

FIBROMYALGIA RESEARCH REVIEW

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IS SEA WATER BENEFICIAL FOR FIBROMYALGIA PATIENTS?

A substantial amount of research exists that reports the benefits of supervised aerobic exercise for fibromyalgia syndrome (FMS) patients. In particular, water exercise, i.e. deep water walking, represents an alternative therapy for FMS patients that have problems performing land-based aerobic exercise. Exercise in warm water has been shown to decrease pain and even improve cognitive function. Furthermore, clinical studies have shown that spa therapies, including thalassotherapy (sea water bathing), are beneficial for a wide variety of conditions, including arthritis, ankylosing spondylitis and fibromyalgia. Thalassotherapy combines sea water bathing, a marine climate and solar radiation and is commonly used in a number of countries, including Brazil. Therefore a team of Brazilian researchers aimed to evaluate the effectiveness of aerobic exercise performed in an ordinary water pool, compared to aerobic exercise performed in the sea, by a group of 46 "sedentary" women with FMS.

The women chosen for the study were classed as "sedentary" since they did not participate in regular physical activity, and were randomly assigned to either a pool exercise group (23 patients), or a sea exercise group (23 patients). The sea exercise was performed at Ponta Negra beach, Brazil at 3pm in the Summer since the temperature of the water is warmer. Both groups received the same fitness program - 60min stretching and low-impact water-based aerobic exercise, three times a week for twelve weeks. Water exercises included marching, kicking, pushing and jogging against the water resistance, with or without floats. The patients were assessed before and after the 12-week treatment program for pain intensity, fatigue, tender point count, physical functioning sleep quality and depression.

Although some patients complained of muscular pain during the exercise sessions, there were significant improvements in all areas assessed in both treatment groups. While both groups experienced a significant decrease in pain following the treatment program, greater overall improvement was observed for the sea water exercise group. In particular, sea water exercise was accompanied by a significant improvement in depression and mood. This may be due to a number of biophysical factors that accompany immersion in sea water, including buoyancy, hydrostatic pressure, water viscosity, temperature, salt and trace element content, as well as the emotional benefits arising from contact with nature. Luckily for those FMS sufferers who live in inland or cold climates, their results show that water-based low-impact aerobic exercise is also beneficial when performed in a pool. However, before undertaking a water-based exercise programme FMS sufferers should make sure that the temperature of the water is at least 28°C, otherwise the exercise may do more harm than good and lead to increased muscle stiffness. The researchers believe that the warm temperature of both the pool and sea water was particularly influential in decreasing pain intensity. It is thought that the body surface is stimulated by heat and the hydrostatic pressure of warm water, leading to a reduction in pain intensity.

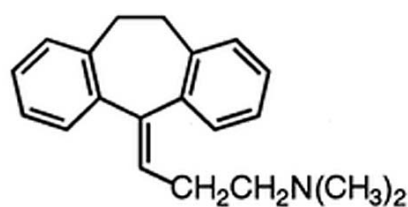
"Thalassotherapy for fibromyalgia: a randomized controlled trial comparing aquatic exercises in sea water and water pool." 2008. SC de Andrade, RFPP de Carvalho, AS Soares, RP de Abreu Freitas, L Marcos de Medeiros Guerra and MJ Vilar. *Rheumatology International*. [Epub ahead of print]

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IS THERE ANY EVIDENCE TO SUPPORT THE USE OF ANTIDEPRESSANTS IN PAINFUL RHEUMATOLOGICAL CONDITIONS?

Although pain is the main symptom of most rheumatological conditions, antidepressant drugs are frequently prescribed for fibromyalgia syndrome (FMS), rheumatoid arthritis, ankylosing spondylarthritis and lower back pain. A team of ten experts from France have recently published findings in the *Rheumatology* journal that review the benefits of the use of antidepressants for the treatment of painful rheumatological conditions.

Antidepressants are classified into groups according to their mechanism of action and their chemical structure (i.e. tricyclic depressants, as shown in the picture). In addition to their mood-enhancing action, research suggests that antidepressants also have pain-relieving properties due to their effect on a group of biochemicals known as "monoamines", which include serotonin and adrenaline. However other mechanisms have been suggested for their ability to relieve pain, and future research is likely to reveal other mechanisms of action for antidepressant drugs.



amitriptyline

The team of French researchers identified 52 studies on the use of antidepressants in fibromyalgia. Most of the trials on fibromyalgia involved tricyclic antidepressants, including amitriptyline, which was the most widely prescribed antidepressant. Amitriptyline is prescribed for fibromyalgia at doses lower than those used to treat depression, and is thought to primarily improve fatigue, sleep and also pain. Another group of antidepressants known as "selective serotonin reuptake inhibitors" were found to be better tolerated than tricyclic antidepressants, but less effective at relieving pain at the doses commonly prescribed. Recent studies on FMS have focused on newer antidepressants, the "serotonin and noradrenalin reuptake inhibitors", which include milnacipran and duloxetine. The use of both these drugs to treat FMS was found to significantly improve not only pain, but also sleep, fatigue and quality of life.

The effect of all the antidepressants studied on pain in FMS is thought to be independent of their anti-depressive effect. The researchers recommended the use of either "tricyclic" or "serotonin and noradrenalin reuptake inhibitors" to treat FMS. In particular, antidepressants may be used to treat FMS since traditional pain-killers are not very effective, probably because FMS involves defects in the central processing of pain by the brain and spinal cord, rather than peripheral muscular pain.

"Is there any evidence to support the use of antidepressants in painful rheumatological conditions? Systematic review of pharmacological and clinical studies" 2008. S Perrot, RM Javier, M Marty, C Le Jeune, F Laroche and the CEDR (Cercle d'Etude de la Douleur en Rhumatologie France), French Rheumatological Society, Pain Study Section. *Rheumatology*. 47(8):1117-23.