What is fibromyalgia?

Have you suffered from chronic widespread musculoskeletal pain for more than 3 months? Do you feel tired yet have difficulty sleeping? Then you may be suffering from a condition known as fibromyalgia [1], a disorder that affects up to 6% of the population in some countries, mostly women [2], increases disability, impacts quality of life and increases utilization of healthcare services [3, 4]. Yet even if your physician agrees that fibromyalgia may be causing your symptoms, your physical examination and laboratory tests are not likely to reveal any useful information about what could be causing your symptoms. You will probably leave the office a little mystified and you wouldn't be alone. In the absence of distinct physical or laboratory findings, clinicians have not been able to agree on whether the pain associated with fibromyalgia is psychosomatic or due to some autoimmune rheumatoid condition that affects the joints. The observation that anti-depressants can, in some cases, alleviate the pain associated with fibromyalgia, has given weight to the psychosomatic camp. But new evidence in the field of neuroscience is shedding new light on what may be behind the pain.

Is it really in my head afterall ? …well, sort of.

Researchers have found that patients with fibromyalgia perceive a painful stimulus as more painful than healthy controls [5, 6]. Imaging studies have shown that the pain processing brain centers in patients with fibromyalgia are more active when they are presented with the same stimulus as a healthy control [7]. Why? Normally, our perception of pain is a result of a balance between painful signals travelling up the spinal cord to our brain and a sort of dampening or inhibitory pathway that mitigates its impact. This inhibitory pathway functions through serotonin (5-hydroxytryptophan) and norepinephrine pathways that travel down the spinal cord. The theory is that this 'braking mechanism' is defective in patients with fibromyalgia so that painful stimuli reach the brain in full force. In fact, levels of 5-hydroxytryptophan and norepinephrine have been found to be reduced in patients with fibromyalgia.

Where does exercise fit in?

There have been a large number of studies looking at the benefits of exercise in fibromyalgia, the majority of which have focused on aerobic exercise. A recent review published in 2010 evaluated the results of 28 randomized controlled trials (RCTs) to determine if aerobic exercise programs improved pain, sleep, fatigue and depressed moods associated with fibromyalgia [8]. The main findings were:

- Aerobic exercise reduces pain, fatigue, depressed mood and improves quality of life, but does not appear to have an effect on sleep.
- Continued exercise is necessary for the positive effects on pain to persist.
- Both water based and land based exercise are effective.
- Exercise needs to be done 2-3 times per week for 4-6 weeks for benefits to be felt.
- The exercise level must be at least of moderate intensity, since low intensity (< 50% maximum heart rate) was not effective in improving symptoms.

These findings primarily apply to women since men were rarely included in the studies.

Is aerobic exercise my only option?

While the overwhelming evidence comes from studies on aerobic exercise, a recent randomized controlled trial evaluated the impact of a form of Qigong (level 1 Chaoyi Fanhuan Qigong) on symptoms of fibromyalgia [9]. Participants practiced 45-60 minutes per day for 8 weeks. Using several validated questionnaires, study subjects reported a significant improvement in pain, sleep and physical and mental function compared to a control group not enrolled in the program. Furthermore, these improvements were still evident 6 months later.

Take home message:

There is ample evidence that aerobic exercise, performed consistently and efficiently, can improve many of the symptoms associated with fibromyalgia. Further, newer evidence suggests that these benefits may also extend to other non-aerobic forms of exercise such as the Chaoyi Fanhuan Qigong.

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