

Physiotherapy Briefings for Physicians

A Research Summary from the
Canadian Physiotherapy Association

NOVEMBER 2008

Subject: Recent evidence on exercise and fibromyalgia (FM), which affects approximately 5% of adult women and 1.5% of adult men in North America, with women between the ages of 55 and 64 most commonly affected.

Physiotherapists prescribe and supervise therapeutic exercise to help manage FM

Fibromyalgia, a syndrome of widespread pain and tenderness, severely impacts quality of life and the ability to perform routine daily living tasks. Although its etiology is not fully understood, there is increasing evidence that exercise is an important element of treatment.

A 2008 Cochrane review of 34 studies evaluating the effects of exercise training for FM [1] found moderate-quality evidence that aerobic exercise training at recommended intensity levels per week has positive effects on global well-being (Standardized Mean Difference 0.49, 95% CI 0.23 to 0.75), physical function (SMD 0.66, 95% CI 0.41 to 0.92), pain (SMD 0.65, 95% CI -0.09 to 1.39) and tender points (SMD 0.23, 95% CI -0.18 to 0.65). Two other recent reviews [2,3] support these conclusions.

A recent study [4] assessed the relative effectiveness of group exercise and patient self-management education. Patients were divided into four study groups: aerobic exercise (AE, n = 35), aerobic exercise with strength training (ST, n = 35), aerobic exercise with strength training and self-management education (ST-FSHC, [1] n = 38), and self-management education (FSHC, n = 27). (The self-management education was the Fibromyalgia Self-Help Course, which consists of seven two-hour sessions on techniques to accomplish daily activities, manage symptoms, and incorporate wellness activities such as exercise into daily life.) The study used self-assessment measures and performance-based measures. The ST-FSHC group showed significant benefit ($p \leq .001$) in almost all self-assessment categories, as well as over the FSHC group ($p < .05$). On performance-based measures, the ST-FSHC group showed significant improvement ($p < .05$) over the FSHC group in all but the heart rate measures (at rest and after six-minute walk test). The AE and ST groups showed significant benefits compared with the FSHC group. No benefit was seen within the FSHC group, suggesting that it is the combination of exercise training and self-management education that provides superior effectiveness.

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In the past, strength training was thought to exacerbate FM symptoms. Current research suggests, however, that strength training may reduce the cycle of deconditioning, and allow women to participate in a wider range of physical activities. A 12-week, twice-weekly progressive strength-training program using 11 exercises to work the major muscle groups (one set of 8 to 12 repetitions at 40% to 60% maximal lift, progressing to 60% to 80%) [5] showed significantly improved upper and lower body strength ($p \leq 0.05$) and functionality in routine daily tasks for women in the test group (n = 15). The exercise program did not exacerbate FM symptoms or result in musculoskeletal damage or injury.

Physiotherapy Briefings for Physicians is an initiative of the Physiotherapy Association of British Columbia. This topic was developed in consultation with the Canadian Physiotherapy Association.

Fibromyalgia



Despite examination of a wide range of treatments, optimal management of FM is still unknown [1]. However, there is increasing evidence that exercise — such as that prescribed and supervised by physiotherapists — is an important element of fibromyalgia treatment.

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Clinical Practice Guidelines recommend aerobic and strength training for FM

In July 2008, the Ottawa Panel published Evidence-based Clinical Practice Guidelines for Aerobic Fitness Exercise in the Management of Fibromyalgia: Part 1 [11] and Evidence-based Clinical Practice Guidelines for Strengthening Exercises in the Management of Fibromyalgia: Part 2 [12]. Their purpose is to provide effective aerobic fitness/strengthening exercise guidelines for patients, physiatrists, rheumatologists, physiotherapists, occupational therapists, family physicians, kinesiologists, and other health care professionals to assist in the overall management of FM. The Panel used Cochrane methods to collect and analyze evidence from 13 randomized controlled trials and three clinical controlled trials for aerobic fitness, and five randomized controlled trials for strengthening exercise. Based on the evidence, the Ottawa Panel recommends both aerobic and strengthening exercise for management of FM.

Physiotherapists help manage FM *continued from front page*

Several recent studies examined water-based exercise to alleviate FM symptoms. A 16-week program of warm water exercise therapy three times per week showed improvements in severity of symptoms [6]. A 15-week course of deep-water running compared with land-based exercise (walking/jogging) [7] showed similar benefits. The sustainability of benefits from water exercise has also been assessed [8]. The results of 12 weeks of warm-water training were evaluated pre-treatment, post-treatment, and at 12 weeks post-treatment. Many strength benefits were maintained at 12 weeks post-treatment. However, the significant pain reduction seen in the exercise group immediately post-treatment was lost. Using a pain scale of 1 to 100, significance was reduced from $p = .012$ to $p = .693$. Using the pain component of the EQ-5D, significance was reduced from $p = .047$ to $p = .789$. The same researchers in a later study [9] investigated whether a longer-term (8 months), low-intensity water exercise program is feasible. Improvements were of similar magnitude to those observed in the original study directly post-treatment, indicating that low-intensity exercise is sustainable over a long term.

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Fast Fact

The Fibromyalgia Impact Questionnaire (FIQ), a widely used fibromyalgia assessment tool, was developed by a team of clinicians at Oregon Health Science University. It has been shown to have “credible construct validity, reliable test-retest characteristics and a good sensitivity in demonstrating therapeutic change” [14]. The FIQ and information on its use are available at the Fibromyalgia Information Foundation website: www.myalgia.com/FIQ/FIQ_B.htm

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