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### **Review article**

# Effects of muscle stretching exercises in the treatment of fibromyalgia: a systematic review\*



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#### ABSTRACT

*Objective*: this study has the objective to systematize scientific evidences about the use of muscle stretching exercises in the treatment of FM.

Methodology: it was performed from retrospective research without chronological and linguistic limits, at databases of MEDLINE, LILACS, SciELO and PEDro, as well as at PubMed search tool. Data collection was performed by two independent reviewers in October 2012, with the search strategy formulated by crossing descriptors and relevant terms to the topic in English, Portuguese and Spanish languages. Randomized clinical trials, only with patients with a clinical diagnosis of fibromyalgia and muscle stretching exercises as a therapeutic measure at least in one of the intervention groups were included. Included studies were assessed for methodological quality using PEDro scale and their references analyzed to highlight additional sources. The search amounted to an average of 6,794 items. Only five articles were selected, one being excluded because of its low methodological quality. Pain was assessed unanimously. The method and timing of interventions varied widely, there was poor mention of the parameters used in the stretches and absence of specific physical examinations.

Results: there was significant improvement in all studies regarding pain, besides as related to quality of life and physical condition.

Conclusion: it is clear the importance of muscle stretching in the treatment of FM, however, there is a need for further studies to establish the real benefits of the technique, because the majority of published studies shows low methodological quality and there is a lack of standardization regarding the use of this resource.

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### Efeitos dos exercícios de alongamento muscular no tratamento da fibromialgia: uma revisão sistemática

RESUMO

Palavras-chave: Fibromialgia Alongamento Fisioterapia

Objetivo: o presente trabalho tem como objetivo sistematizar evidências científicas sobre a utilização dos exercícios de alongamento muscular no tratamento da fibromialgia (FM). Metodologia: foi realizado a partir de consulta retrospectiva, sem limite cronológico e linguístico, às bases de dados MedLine, LILACS, SciELO e PEDro, além da ferramenta de busca PubMed. A coleta foi realizada por dois revisores independentes, em outubro de 2012, sendo a estratégia de busca formulada por meio do cruzamento de descritores e termos relevantes para o tema nos idiomas inglês, português e espanhol. Foram incluídos ensaios clínicos randomizados (ECRs) compostos apenas por pacientes com diagnóstico clínico de FM e com exercícios de alongamento muscular como medida terapêutica em pelo menos um dos grupos de intervenção. Os estudos incluídos foram avaliados quanto à qualidade metodológica por meio da escala PEDro, e suas referências bibliográficas, analisadas, para se destacar fontes adicionais. A busca totalizou 6.794 artigos. Cinco artigos foram selecionados, sendo um deles excluído por apresentar baixa qualidade metodológica. A dor foi avaliada por unanimidade. O método e o tempo das intervenções variaram amplamente, houve falta de menção de parâmetros na utilização dos alongamentos e ausência de exames físicos específicos.

Resultados: houve melhora significativa em todos os estudos quanto à dor, além de aspectos relacionados a qualidade de vida e condição física.

Conclusão: é evidente a importância do alongamento muscular no tratamento da FM, porém observa-se a necessidade de novos estudos para se estabelecer os reais benefícios da técnica, visto que a maioria dos trabalhos publicados apresenta baixa qualidade metodológica e ausência de padronização quanto ao uso desse recurso.

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### Introduction

Fibromyalgia (FM) is a rheumatic syndrome of unknown etiology that occurs predominantly in women aged 30-55 years. It is characterized by a chronic, widespread musculoskeletal pain, with greater than three months duration, causing physical and emotional problems interfering directly in functional capacity and quality of life. The diagnosis is based on the clinical condition of the patient, and the treatment advocates pain control through global strategies of an interdisciplinary approach, with interventions in physical, pharmacological, cognitive-behavioral and educational spheres. 1,4

Acting directly in the physical domain of FM patients, physiotherapy, a professional modality consisting of an arsenal of techniques responsible for breaking the vicious cycle of symptoms characteristic of chronic patients, deserves to be highlighted. Scientific evidence shows that cinesiotherapeutic exercises minimize pain, fatigue and muscle tension, improving levels of stress, anxiety and depression in fibromyalgia patients, when performed on a regular basis and under monitorization. 7,8

The stretching exercises, in turn, allow functional muscle length recovery, providing stress relief, postural realignment and improvement in amplitude, as well as freedom and awareness of movement. 9,10 However, although extensively used in physical therapy clinical routine by being easy to perform and tolerate, there does not seem to exist?? a consensus on the

more suitable stretching type, frequency and intensity for the treatment of patients with FM.  $^{4,7}$ 

Thus, the aim of this article is to systematize the scientific evidence on the use of muscle stretching exercises in the treatment of FM.

### Material and methods

A systematic literature review was performed from a retrospective consultation with no chronological and linguistic limits, to Literature Analysis and Retrieval Medical System Online (MEDLINE), Latin American and Caribbean Literature on Health Sciences (LILACS), Scientific Electronic Library Online (SciELO) and Physiotherapy Evidence Database (PEDro) databases, as well the search engine PubMed. The papers' collection was held in October 2012, with the search strategy formulated by crossing of descriptors (DeCS and MmeSHs) and terms relevant to the subject (free terms – FT), in English, Portuguese and Spanish idioms.

On Medline, LILACS, SciELO and PEDro, the following crossings: "Fibromyalgia" (DeCS) AND "Stretching" (FT) OR "Muscle stretching exercises" (DeCS) OR "Flexibility" (FT) OR "physiotherapy "(DeCS) OR" Physical Therapy Modalities" (DeCS) OR "Exercise"(TL) OR "Rehabilitation" (DeCS) were used. On PubMed, the articles were obtained from the crossing between "Fibromyalgia" (MeSH) AND "Stretching" (FT) OR "Muscle stretching exercises" (MeSH) OR "Flexibility" (FT) OR "Range of motion, articular" (MeSH) OR "Physical Therapy" (FT) OR

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