Exercise as a Treatment for Fibromyalgia: A Scoping Review

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ABSTRACT

Fibromyalgia is a chronic, disabling condition that is both challenging to manage and frustrating for the patient and primary care provider. The aim of this scoping review is to explore how nondrug treatments, such as exercise, can reduce pain and promote physical function in adults with fibromyalgia (FMS). The body of literature on exercise as a treatment for FMS has identified beneficial effects, but there is no standardized approach for prescribing an exercise regimen in primary care. We conclude with a synthesis of general recommendations for exercise approaches to support care for patients with FMS.

Keywords: exercise, fibromyalgia, pain

INTRODUCTION

Fibromyalgia syndrome (FMS) is a chronic disorder characterized by pain, specific tender points, fatigue, sleep disturbance, and mood disorders.[1,2] FMS was defined by the American College of Rheumatology[3] as a patient having chronic widespread pain for ≥ 3 months, involving at least 11 of 18 tender points, and including fatigue, sleep disturbances, or other somatic syndromes, with symptoms that often begin in middle adulthood.[4] The prevalence of FMS worldwide is 2.7% (4.2% in females and 1.4% in males) of the population. Onset of FMS usually begins at 30-40 years of age.[2] As many as 1 in 20 primary care patients have undiagnosed pain and other symptoms of FMS.[1,4]

Because primary care practices are seeing a number of FMS patients, both effective communication with patients and advocacy on their behalf are needed to assure they receive the quality of treatment necessary to manage their disease.[5] Identification and early treatment of FMS are necessary to address individualized patient needs, their symptoms, and other comorbidities that may also require management related to level of functional impairment.[1]

Despite increased knowledge about FMS, there is currently no cure, but exercise has been shown to improve the individual's well-being over time.[6] The concept of exercise as a possible intervention for treatment of FMS began in the 1970s with a sleep laboratory study.[7] Although the efficacy of exercise in patients with FMS has been documented in multiple investigations, few studies have identified best-practice recommendations regarding exercise programs in the primary care setting.[8-10] The indication for using exercise as a treatment modality in FMS is to prevent inactivity and poor physical conditioning often associated with the pain and fatigue of the disorder. Deconditioning that results from inactivity can worsen the symptoms associated with FMS. Those with FMS who consistently exercised reported fewer symptoms, enhanced physical function, and improved overall well-being.[9]

METHODS

Scoping Review Design and Rationale

The aim of this review was to explore how exercise can reduce pain and promote physical function in adults who have painful conditions due to FMS. Integrating evidence from diverse knowledge sources can assist clinicians in making best-practice clinical decisions. A scoping review was chosen for this study for its systematic approach and narrative overview of the findings. Our 2-fold purpose in this project was to: (1) summarize and disseminate evidence-based findings using a rigorous and transparent method; and (2) identify gaps in the existing research literature.[11]

No previous study using a scoping methodology has focused on an exercise plan for treatment of patients with FMS. The following specific research questions guided this review:

- What is the typical length of time an FMS patient remains in an exercise program to gain relief from symptoms?
- Which types of exercise are typically recommended to patients diagnosed with FMS?
- When patients newly diagnosed with FMS are given information on exercising as a treatment, do they maintain their exercise regimen?
- Which barriers are associated with adopting an exercise program for FMS?

Search Strategy Details: Identification of Relevant Studies From 2010 to 2017

A search strategy was developed to capture the most relevant research on exercise as a treatment intervention for FMS while keeping the search broad enough to be comprehensive. A research librarian at the Medical University of South Carolina in Charleston was consulted for input on the appropriate search strategy, databases, and terms. The search terms included: interventions; treatments; fibromyalgia; musculoskeletal pain; and chronic pain. Terms used to describe consequences that patients may experience included: outcomes; costs; burdens; and consequences. Searches were conducted in CINAHL, Medline, PubMed, and Cochrane. Selected references were chosen from previous reference lists. From 53 research studies, 17 studies were duplicates. Once the duplicates were removed, 36 records were further screened, 11 studies were excluded because FMS was not the primary diagnosis, and an additional group of 15 studies were excluded for not meeting the inclusion criteria or were not relevant. The researchers were left with 10 articles. The quality of evidence was evaluated using the methods described by Melnyk and Fineout-Overholt.[12] Eight of the articles were randomized trials indicating a high level (Level 2) of evidence quality: 1 was a longitudinal study and 1 was a retrospective chart review (both Level 4). A PRISMA-style flow diagram that summarizes the results of the literature search is included is shown in the Figure.

Screening Process: Inclusion and Exclusion Criteria

Studies were included if they provided data on the health and/or social consequences of exercise as a treatment for patients with FMS and if they met the following criteria: published in English; were peer-reviewed; provided care to adults > 20 years old; included men and/or women; involved a primary diagnosis of FMS; and had a publication date between 2010 and 2017. The search included studies involving: (a) patients cared for by different providers, including general medicine, primary care providers, pain management, physiatrists, chiropractors, and rheumatologists; and (b) advanced practice nurses and physician assistants, with a specialty in rheumatology, internal medicine, and/or pain management.

The following exclusion criteria applied: articles that dealt with patients who did not have a primary diagnosis of FMS; acute care patients who did not meet the criteria for FMS (eg, those in acute pain or in an acute care setting, long-term care, or a nursing home or hospice); and articles that did not provide specific information on exercise treatment/interventions/management in FMS.

Data Extraction and Charting

Articles were screened for eligibility by both authors, and each selected study was reviewed and the data, if appropriate, were included (see Supplementary Table, available online at http://www.npjournal.org). The following criteria were included: (a) Reference source: author, year of publication, country of origin; (b) Study details: aims of the study, study design, population; (c) Intervention: exercise details; (d) Domains of consequences: outcome measures for exercise as a treatment for fibromyalgia; and (e) Important results: analysis.

RESULTS

The final sample for the scoping review contained systematic reviews and randomized, controlled trials (RCTs) from the United States, Canada, and Europe, during the period from 2010 to 2017. Several studies included both men and women, whereas others included only women. The final set contained 10 research studies. The most common findings within each of the exercise domains are included in the Supplementary Table online and summarized in what follows.