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Physical Exercise a Faithful Non-Pharmacological Methods Able to Increment Clinical Symptoms at Fibromyalgia

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Editorial

Recently physical inactivity had been considered a worldwide epidemic problem due to high prevalence of inactive people (around 70% of world population). On the other hand, World Health Organization suggests that inactivity in the number one of health public enemy, associated to two million deaths yearly with 75% prevalence in Americas. However, physical inactivity is recognized as the major modifiable risk factors for chronic diseases, associated to type-2 diabetes, hypertension, hypercholesterolemia, obesity, cardiovascular disease, osteoporosis, some kinds of cancer and other neuromuscular and mental disorders.

In these terms, Fibromyalgia (F) is one of the most common chronic pain conditions, related to ethnic, cultural and socioeconomic conditions with similar proportion among groups. According to American College of Rheumatology [1] F is considered a non-communicable chronic disease with unclear etiology, that is characterized by widespread pain, with positive diagnosis of pain in at least 11 of 18 specific tender points palpation, with at least to 3 months duration, with consequences in quality or duration of sleep and other general daily living activities. It is estimated that this chronic disease affects more than 10 million people in the united states an estimated 3 to 6% of the world population, with about 75 to 90% at women increasing to 7% in people over 70 years [2].

The physiopathology related to F is diverse, including pain dysfunction in modulatory, with the central nervous system response, neuroendocrine dysfunction and loose of autonomy [3]. According to Lawson [4], the F is related to change at central system of processing symptoms nociception. This key point is frequently associated to the disease manifestation as well as all symptoms related. The pain has been described as the major symptom with fatigue; concentration decreased, negative mood state, decreased sleep quality and duration and overall decreased of physical activity.

However, the nociceptive system is possibly a physiological complex network component that expresses the level of interdependence with clinic F profile. The cause of its interference to pain processing remains unclear, although the participation of psychological chronic stressors, peripheral pain generators and inflammatory mediators has been reported. Changes on nociceptive system function may lead to generate disorders such as physical that leads to localized tissue trauma pain or psychological insult as stress. Considering that the central hyper excitability is determined, the normal stimuli may present an increased activation threshold that modifies the normal response. additionally, the variety of neuronal processes, including synaptic plasticity and neurotoxicity, may be explained by the glutamate receptors activation, which leads to an increase in intracellular calcium and initiation of second messenger pathways that are intermediated in long-term potentiation, which stimulation even after it cessation.

Due to these various physiological and psychological factors related to pain and the patient's fatigue with F, Jones [5], found that 83% of patients with F do not maintain regular exercise practice, and mostly presents cardiorespiratory underperformance. The explanation can be address for F patient's predisposition to development of skeletal muscle injury induced by exercise [6] and low level of IGF-1 [7] that is considered the main molecule effector mediator to anabolic effect of growth hormone (GH) in muscle [8]. In 2008 the American College of Rheumatology [9] demonstrated that abnormalities in the GH-IGF-1 axis in F patients and after physical exercise there was no increase in IGF-1 level, clinical symptoms, except anxiety and sleep quality that presented positive response to exercise.

Considering the effectiveness of physical exercise as treatment, Jones et al. [10], showed increment on aerobic capacity and strength (aerobic+resistance training). The pain sensation did not decrease with association to the exercises in high intensity, frequency and duration presented severe response in pain condition. On the other hand, lower intensity exercise leaded to clinical improvement. Independently of exercise intensity, regular exercise practice must be suggested at least 3 times per week present improvement in balance, flexibility, muscular strength and endurance, cardiorespiratory fitness and less fatigue. According to Busch et al. [11] physical exercise based in aerobic activities are faithful to promote improvement on physical condition and clinical symptoms; however, the positive effect of resistance training is inclusive.

In this way, the importance of exercise is to ensure that adherence of F patients, maximizing physical and psychological benefits, decreasing relative risks from injuries and exercise dropout. It is necessary moderate physical activity in a minimum recommendation, at least 3 times a week [12]; furthermore, the multidisciplinary support to advise and assist the active lifestyle adoption for F patients is extremely necessary, taking into account their individual characteristics, symptoms severity and physical fitness goals.

Disclosure Statement

The authors report no conflict of interest in conducting the study.

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