Talking to patients with fibromyalgia about physical activity and exercise

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Purpose of review

The purpose of this article is to describe the application of basic exercise principles to individuals with fibromyalgia to encourage clinicians to discuss with their patients ways of becoming more physically active.

Recent findings

The goals of increased physical activity and exercise for individuals with fibromyalgia are to improve or maintain general fitness, physical function, emotional well being, symptoms and overall health, and provide them with a feeling of control over their well being. Describing ways of increasing activity through home, work and leisure-related tasks or exercise provides a universal approach to increasing physical activity that applies to individuals with fibromyalgia and fits a counseling model of health behavior familiar to clinicians. The patient–clinician relationship provides a unique opportunity for health professionals to counsel individuals with fibromyalgia to become and remain more physically active.

Summary

Regular physical activity and exercise has numerous physical, psychological, and functional benefits for individuals with fibromyalgia and should be included in treatment plans. Clinicians can help patients adopt a more physically active lifestyle through targeted discussions, support and consistent follow up.

Keywords

counseling, exercise, fibromyalgia, physical activity, self-management

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Introduction

Fibromyalgia is a frequently seen chronic pain syndrome with a complex pattern of symptoms that can include physical, emotional and functional limitations. Fibromyalgia is characterized by the presence of widespread body pain for more than 3 months and reproducible, bilateral sites of amplified tenderness [1]. Pain is commonly accompanied by one or more of a number of symptoms including fatigue, sleep disturbances, stiffness, irritable bowel syndrome, cognitive disturbance and exercise intolerance [1,2].

Once thought to be a contributing cause of fibromyalgia, exercise is increasingly recommended to patients as part of contemporary treatment. Recommendations for exercise have been evolving for this patient group over the past 10 years [3–5]. A growing body of research evaluating different types of exercise in people with fibromyalgia has demonstrated the need for special considerations as well as the appropriateness of many traditional types of exercise. Despite knowing more about the consequences of various types and quantities of exercise in people with fibromyalgia, study findings have not been readily applied in the clinic. Therefore, the purpose of this article is to review basic aspects of physical activity and exercise as they relate to the person with fibromyalgia to encourage clinicians to counsel their patients on becoming more physically active.

General principles

The goals of increased physical activity and exercise for individuals with fibromyalgia are to improve or maintain general fitness, physical function, emotional well being, symptoms and overall health, and provide them with a feeling of control over their well being. More than one approach can be used to achieve these goals. Physical activity is any bodily movement caused by muscle contraction and characterized by the level of physical effort [6]. Moderate intensity physical activity describes sustained rhythmic movement with a level of effort akin to walking briskly, dancing, or bicycling on level ground, allowing a person to comfortably carry on a conversation [7]. Comparatively, vigorous intensity physical activity typically describes activities such as jogging, swimming

laps, riding a bicycle up hill, or shoveling snow that require greater effort resulting in elevated heart and respiratory rates [7]. Exercise is a category of physical activity that is planned, structured, repetitive and designed to improve one or more aspects of physical fitness – aerobic efficiency, muscle strength and endurance, joint range of motion, and body composition [7].

In the past year, the American College of Sports Medicine and the American Heart Association copublished revised physical activity recommendations for developing and maintaining health in adults. The report states [8•] that adults (18–65 years) should perform 30 min or more of moderate intensity aerobic physical activity on 5 or more days of the week, vigorous intensity activity of at least 20 min, 3 days per week, or a combination of moderate intensity (30 min twice weekly) and vigorous intensity (20 min twice weekly) activities. Strength-enhancing activities should be performed at least twice weekly. Older adults (65+ years) [9•] should emphasize moderate intensity aerobic activity to reduce the risk of injury and include activities to increase flexibility and balance. While these recommendations address global health, they are levels of activity to attain and are not a 'starting point' for previously sedentary or chronically ill individuals, particularly those with fibromyalgia. Moderate intensity physical activity is sufficient to bring about the goals stated above and is most appropriate for people with fibromyalgia. Vigorous intensity activities put a person at greater risk for exacerbation of symptoms and typical signs of overuse, but can be safely performed as a person becomes more fit.

Physical activity

With the pervasive lack of leisure time, increasing daily physical activity is the most practical way for people to become more active. Brainstorming ways to increase activity in daily life establishes a collaborative dynamic between patient and clinician that is important for changing patient behavior. Adding walking time to daily tasks is an efficient way to increase physical activity. Walking every aisle in the grocery store, parking farther away from your destination, or walking one or more flights of stairs and taking an elevator the remaining way are just a few ways to accumulate the minimum daily recommendation of 30 min. A pedometer can be helpful to quantify the number of steps taken in a day and can provide an enjoyable, nonintrusive method of feedback. House and yard work are productive ways to add daily physical activity. Carrying items up or down stairs whenever possible can add minutes of quality activity quickly. Dusting, vacuuming, ironing, carrying out the trash or raking leaves all count as physical activity. People should be discouraged from using automatic door openers if possible. Gardening is a popular form of physical activity [6]. A caveat with gardening, however, is that it can be more challenging for people than it appears and is not easy to quantify. Time in the garden is physical work and should be introduced slowly, especially in the spring when people have been relatively sedentary throughout the winter. Patients severely impacted by fibromyalgia can walk within the home for 1–2 min periods once or twice daily. Increasing physical activity should be the first step when talking to patients about becoming more physically active.

Exercise

Exercise considerations for individuals with fibromyalgia have evolved significantly over the past 10 years [3,4, 10••,11••]. Initial studies [12,13] suggested that cardiorespiratory deconditioning was a potential cause of the syndrome. Aerobic exercise was recommended as a result of the initial intervention studies [14]. Since that time, numerous studies [11••,15–21] have examined different types of aerobic activities such as walking, pool activities and dancing. A growing number of studies in the past 10 years suggest strength training (also called resistance training) to be a safe and beneficial form of exercise [11••,22•,23–29]. While data may be insufficient currently to receive consensus recommendation [10••,30] it is only a matter of time before strength-training activities are included in exercise recommendations for fibromyalgia. Recently, studies have demonstrated the safety and multiple benefits of a complete fitness program of aerobic fitness, strength training and flexibility exercise in this population [11••].

The frequency, intensity, and duration of activities describe the quantity or dose of exercise. Frequency (how often exercise is performed) can be measured by the number of sessions per week. Less intense exercise is performed more often than more intense types of exercise (i.e. walking versus strength training) because the body requires a longer recovery time from more intense activities. This is also true for people without fibromyalgia. Therefore, a person can walk daily while strength-training exercises should be performed only two or three times per week, with 48 to 72 h between sessions. Intensity is the effort required to perform exercise and is very important to the comfort, safety and effectiveness of an exercise program for the person with fibromyalgia. Self-paced exercise describes when the individual determines the level of effort performed. Controlling the level of effort builds confidence in self-management skills. Self-paced exercise is effective for promoting fitness and function in adults with fibromyalgia and a variety of musculoskeletal conditions [11••,27,31]. Individuals with fibromyalgia, particularly those new to exercise, should perform exercise at a low to moderate intensity for a minimum of 4 weeks, and can continue indefinitely at a moderate intensity. The level of exercise intensity is appropriate when the person

has a sense of physical and emotional well being and does not experience excessive soreness or discomfort during or after exercising. Excessive pain or fatigue of more than 24 h is an indication of too much exercise. These sequelae usually resolve with additional time between exercise sessions. If excessive pain, soreness or fatigue persists, medical attention may be required to address symptoms. Reducing the intensity and duration of exercise should correct the issue.

Duration is the amount of exercise performed. Aerobic and flexibility exercises are typically measured in units of time, such as minutes and seconds. The number of repetitions (the performance of a movement one time) and sets (a series of repetitions) describes strength-training activities. When starting, exercise sessions should not last more than 20 or 30 min. This is particularly important for the person with fibromyalgia who has little or no exercise experience, is sedentary, severely deconditioned or has limited functional capacity. An initial program for the person new to exercise can include 5–10 min each of walking, strength-training activities, and stretching. The length of an exercise session will increase with added exercise time. In general, the length of an exercise session should not extend beyond 60 min.

The process of developing greater exercise capacity is referred to as progression and is important to safe and effective exercise. Aerobic exercise time should be increased by 10% when the person feels comfortable to do so. For example, a person exercising for 10 min this week can add 1 min (10%) for a total of 11 min of exercise the next session. Regular progression stimulates the body to adapt to the increasing demand of exercise in a gradual safe manner. Resistance training should follow a similar methodical approach for progression. Beginning with eight repetitions performed comfortably and easily, the number of repetitions can be gradually increased from eight to 12, while maintaining a constant level of resistance. When a person can perform consecutive sets of 12 repetitions of an exercise on three consecutive exercise sessions the resistance can be increased and the number of repetitions reduced to eight. The process is then repeated. Increases in resistance should be less than those used by people without fibromyalgia – 2.5–5 lb for upper body exercise machines, 5–10 lb for lower body exercise machines, and 0.5–2 lb for hand weights.

The exercise program

An exercise program has three parts – the warm up, exercise activities, and cool down. The warm up gently transitions the body from a state of rest to a higher level of physical activity, increasing local blood flow, tissue temperature and heart rate. A warm up is particularly beneficial for the person with fibromyalgia because it can help reduce the feeling of stiffness. Warm-up activities include large-body, low-intensity movements through motions similar to those of the exercise program. Common warm-up activities include easy walking, cycling, or swimming. Warm-up activities can reassure individuals with fibromyalgia that movement can occur without excessive pain. For the most deconditioned individuals, the beginning of the aerobic activity can be used as a warm up.

The exercise activities make up the core of any program. The order of activities gradually increases muscle contraction intensity; aerobic exercise is followed by resistance training. Flexibility is performed at the end of the workout when the muscles, tendons and ligaments are the warmest and most pliable. Exercise activities should be selected by the patient and performed at a low to moderate intensity. Water is a good choice for many people with fibromyalgia, particularly those who have been sedentary and are deconditioned. By reducing the effects of gravity, muscular movement can occur with less effort. Additionally, water can have a stress-reducing effect. Water temperatures can be between 84 and 95°F, but is an individual preference. A variety of activities can be performed in the water, including active range of motion movements, water walking and deep water walking or jogging [17,32,33]. On land, walking is a key component of mobility and can be performed in any safe, accessible, well lit environment. If a person has physical limitations and walking is a problem, a stationary bike, elliptical device and other pieces of equipment are good alternatives. A person should not experience pain or excessive joint stress during or after exercise.

Strength training can be safe and effective for improving fitness, general health, and functional status in adults across the age spectrum with fibromyalgia [24,26,29], and when combined with aerobic exercise and flexibility in a total fitness program [11••]. Exercises using all parts of the body should be included in the strength-training portion of the program. These exercises can be performed at home, a community center, fitness center or similar facility. Resistance machines and basic exercises are easy for most people to learn. Hand weights and body weight can also be used to perform strength exercises. Very light resistance should be used to perform all movements for the first month to 6 weeks. Exercises should not require intense muscle contraction or extreme muscle fatigue. This approach of proper technique through the fullest range of comfortable joint motion using low resistance helps reduce the risk of exercise-induced muscle soreness and injury. Exercises should involve muscles of the entire body and include movements requiring multiple joints, for example rising from a chair.

Individuals with fibromyalgia can benefit from flexibility training. This form of exercise is gentle, can be done anywhere by anyone regardless of level of fitness or prior

experience, and is important for maintaining comfortable joint motion. Flexibility is particularly beneficial for older adults. Movements should include major motions of the hip and knee, ankle and shoulder and movements of the lumbar and thoracic spines. Proper exercise should be gentle and create a feeling of slight tension in the target area. The proper position should be held for 10–30 s while consciously relaxing the body. Flexibility exercises can be learned from books, DVDs, or group exercise classes, including gentle yoga and tai chi.

Exercise obstacles

People who start an exercise program, whether with or without fibromyalgia, face obstacles for maintaining participation at one time or another. Addressing common obstacles directly with support from healthcare providers can make them less potent.

Conflicting advice on what activities to perform and the frequency and duration of exercise plagues many people looking to become more physically active, particularly those new to exercise. Individuals with fibromyalgia may have numerous professionals on their healthcare team and can end up with conflicting advice about exercise. Differing concerns about exacerbating symptoms, the effect exercise may have on other health conditions, or the absence of a resource for instruction may lead clinicians to hesitate recommending exercise to patients. Accurate information and support for adopting a more active lifestyle can be obtained through reliable sources of group exercise programs and patient education (i.e. National Fibromyalgia Association, http://www.fmaware.org; Arthritis Foundation, http://www.arthritis.org).

Health benefits are developed and maintained with regular exercise. Greater exercise adherence has been reported in patients with fibromyalgia when there is greater agreement between the patient and physician regarding the patient's level of well being and when a patient's pain and stress have been addressed [34,35]. Furthermore, personalizing the exercise program to include activities to match an individual's fitness level, physical limitations, exercise preferences and convenience promote better adherence. Fibromyalgia can be an isolating condition. An advantage of participating in an exercise class is the social interaction, camaraderie, and support that come from being part of a group. Organized exercise programs such as the water or land-based programs offered by the Arthritis Foundation, are an evidence-based, standardized program offered in many communities. Certified instructors trained to work with the unique issues of patients with fibromyalgia and other musculoskeletal conditions lead all classes. Group exercise classes, with a caring, knowledgeable and enthusiastic leader can provide a strong social support system that meets many of the physical, emotional and social needs of patients with fibromyalgia and promote the adoption of habitual exercise participation.

Many people with fibromyalgia are obese or overweight, which creates other barriers to exercise participation. Often people of size are uncomfortable participating in activities that require changing clothing, wearing a bathing suit, or performing activities in front of others. People who have little experience with exercise may be intimidated to participate in certain classes or ask for assistance, and should be encouraged toward activities that are more socially comfortable, that is, walking with a friend or a dog, following a DVD at home, joining classes that target people less experienced with exercise. Additionally, safety and the concern of experiencing an adverse medical event are often on patients' minds when considering exercise. Most patients can begin a low to moderate-level walking program without comprehensive screening [36]. For the patient with multiple risk factors and medical issues, referral to cardiology or another specialty may be most appropriate [37].

Conclusion

Adopting a physically active lifestyle can bring about many health benefits for individuals with fibromyalgia. Physical activity can be increased through home, work, and leisure activities and exercise. Clinicians have a unique opportunity to influence this lifestyle change by regularly discussing physical activity and providing positive reinforcement and consistent follow up. Future studies should examine ways clinicians can best integrate physical activity into the treatment plans of patients with fibromyalgia.

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- •• of outstanding interest

Additional references related to this topic can also be found in the Current World Literature section in this issue (pp. 232–233).

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