

# The Impact Of Physical Exercise Habit On Fibromyalgia Disease Of The 21st Century

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## Abstract

The study explores the contribution of exercise in the development of fibromyalgia and is comprised of 120 publications discovered by search engines such as Pubmed, Google Scholar, and Ebsco Cinahl. Specific guidelines have been devised to ensure that the articles chosen are coincidental and of high quality, and which will serve as a guide in this study. There is some information that aims to give medical practitioners with updates on the significance of exercise to fibromyalgia disease, where the information provided is up to date and may be used as a reference. Fibromyalgia affects around 10 million Americans, accounting for 3% to 6% of the worldwide population. The origins and history of the condition are addressed, as well as how patients cope with it on a daily basis. The advantages of an active lifestyle and the drawbacks of a sedentary lifestyle are very well understood. Lack of exercise, on the other hand, is associated with changes in contemporary cultures that have diminished the physical aspect of daily tasks. An exercise plan for fibromyalgia patients is presented in this article.

**Keywords** Fibromyalgia, Exercise plan, Sedentary lifestyle, Disease

## INTRODUCTION

The rheumatologic syndrome known as fibromyalgia is characterized by a plethora of symptoms, some of which include chronic and diffuse musculoskeletal pain, weariness, and sleep disorders. Fibromyalgia may also cause fatigue.

FM research is expanding due to its high prevalence, and it has an impact on the health care system. Which burdens on psychological, physical, and sufferers' quality of life are now well documented (Jacobs, 2018).

Fibromyalgia is now believed to be, at least in part, a disorder of central pain processing that produces heightened responses to painful stimuli (hyperalgesia) and painful responses to nonpainful stimuli (allodynia). Patients with FM also exhibit changes in the levels of neurotransmitters that cause augmented central nervous system pain processing; levels of several neurotransmitters that facilitate pain transmission are elevated in the cerebrospinal fluid and brain, and levels of several neurotransmitters known to inhibit pain transmission are decreased ( Wolfe, 2015 ; Mohammed et al., 2018).

Fibromyalgia affects approximately 10 million Americans, or 3% to 6% of the world's population, according to the National Fibromyalgia Association. The challenge is first and foremost to identify the disease that is key to addressing it. Fibromyalgia has no known cause, and even the clinical signs are not specific. Therefore, there is no specific treatment, and the effectiveness of the treatment is also a major challenge. Fibromyalgia as a disease

can be alleviated but not cured. The diagnosis must be guided by clinical criteria that have been refined several times in recent years (Jacobs, 2018).

The prevalence of the disease is 75% to 90% for women between 20 and 50 years of age. The prevalence in men is 10% to 25% and a small percentage of children (Wolfe, 2015; Gary, 2018).

Fibromyalgia is not life-threatening, but data shows that the number of deaths from suicide and accidental injuries is higher in people who have fibromyalgia than in people who do not. A recent study found that people who have fibromyalgia may have a 10 times higher risk of suicide than the general population. This is probably because there is no cure for the disease, it is difficult to fight the pain, and fibromyalgia is not yet fully understood. As a result, lower quality of life may affect patients' mental and physical health (Lawrence et al., 2008; Segura et al., 2015; Jacobs, 2018).

## **HISTORICAL REVIEW OF FIBROMYALGIA**

The presence of fibromyalgia dates back more than 150 years. There is ample evidence that people have suffered from this disease in the past. Nowadays, the risk factors for onset and treatment are much clearer and more predictable, but there is still a mystery. Therefore, it was considered to be a psychological and psychosomatic disorder a special form of depression.

In the last century, they did not use the term fibromyalgia but hysterical paroxysm, muscular rheumatism, neurasthenia, and fibrositis.

The turning point came in 1990, when the American School of Rheumatology established diagnostic criteria for fibromyalgia. The World Health Organization characterizes fibromyalgia as a chronic pain syndrome from the group of extra-articular rheumatism (Wolfe, 2015).

Famous people who have suffered from this disease or had similar symptoms of the disease include:

- Napoleon Bonaparte (1769–1821)
- Alfred Nobel (1833–1896).
- Charles Darwin (1809-1882)
- Florence Nightingale (1820–1910) is also the most famous person who almost certainly struggled with fibromyalgia. She was one of the initiators of the founding of the Red Cross (Kravitz & Katz, 2015; Wolfe, 2015).

## **SYMPTOMS OF FIBROMYALGIA**

The American College of Rheumatology has set 3 important specific criteria for the diagnosis of fibromyalgia:

1. The pain and symptoms we have experienced over the last week are based on the total number of painful areas of the body, fatigue, waking up tired and restless, experiencing cognitive problems, and other general physical symptoms.
2. Patient symptoms maintained the same level of intensity for more than 3 months.
3. They have no other health problems or problems that could explain the pain.

Fibromyalgia is the second most common musculoskeletal condition besides osteoarthritis. It is often replaced by arthritis, but fibromyalgia is not a progressive disease, nor does it affect or damage joints like arthritis. However, it is classified as a rheumatic disease (Lawrence et al., 2008; Jacobs, 2018).

Table 1: Symptoms of fibromyalgia

<b>Central problems</b>	<ul style="list-style-type: none"> <li>• Chronic headaches</li> <li>• Sleep disorders</li> <li>• Cognitive impairment</li> <li>• Memory damage</li> <li>• Depression</li> <li>• Anxiety</li> </ul>
<b>Eyes</b>	<ul style="list-style-type: none"> <li>• Vision problems</li> </ul>
<b>System problems</b>	<ul style="list-style-type: none"> <li>• Pain</li> <li>• Weight gain</li> <li>• Feeling frozen</li> </ul>
<b>Jaw joint</b>	<ul style="list-style-type: none"> <li>• Dysfunction</li> </ul>
<b>Skin</b>	<ul style="list-style-type: none"> <li>• Various complications</li> </ul>
<b>Chest area</b>	<ul style="list-style-type: none"> <li>• Pain</li> </ul>
<b>Stomach</b>	<ul style="list-style-type: none"> <li>• Nausea</li> </ul>
<b>Reproductive organs</b>	<ul style="list-style-type: none"> <li>• Dysmenorrhea</li> </ul>
<b>Urinary tract</b>	<ul style="list-style-type: none"> <li>• Urinary tract problem</li> </ul>
<b>Joints</b>	<ul style="list-style-type: none"> <li>• Morning hardness-stiffness</li> </ul>
<b>Muscles</b>	<ul style="list-style-type: none"> <li>• Fatigue</li> <li>• Twitching</li> <li>• Myofascial pain</li> </ul>

Patients with fibro fog (FIBRO FOG) have been described as having a lack of mental clarity that can last from 30 to 90 seconds. Fibro fog is presented as short-term permanent memory loss, ability to concentrate, lack of attention, forgetfulness, difficult conversation tracking, and integration of new information into prior knowledge (Lozoff, 2011; Bidonde et al., 2017).

Various studies suggest that patients with fibromyalgia experience greater brain tissue loss than people who do not have fibromyalgia. They found that and they have 10 times greater loss of gray matter in the brain than people who do not have the disease. (Etnier et al, 2009; Bidonde et al., 2017).

Therefore, they recommend exercise and deep sleep, because they can help maintain and improve mental functions.

**WHAT IS THE SPECIAL POPULATION OR PERSONS WITH FIBROMYALGIA AND WHO ARE THEY?**

A special population of people with fibromyalgia is a group of individuals that may or may not be different from the rest of the human population. The only difference is in the way of movement, planning exercises in such a way that the exercise will remain safe and positive for people who need a special approach (Mork et al.,2010).

Because with such an approach, we help people with different conditions, diseases, limitations, and factors that people with Fibromyalgia have to be able to exercise and move.

In this way, we help to raise their quality of life, quality of movement, self-image, independence, and will to live.

The special population trainer does not treat or rehabilitate, he helps with special exercise planning for people who need a customized way of exercising and address specific factors that they have.

A special population specialist is a person who must understand the body at a higher level than just the coach, as anatomy, but as a person who must do it at a higher level than just exercises, training, or repetitions. There must be a holistic approach at the whole level.

( Bidonde et al., 2017; Mohammed et al., 2018).

## EFFECT OF EXERCISE

There is sample evidence to support the use of exercise as a good tool in the fight against fibromyalgia Research has shown that aerobic exercise and strength training can reduce many of the symptoms associated with fibromyalgia, such as depression, fatigue, pain levels, and sleep disorders. People suffering from fibromyalgia are prone to obesity and being overweight, where exercise and weight control have a very positive effect on reducing symptoms. (Warburton et al., 2006; Hyatt, 2008;Mork et al., 2010 ;Samami et al., 2021).

The main obstacle for people suffering from fibromyalgia is the fear of new symptoms. the pain. Therefore, they rotate in the color/weight circle. Unfortunately, many patients are unaware of the importance of exercise in controlling and reducing pain (Nijs and Van, 2004; Mork et al., 2010 ;Bidonde et al., 2017).

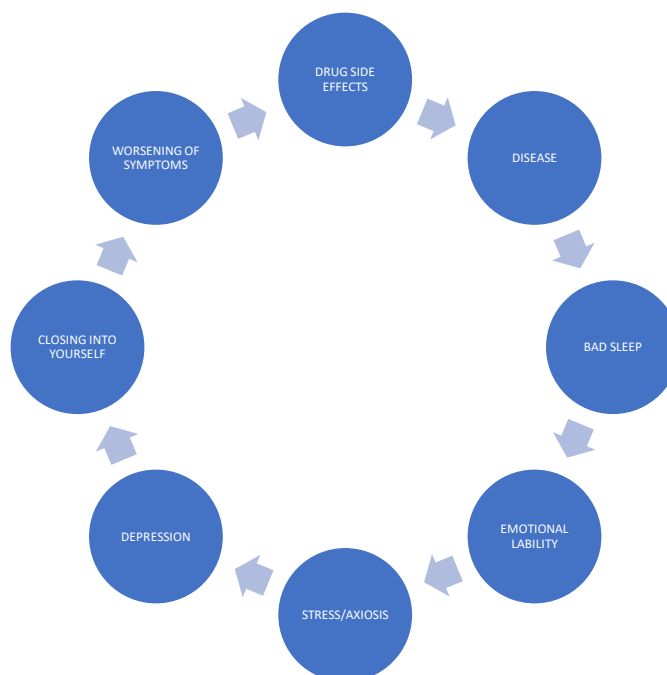


Figure 1: Pain cycle (Bidonde et al., 2017).

It is very important for the trainer to do the training correctly so that the symptoms do not start. Research has shown that static balance works very well. This in turn has to do with the fear of falls and injuries that lead to a deficit in balance and movement itself (Collado et al., 2015).

## EXERCISE PLAN

The table shows the way of exercising, intensity, and amount. The coach must pay a lot of attention to each individual in order to correctly determine the intensity and amount. Because by increasing strength and aerobic capacity increases the quality of life of people with fibromyalgia (Busch et al., 2011; Jacobs, 2018; Mohammed et al., 2018).

Table 2: Exercise for patients (Leite et.al, 2015; Jacobs ,2018)

Type of exercise	Frequencies	Intensity
<b>Strength training:</b>		
<p>Exercise with your own weight</p> <ul style="list-style-type: none"> <li>• Elastics, TRX straps, Pilates balls....</li> <li>• Exercise in training and light weights</li> </ul>	<p>The frequency of exercise will depend on the symptoms after exercise.</p> <p>We start 1-2 times a week. Once the exerciser gets used to the exercise, we can start a split program for different parts of our body.</p>	<p>We avoid explosive movements, jumps, fast movements.</p> <p>We choose 8 -10 exercises for the whole body.</p> <p>We first start with 1 set of 10-15 reps between 40-60% 1RM</p> <p>Intensity is measured in the form of onset of symptoms after exercise.</p> <p>The breaks between sets are 1-2 min, but you may need to adjust to the individual</p>
<b>Aerobic exercise</b>		
<p>Aerobic exercise should be low intensity, tailored to the individual</p> <ul style="list-style-type: none"> <li>• Wheel</li> <li>• Walking</li> </ul>	<p>We start gradually with 1-2 exercises a week. If the exerciser tolerates exercise, gradually increase to 3-4 per week.</p>	<p>We start 5 to 10 minute per exercise, 1-2 per week with light intensity to medium intensity exercise (30% - 60% VO2)</p>

<ul style="list-style-type: none"> <li>• Water aerobics</li> <li>• Rowing</li> </ul>		<p>According to the Borg scale which is 6-20, the intensity is 9-13.</p> <p>Slowly increase to 10-15 minute per workout. So we get up to 30-40 minute a week amount of training</p>
<b>Flexibility exercise</b>		
<p>Whole body, exercises for flexibility and mobility of the whole body</p> <ul style="list-style-type: none"> <li>• Pilates</li> <li>• massages</li> <li>• Tai Chi</li> <li>• Yoga</li> </ul> <p>Meditation</p> <ul style="list-style-type: none"> <li>• Stretching</li> </ul>	<p>Increasing quality of life, stress control, depression.</p> <p>It is a special training unit and is added to the overall exercise plan.</p>	<p>Stretching - do 8-10 units of low amplitude training - hold for 10-15 seconds.</p> <p>You should never reach the point of pain when stretching.</p>

## CONCLUSION

It is important for patients with fibromyalgia to be involved in the exercise unit process as this reduces the symptoms of the disease and improves their quality of life.

In my work with patients diagnosed with fibromyalgia, I have come to the conclusion that personalized exercise helps them with their daily tasks and quality of life. Patients are told to try things like meditation, massages, yoga, or Tai Chi to help them relax.

Patients must be involved in the process of exercise or training. Not only that, they must also cooperate with psychologists, therapists, and nutritionists. It is extremely important to educate patients with fibromyalgia and guide them on the right path. This is an impressive psychological aspect for their image and battle against the disease. They need to know that society and their family accept and understand their illness and that they are not being rejected and thought of as hypochondriacs, which unfortunately happens a lot.

We, as experts, must be careful that patients do not fall into kinesophobia —a fear of movement and shutting ourselves off. Unfortunately, it is common in people suffering from fibromyalgia. Kinesophobia, however, also occurs in people who have had back surgery or knee ACL. They get a fear of movement, so they won't get hurt again. In patients with fibromyalgia, however, there is a fear of the new onset of pain, fatigue, and insomnia.

Therefore, it is necessary to motivate, guide, and guide people with fibromyalgia with the right approach to ensure their quality of life and daily activity.

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