weights). (1 to 3 lbs (0.45 to 1.5 lbs). This suggested that moderate-to-high-intensity resistance training improved pain, tenderness, and muscle strength in patients with fibromyalgia. However, eight weeks of moderate-intensity aerobic exercise did not improve pain in patients with FM. suggested that it was superior to resistance training (Busch et al., 2013).

Another observational study using resistance exercise reports that many patients with FM have limited exercise tolerance and increased pain and fatigue during and after exercise. This study examines isometric versus concentric exercises and local versus systemic changes in pain and fatigue during and through 3-day recovery after exercise in individuals with and without fibromyalgia. As a result of resistance exercises (isometric and concentric), patients with FM may experience body pain and fatigue in the 3-day period after the exercise; Pain and fatigue may be localized in the exercising muscles, but it does not make any change in whole body pain (Berardi et al, 2023).

One of the most important causes of pain in patients with fibromyalgia is muscle tension. In a systematic review conducted for this purpose, it was found that flexibility exercises reduce pain in the body by reducing muscle shortness and aiming to increase range of motion; He concluded that it may be effective in reducing fatigue and sleep disorders and improving the quality of life. (Lorena et al, 2015).

Another exercise that can help increase flexibility and thus reduce pain for patients with fibromyalgia is yoga. In an uncontrolled pilot study conducted on this, a 6-week face-to-face yoga program from home showed a decrease in pain; In addition, it has been observed that home application may be better in reducing the person's pain. Daily sleep and fatigue rates improved. However, randomized studies comparing different types of yoga and exercises will allow determining the most effective treatment for FM and more closely targeting the patients who will benefit most from them. (Lazaridou et al, 2019).

Another exercise method that can be recommended for pain relief in patients with FM is water exercises.

The effects and physical properties of water, such as density, hydrostatic pressure and buoyancy, are very useful resources for training when used as counterbalances against gravity, resistance, compressor and thermal conductivity. Hydrotherapy can also play a beneficial role in the athlete's recovery; It can help prevent as well as treat muscle damage and soreness after exercise. (Ronda et al., 2014).

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In the study, the water exercise treatment protocol for individuals with FM lasted between 5 weeks and 8 months, once or three times a week, for 30-60 minutes. It has shown moderate to high evidence for relief of pain and tender points. It was also observed that there were significant effects on people's quality of life and fatigue findings. (Bidonde, 2014).

## CONCLUSIONS AND RECOMMENDATIONS

There were many studies on improving the symptoms of exercise in patients with fibromyalgia. While some studies based on exercise found low to medium quality evidence for the reduction of pain symptoms, some studies found high quality. In line with this evidence, it has been observed that exercise may be useful in reducing pain symptoms in patients with fibromyalgia. Secondary symptoms (fatigue, insomnia, decrease in quality of life) observed in addition to pain have decreased. In line with these, it can be aimed to increase the quality of life of patients with FM by directing them to exercise, reducing their pain and improving their other physical and psychological effects. Individuals who deprive themselves of social life due to their pain will benefit from both reducing their pain complaints and becoming more active individuals in their social lives with the exercises they do. The increase in the quality of life of patients with fibromyalgia should be supported by including exercise in their lives.

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