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REVIEW

Therapeutic physical exercise and supplements to treat fibromyalgia[☆]

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KEYWORDS

Fibromyalgia;
Exercise;
Supplements;
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Strength

Abstract

Introduction: The prevalence of fibromyalgia in developed countries is over 2.1%. Nowadays, there is no effective treatment for it and different mitigating treatments such as therapeutic exercise are performed instead. In recent years, supplements have also emerged.

Objectives: To review and update the evidence on treatment of fibromyalgia symptoms with therapeutic physical exercise and supplements. To achieve this, treatment application times and the duration of treatment programs will be considered.

Methods: A bibliographic search was carried out on Pubmed database. As a result, 695 studies on therapeutic exercise and 53 on supplements were found. From these, 18 therapeutic exercise studies and 8 supplements studies were selected. They were all chosen and assessed according to their methodological quality, which was measured using the PEDro scale.

Results: Evidence showed that pain and quality of life are improved by the practice of almost any type of physical activity and the intake of Q10 coenzyme or vitamin D supplements. Sleep quality is enhanced by combination of physical exercise and relaxation. Depression, anxiety and mood are improved by the performance of aerobic, flexibility exercises and aquatic biodance.

Conclusions: Therapeutic physical exercise and supplements may be an interesting alternative or complement when treating some fibromyalgia symptoms.

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PALABRAS CLAVE

Fibromialgia;
Entrenamiento;
Suplementos;
Ejercicio aeróbico;
Fuerza

Ejercicio físico terapéutico y suplementos para el tratamiento de la fibromialgia

Resumen

Introducción: La prevalencia de fibromialgia en los países desarrollados es superior al 2,1%. Actualmente no existe ningún tratamiento eficaz para combatirla y, en su lugar, se efectúan distintos tratamientos para mitigarla, como el ejercicio terapéutico. En los últimos años también han surgido suplementos.

Objetivo: Revisar y actualizar la evidencia sobre el tratamiento de los síntomas de la fibromialgia con el ejercicio físico terapéutico y suplementos. Para lograrlo se revisan los tiempos de aplicación del tratamiento y la duración de estos programas de tratamiento.

Métodos: Se realizó una búsqueda bibliográfica en la base de datos PubMed. Como resultado se encontraron 695 trabajos sobre ejercicio terapéutico y 53 sobre suplementos. A partir de estos se seleccionaron 18 estudios de ejercicio terapéutico y 8 de suplementos. Todos ellos fueron seleccionados y evaluados en función de su calidad metodológica, que se midió utilizando la escala PEDro.

Resultados: La evidencia mostró que el dolor y la calidad de vida mejoraban con la práctica de casi todo tipo de actividad física y con la ingesta de la coenzima Q10 o suplemento de vitamina D. La calidad del sueño mejora mediante la combinación de ejercicio físico y relajación. La depresión, la ansiedad y el estado de ánimo mejoran con la práctica de ejercicio aeróbico, ejercicios de flexibilidad y biodanza acuática.

Conclusiones: El ejercicio físico terapéutico y los suplementos pueden ser una alternativa o complemento interesantes en el tratamiento de algunos síntomas de la fibromialgia.

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Introduction

Fibromyalgia is a syndrome characterized by general and widespread pain as well as depression, digestive disorders, fatigue and sleep disturbance.¹ The World Health Organization also includes the presence of other symptoms such as cephalaea, irritable bowel, painful menstruation, irritability, thermal sensitivity, fatigability and articular rigidity.² This disorder is nowadays one of the most serious health issues in our country, as its prevalence rate in developed world countries is 2.1%.³ The American College of Rheumatology states a diagnosis using nociceptor sensitization at a 4 kg/cm² pressure of 11 points out of 18 (previously stated) with a development period of at least 3 months.^{1,4}

Several studies have tried to clarify its etiology, which still remains unknown. Some of these argue that there is an alteration at the level of the neuroendocrine system. Here, a hyporeactivity is produced because of hypothalamic-pituitary-adrenal axis fatigue. This affects metabolism, stress levels and immunologic system.⁵ A prolonged exposure to stress would render certain glandules unable to produce enough hormones in order to maintain the level of alert. As a result, patients would experience symptoms such as fatigue and muscle pain.⁵ On the other hand, a recent study shows that pain experienced by fibromyalgia patients may be produced by the vasodilation of hypothalamus-controlled meta-arterioles, as these may cause patient's body temperature deregulation as well as higher lactic acid accumulation in soft tissues.⁶ Other hypotheses attribute the cause to local alterations, for

instance the higher incidence of myofascial trigger points in patients with fibromyalgia.⁷

No treatment has nowadays proved to be effective when treating fibromyalgia. As a consequence, we focus on the isolated treatment of the different symptoms, mainly using drugs such as analgesics, opioids and antidepressants.⁸ Nevertheless, pharmacological treatment proves not to be very effective to experience long-term pain relief, diverse side effects may appear and dependency and tolerance risk may arise in patients who have been exposed to a long-term opioid analgesic therapy.⁸ This obviously shows it is necessary to find innovative therapeutic solutions so as to minimize side effects and improve symptoms.⁸ Health expenditure levels destined to fibromyalgia raise every year⁹ and because of this, it is highly advisable to know the possible effects of less expensive new treatments which may prove to be more effective.

Therapeutic exercise is presented as an extraordinarily interesting alternative to fibromyalgia pain treatment in its different approaches.⁸ There is evidence on its utility to treat the different symptoms of fibromyalgia⁸ and the number of studies proving this has notably increased in recent years compared to some years ago,^{10,11} mainly because physical exercise constitutes a safe approach and does not present any side effects. Among the reasons why it may help to attenuate fibromyalgia symptoms, we can also mention that aerobic exercise increases blood irrigation to muscles and as a result, these receive more oxygen and the apparition of trigger points is reduced. Furthermore, doing moderate exercise encourages parasympathetic nervous system activation, which reduces the basal activity of

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