



Giesecke et al.<sup>3</sup> attempted to discover how patients with fibromyalgia differ in their clinical symptoms. They identified 3 subsets of patients on the basis of pressure-pain thresholds and psychological factors. The largest group, as would be typical of most practices, comprised patients with moderate depression and anxiety scores, moderate catastrophizing, and low levels of tenderness. These patients perceived moderate control over their pain. Patients in the second group had psychological factors that seemed to worsen fibromyalgic symptoms. These patients typically had significant depression and anxiety, high levels of catastrophizing, excessive tenderness, and little perceived control over their pain. In the third group, patients had normal mood ratings and high perceived control of pain with little catastrophizing, yet, paradoxically, they had extreme tenderness. The unexpected tenderness of the third group indicates possible genetic differences in regard to pain perception.

One issue that should be raised initially, and is sometimes brought up by patients, is the concern that receiving a diagnostic label of fibromyalgia may be a reason for litigation or a cause of disability. It should be explained that it is not the diagnosis of fibromyalgia but rather misconceptions regarding causation that can lead to stress and symptom amplification for some patients, making rehabilitation difficult. A patient's opinion about the mode of onset of his or her fibromyalgia, such as whether it began following trauma or an infection, can play a role in treatment efficacy. It may be helpful to use models of chronic headaches or chronic fatigue to help explain disease exacerbation and management to patients.

## NONPHARMACOLOGIC TREATMENT

Studies have examined several types of nonpharmacologic strategies for treating fibromyalgia, but many studies tested more than one strategy at a time and/or were not controlled. Education, exercise, and CBT have individually or in combination been found to improve mood, physical functioning, stress management, and self-efficacy and to decrease pain, sleeplessness, and fatigue.

### Education

Education has been found to increase self-efficacy in patients with fibromyalgia, decrease pain and depression as well as catastrophic thinking, and improve FIQ scores.<sup>4-6</sup> However, a difficulty for both primary physicians and tertiary referral physicians is finding enough time to properly educate patients about the cause, course, and treatment of fibromyalgia. One time-saving approach is to set aside specific days or half days for group consultations. This method allows the physician, nurse practitioner, or other health care professional to efficiently disseminate detailed information to a group of patients and, hopefully, their spouses and/or family members instead of trying to educate every patient on a one-on-one basis. A standard didactic lecture coupled

with a question-and-answer session is a recommended method.<sup>7</sup> The group format is usually acceptable to patients, and often patients establish contacts, bond, and learn from each other. One-on-one advice can be given after the question-and-answer session. Clinicians should create an environment in both the group session and the one-on-one session in which patients feel that they can ask all the questions that are necessary.

When educating patients, a core set of information should be provided that includes a detailed discussion of potential pathophysiologic mechanisms in fibromyalgia in the context of a biopsychological model. The clinician must dispel the notion that the absence of organic disease means that the symptoms are psychogenic.

Avoid structural or causation labels. Structural labels such as *torticollis* and *occipital neuralgia* have been used for neck pain, and similar labels such as *sacroiliac dysfunction* have been used for back pain, but none of those terms has any credence in pathophysiologic models. Rather, it is appropriate to use a term such as *fibromyalgia* or *chronic widespread pain*, which does not explain illness based on structure. Fibromyalgia also should not be linked to possible causes that are not well supported. For instance, the terms *posttraumatic fibromyalgia*, *postinfectious fibromyalgia*, and *multiple environmental insults causing fibromyalgia* should be avoided unless there is a clear link, which typically is not the case.

In educational sessions, the prognosis and clinical course of fibromyalgia should be addressed. Be frank in telling people that while fibromyalgia is typically a chronic disorder with a waxing and waning course, it can be resolved. Point out that patients never have structural abnormalities due to fibromyalgia, and that the disorder is not the prodromal phase of another disease, such as multiple sclerosis, rheumatoid arthritis, or systemic lupus erythematosus. Focus on the fact that this condition can get better, but it requires a lot of hard work and self-management on the patient's part. Explain that the media and the Internet are often full of misinformation regarding fibromyalgia, and provide patients with trustworthy sources including books and Web sites.

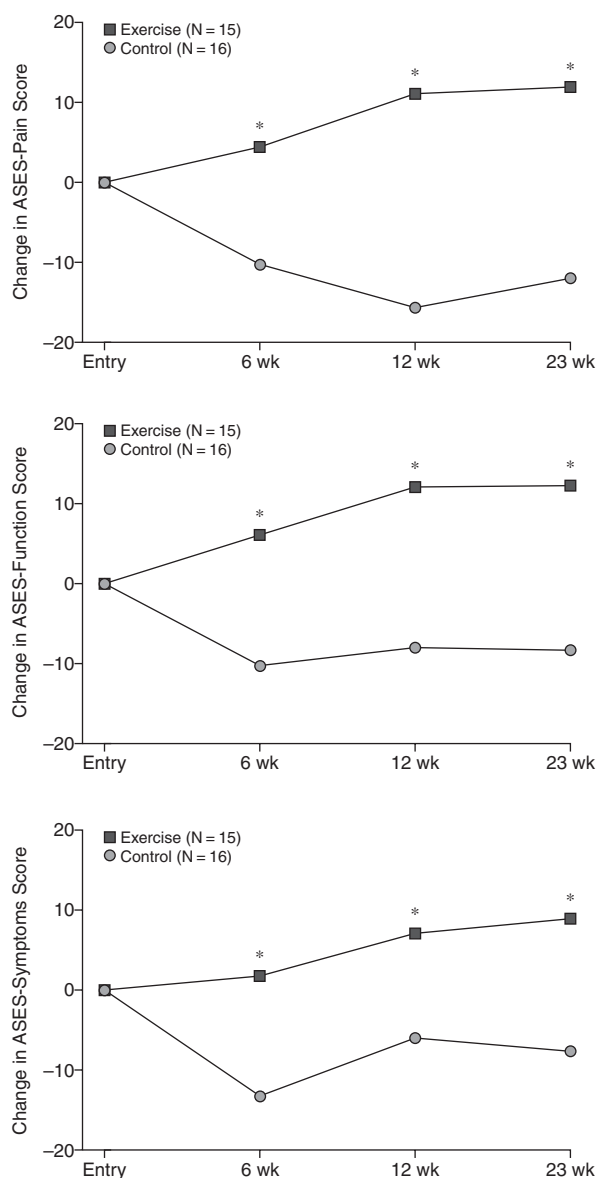
After leading these educational sessions for a while, the health care professional can anticipate patients' questions and concerns. Common patient questions that the discussion should be built around include the following:

- What exactly is wrong with me, why do I hurt all over, and why am I so exhausted?
- How did I get this, how is it treated, and when will it go away?
- Why do people not believe me?

### Exercise

As shown in Figure 1, aerobic exercise promoting cardiovascular health has been found to increase function,

Figure 1. Changes in Arthritis Self-Efficacy Scale (ASES) Scores for Exercise and Control Subjects<sup>a</sup>



<sup>a</sup>Reprinted with permission from Gowans et al.<sup>8</sup>  
\* $p < .05$ , t test on change scores (exercise vs. control).

decrease pain, and improve symptom scores in patients with fibromyalgia (N = 15) compared with nonexercising control patients (N = 16) whose scores worsened over time.<sup>8</sup> Aerobic exercise also decreased levels of anxiety and depression in patients with fibromyalgia relative to those of the nonexercising controls.<sup>8</sup> A meta-analysis<sup>9</sup> found that aerobic exercise also improved global well-being, and a small study<sup>10</sup> suggested that strength training may be as effective as aerobic exercise. The problem with prescribing exercise is that not all individuals will exer-

cise, and even if they do begin an exercise program, they will not always continue it. Because the benefits of aerobic exercise last only as long as the program is maintained, the challenge is to determine not only how to get individuals exercising but also how to keep them exercising.

Some general approaches with respect to exercise in fibromyalgia are similar to those of pharmacologic therapies. Patients should start with low-intensity exercise and slowly increase the level of physical exertion until they achieve moderate exercise levels—for example, 60% to 75% of their age-adjusted maximum heart rate, at least 3 times weekly for at least 30 to 40 minutes, if at all possible. Patients should be aware that their pain may initially increase as their level of activity increases. It is not a good idea to send a patient with fibromyalgia to a therapist who is accustomed to working with orthopedic patients or sports medicine patients because the so-called “no pain, no gain” theory of exercise will not work in fibromyalgia. Patients with fibromyalgia are sensitive to increases in their overall activity level; too much activity will cause a worsening of their symptoms, which is why patients have to start at low levels of exercise and slowly increase the intensity. For some patients, even using the term *exercise* is probably a bit of a misnomer because many fibromyalgia patients are sedentary. A more appropriate term to use, at least during the early stages of treatment, is *activity*. Initially, just getting patients with fibromyalgia to be more active and to begin to do more in their day-to-day life is appropriate, rather than a formal exercise program. Once the patient has achieved a moderate level of cardiovascular fitness, strength and stretching programs can be considered for gradual implementation.

### Cognitive-Behavioral Therapy

Cognitive-behavioral therapy has been shown to be effective in the management of fibromyalgia.<sup>11</sup> Cognitive-behavioral therapy not only improves mood and decreases pain, fatigue, and sleeplessness, but it can also improve stress management and physical functioning.<sup>12,13</sup> The CBT programs for fibromyalgia include a number of different goals, some of which address maladaptive illness behaviors, or bad habits, that patients have unknowingly developed, making their illness worse instead of better. An example of this would be that many chronic pain patients will do too much on the days when they feel well, and then they pay for that by having several days of increased symptomatology caused by their overactivity. Then, they finally have another day when they feel well and, again, do too much, thus continuing the pattern of overactivity followed by several days of underactivity. This pattern leads to tremendous variability in the day-to-day symptoms of fibromyalgia, which can be very frustrating for patients. The antidote that is given in CBT programs for this particular maladaptive illness behavior is pacing of activities. Patients are taught that if they do approximately the same

amount of activity every day, no matter how they feel, this can have a salutary effect on their overall symptoms.

Cognitive-behavioral therapy can be conducted in a one-on-one setting or as part of a group session similar to that described above for education. Cognitive-behavioral therapy conducted in large groups once or twice a year has demonstrated improvement in function, decreased medical utilization, and improved care satisfaction lasting up to 1 year after program termination.<sup>14</sup> Psychosocial therapy should be conducted with acceptance and support from the family and health care providers. Work-related issues should be addressed, and, in selected individuals, more formal mental health counseling, chronic pain counseling, and more expert psychopharmacologic intervention should proceed.

### Other Nonpharmacologic Therapies

Some complementary and alternative medicine therapies that may be beneficial in fibromyalgia include acupuncture,<sup>15</sup> trigger point injections,<sup>16</sup> manual treatment including chiropractic<sup>17</sup> and massage<sup>18,19</sup> therapies, hypnotherapy,<sup>20</sup> biofeedback,<sup>21,22</sup> tai chi,<sup>23</sup> and yoga.<sup>24</sup> Some debate surrounds the efficacy of acupuncture, as both traditional and sham acupuncture have demonstrated effectiveness.<sup>25–28</sup> Trigger point injections have been found more useful in so-called myofascial pain.<sup>29</sup> Evidence supporting these complementary and alternative medicine treatments is tentative at best, and larger controlled trials are needed.

### MULTIDISCIPLINARY TREATMENT

Successfully managing the interface of the physical and mental symptoms of fibromyalgia requires skilled pharmacologic and nonpharmacologic therapy. Knowledge of fibromyalgic subgroups is important when determining a treatment course for individual patients. Treatment will be more effective when it is tailored to a patient's needs.<sup>30,31</sup> While many treatments have some data showing efficacy when used alone, multidisciplinary strategies generally provide better outcomes than monotherapies.<sup>32</sup> Combinations of education, exercise, and CBT seem to create synergy.<sup>7,33,34</sup> The impact of the illness on patients can be lessened by multidisciplinary training sessions as brief as 1.5 days.<sup>14</sup>

Determining who should take charge in a multidisciplinary approach to treating fibromyalgia may be the most important step in the entire process. Should the patient's care primarily be provided by a rheumatologist, a mental health professional, or a physical medicine and rehabilitation specialist? Or, should the lead be the primary care physician, with specialists from the other disciplines acting as consultants? Optimal interaction between representatives of the various necessary disciplines is difficult to determine, but fibromyalgia requires this interface.

### CONCLUSION

Diagnosis and treatment of fibromyalgia is a complicated, controversial process, but successful management of the disorder is possible. Multiple treatments, both pharmacologic and nonpharmacologic, have demonstrated efficacy in fibromyalgia. An integrated, multidisciplinary approach to treatment, although time-consuming for physicians and difficult for patients, offers the best chance of symptom abatement.

**Drug name:** pregabalin (Lyrica).

**Disclosure of off-label usage:** The author has determined that, to the best of his knowledge, no investigational information about pharmaceutical agents that is outside U.S. Food and Drug Administration–approved labeling has been presented in this article.

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