EFFECTS OF STRENGTH TRAINING ON PAIN LEVELS IN INDIVIDUALS WITH FIBROMYALGIA: A SYSTEMATIC REVIEW

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ABSTRACT

Introduction: Fibromyalgia is a type of rheumatic syndrome of still unknown origin, with musculoskeletal pain as its main characteristic. Its prevalence in the general population is 2%. In Brazil, fibromyalgia is one of the most frequent rheumatological diseases after osteoarthritis, with a prevalence of 2.5% of the population. However, resistance exercises have proven to be an excellent strategy for the treatment of fibromyalgia. **Objectives**: To analyze the effects of resistance training on pain levels in individuals with fibromyalgia. **Methods**: For this purpose, a bibliographic review was conducted on the topic of studies published until December 2023, in the MEDLINE/PubMed, ISI Web of Knowledge, and Scopus databases using the following English descriptors: "Resistance Training AND Fibromyalgia". **Results**: After the search, studies that met the eligibility criteria were selected. After analysis, 8 chronic intervention studies were included. **Conclusion**: Resistance training reduces pain in patients with fibromyalgia from the 8th week of training onwards, provided it is performed continuously, in a guided and progressive manner.

Keywords: Pain; Fibromyalgia; Resistance Training.

INTRODUCTION

Fibromyalgia is a type of rheumatic syndrome of still unknown origin, with musculoskeletal pain as its main characteristic (HEYMANN et al., 2010). Its manifestation occurs due to an imbalance in the mechanism of transmission of peripheral painful stimuli and pain inhibition stimuli, accompanied by a series of clinical manifestations such as fatigue, sleep disorders, morning stiffness, and muscle weakness (BUENO et al., 2012).

Treatment for individuals with fibromyalgia encompasses an approach that combines pharmacological and non-pharmacological treatment modalities

(HEYMANN et al, 2010). Thus, the inclusion of physical exercises becomes a fundamental part of the treatment (LEITE; ROGATTO; VALIM, 2008).

Low to moderate intensity resistance exercises have stood out in the treatment of individuals with fibromyalgia, as they act directly on reducing pain and muscle fatigue, increasing blood flow, and improving sleep quality, enabling the performance of daily activities not previously performed by individuals (SOUZA; AMORIM, 2016). Despite the potential effects, the responses of resistance training in patients with fibromyalgia are still not very conclusive.

METHODS

The structuring of the methods of the present study followed the PRISMA proposals. Randomized and controlled studies were selected with individuals aged between 18 and 65 years of both sexes, active or sedentary; who had used strength training protocols for individuals with fibromyalgia; and made comparisons between different strength training protocols with control conditions with or without physical activity; the outcome was pain levels in patients with Fibromyalgia;

For the collection of studies, the electronic databases MEDLINE/PubMed, ISI Web of Knowledge, and Scopus were accessed. The systematic literature search was conducted until December 2023.

The following combination of terms was used as a search strategy in the databases: "Resistance Training AND Fibromyalgia AND Pain", "Strength Training AND Fibromyalgia AND Pain", "Resistance Training AND Fibromyalgia AND Pain"; and the determination of quality analyzed from the PEDro scale.

The selected studies evaluated a total of 439 subjects, predominantly evaluating women. Of this total, 237 subjects were allocated to experimental groups and 202 to control groups.

RESULTS

Eight studies were selected and included after passing the eligibility criteria.

One of the articles did not report the intensities used or did not delimit them in the experimental procedures (KAYO *et al*., 2012), another article used a low intensity range of 45% of 1 RM without progression (GAVI *et al*., 2014). Four other articles

used intensity ranges between 40% and 80%, with progression (VASSALI, 2018; LARSSON *et al*., 2015; KINGSLEYET *al*., 2005 and HÄKKINEN *et al*., 2001). The two remaining articles used intensity ranges between 50% and 80% with progression (FIGUEROA *et al*., 2008), and between 40% and 85% with progression (KINGSLEY *et al*., 2010).

In the control groups of three studies (FIGUEROA et al., 2008; KINGSLEY et al., 2005 and HÄKKINEN et al., 2001) out of the eight selected, there was no intervention. The others performed stretching or relaxation strategies.

Of the eight evaluated studies, six (VASSALI, 2018; KAYO et al., 2012; LARSSON et al., 2015; FIGUEROA et al.,2008; KINGSLEY et al., 2010 and GAVI et al., 2014) presented their results through percentage values of the reduction in pain levels relative to the pre-intervention moment. There was superiority of the experimental group compared to the control group done with relaxation and exercise. However, Kingsley et al. (2005) and Häkkinen et al. (2001) did not find significant changes between the groups.

CONCLUSION

Regularly performed resistance training showed satisfactory results in reducing pain, especially in women with FM. The effects appear to be more apparent from the 8th week of training.

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