CHAPTER 38

Self-Management Strategies*

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- Self-management activities, such as participation in education programs and physical activity, are central to the nonpharmacological management of arthritis
- Self-management education, physical activity, and weight loss have all demonstrated health benefits for people with arthritis.
- Evidence suggests that very few people with arthritis participate in self-management education.

Self-management activities, such as participation in education programs and physical activity, are central to the nonpharmacological management outlined in American College of Rheumatology guidelines for arthritis management. Anything a person does to try to manage their arthritis could be considered self-management, but the Institute of Medicine (IOM) definition of self-management focuses on essential tasks. The IOM defines self-management as "the tasks that the individuals must undertake to live well with one or more chronic conditions" (1). While individuals with arthritis try a variety of strategies to live well with their disease, scientific evidence supports only a limited number of key self-management activities. This chapter reviews the evidence base for the three self-management strategies with the broadest applicability: participating in self-management education, maintaining regular, moderate intensity physical activity, and controlling weight. These three strategies also form the core public health messages for disability prevention promoted by the Centers for Disease Control and Prevention's arthritis program (see Table 38-1 for a summary of these strategies). A fourth strategy, seeking early diagnosis and appropriate medical treatment if rheumatoid arthritis is suspected, is of more targeted applicability, and will not be addressed here. This chapter will conclude with recommendations for improving the effectiveness of clinician counseling through the use of a brief behavioral counseling model to assist patients in practicing self-management.

*The findings and conclusions in this book chapter are those of the author and do not necessarily represent the views of the Centers for Disease Control and Prevention.

KEY SELF-MANAGEMENT STRATEGIES

Self-Management Education—"Build Arthritis Control Skills"

The patient-oriented public health message "build your arthritis control skills" highlights the importance of self-management education. Not all patient education is designed to foster self-management. Much of the traditional patient education emphasizes providing information about the disease and its treatment, using verbal instruction supplemented by handouts and pamphlets. Self-management education is designed to build patients' confidence and skills to manage their arthritis on a day-to-day basis; it is less didactic and uses interactive methods to help patients develop the necessary skills. A meta-analysis of arthritis education trials demonstrated that education interventions that included behavioral techniques produced significantly greater improvements in pain, function, and tender joint counts than did information dissemination interventions (2). Similarly, handouts or booklets may be useful adjuncts, but do not constitute self-management education on their own. Several studies have demonstrated short-term (3–6 month) knowledge change, but no change in health status (1).

Evidence-based self-management education can be provided individually or in small groups. The most practical and economical way to provide self-management education is through referral to education programs such as the Arthritis Self-Management Program (ASMP), also known as the Arthritis Foundation Self Help Program, or the Chronic Disease Self Management Program (CDSMP). Both ASHP and CDSMP are

TABLE 38-1. ARTHRITIS SELF-MANAGEMENT STRATEGIES/KEY PUBLIC HEALTH MESSAGES FOR DISABILITY PREVENTION.

STRATEGY/MESSAGE	RATIONALE	RESOURCES
Self-management education/"Build your arthritis control skills"	Research documents increases in self-efficacy and health behaviors (exercise, relaxation, cognitive symptom management) improved health outcomes (pain, disability, depression, helplessness), and reductions in health care costs (physician visits) (1)	Arthritis Self Management Program (also known as the Arthritis Foundation Self Help Program) http://www.arthritis.org/events/ Chronic Disease Self Management Program http://patienteducation.stanford.edu
Physical activity/"Be active"	Research demonstrates clinically meaningful improvements in function, flexibility, muscle strength and endurance, cardiovascular fitness, and psychological status (6)	Arthritis Foundation Exercise Program http://www.arthritis.org/events/ Arthritis Foundation Aquatic Program http://www.arthritis.org/events/ EnhanceFitness http://projectenhance.org
Weight control/"Control your weight"	Modest weight loss (10–15 pounds) can alleviate symptoms and delay progression of knee OA (13)	Analysis of weight loss programs available at http://www.consumer.gov/weightloss

6- to 7-week small group education programs led by trained lay and professional leaders following a structured protocol. Both programs, developed by Lorig and colleagues, were designed to enhance participants' confidence in their ability to manage their chronic disease, and to teach management skills such as problem solving, action planning, decision making, and communicating with health care professionals (1).

The arthritis-specific program, ASMP, has been disseminated by the Arthritis Foundation since 1981 and is called the Arthritis Foundation Self Help Program. Lorig and colleagues have demonstrated a 43% reduction in pain and a 19% reduction in physician visits at 4-year follow-up after participation in the ASMP. The generic chronic disease program, which was evaluated among a mix of participants with arthritis, diabetes, heart disease, and lung disease, produced significant improvements in health distress and health care utilization (physician and emergency-room visits) at 2-year follow-up. Lorig and colleagues have also developed Spanish-language versions of ASMP and CDSMP, which have similar benefits (1).

Comparisons of the relative efficacy of ASMP and CDSMP among people with arthritis have produced equivocal results. A study by Lorig and colleagues found more beneficial effects from ASMP at 4-month follow-up but this difference was largely gone at 12 months (3). In a similar study, Goeppinger and colleagues found significantly greater decreases in pain and disability at 4-month follow-up from CDSMP among their largely African-American participants (4). Both investigators concluded that both CDSMP and ASMP are beneficial for people with arthritis; Lorig concluded that the disease-specific ASMP may be preferred while Goeppinger concluded that CDSMP may be advantageous for patients with multiple comorbidities.

Several forms of individually delivered self-management education have been developed and evaluated, but are not in widespread use. Several computer-tailored mailed education programs have shown significant benefits in health status and reductions in physician visits. Weekly educational mailings supplemented by telephone support have also demonstrated positive changes in health status. Lorig and colleagues are now testing an Internet-based version of the ASMP and CDSMP (1).

Meta-analytic reviews of arthritis self-management education studies have consistently found small but significant short-term benefits from these types of programs. For example, a recent Cochrane Collaboration review of education in rheumatoid arthritis (RA) found that behavioral interventions such as ASMP produced small-to-moderate effect sizes that equated to 10% to 12% improvements in patients' global health assessment, depression, and disability. In the same analyses, information-only interventions, such as verbal instruction or informational brochures, and social support/counseling interventions showed no significant benefits (1).

Although self-management education studies have demonstrated significant benefits in health status and cost savings, the majority of people with arthritis have not received self-management education. Only 11% of the adults with arthritis responding to a 2003 national survey reported that they had attended an educational course or class that taught them how to manage problems related to arthritis (5). Clinicians can foster participation by making specific referrals to self-management

education programs such as ASMP and CDSMP. The self-management support section below will discuss strategies clinicians can use to facilitate patient participation in self-management education programs.

Physical Activity—"Be Active"

Physical activity is a core self-management activity for people with arthritis, and "be active" is a core public health message for both the general population and people with arthritis. Although early treatment recommendations cautioned patients with arthritis not to be active, a burgeoning body of research supports both professionally directed therapeutic exercise and self-directed moderate physical activity. As summarized by Westby and Minor, there is consistent evidence that people with arthritis can safely participate in moderate physical activity, such as walking, stationary bicycling, aerobic dance, aquatic exercise, and circuit training, without aggravation of their disease. This kind of regular moderate exercise can produce clinically meaningful improvements in function, flexibility, muscle strength and endurance, cardiovascular fitness, and psychological status (6).

In 2002 the American College of Rheumatology (ACR) convened a conference that developed recommendations for physical activity for people with osteoarthritis (OA) and RA; both sets of recommendations included aerobic activity (30 minutes at least 3 days per week for OA; 30–60 minutes 2–3 days per week for RA) and lower extremity strengthening programs (6). These recommendations are slightly modified from the American College of Sports Medicine recommendations for general health based on the absence of any data on physical activity programs for people with arthritis more frequent than three times per week.

In addition to the clear benefits physical activity can produce for people with arthritis, inactivity can increase disabling factors such as fatigue, low endurance, loss of strength and flexibility, and depression frequently attributed to arthritis. Inactivity also increases risks for comorbid conditions such as cardiovascular disease, diabetes, and osteoporosis among people with arthritis. However, 43% of people with self-reported arthritis say they get no leisure time physical activity, and only 32% are meeting the arthritis-specific recommendation of 30 minutes of moderate physical activity at least three times per week (7).

Research has demonstrated benefits of both group and home exercise programs (6). Arthritis-appropriate exercise programs are available through local agencies such as Young Men's Christian Association facilities (YMCAs), health or fitness clubs, senior or community centers, and parks and recreation departments. Some of these programs are disseminated and cosponsored by the Arthritis Foundation. Walking is the most widely pursued physical activity among the general public, and people with arthritis can easily tailor walking to their abilities and current conditioning level by altering their distance or speed. The Arthritis Foundation publishes a commercially available book, *Walk with Ease*, which helps people with arthritis start a walking program.

The Arthritis Foundation has developed two community programs that provide safe physical activity options for people with arthritis: the land exercise program called the Arthritis Foundation Exercise Program and a water exercise program called the Arthritis Foundation Aquatic Program. Both programs are small group exercise programs that meet two to three times per week for flexibility and light endurance exercise. Although the current evaluation data are based on small, uncontrolled studies, preliminary results of both programs suggest both physical and psychological benefits (8).

Non–arthritis-specific physical activity programs may also help people with arthritis. For example, the EnhanceFitness program, developed by the University of Washington, uses flexibility, strengthening, endurance, and balance exercises to increase health outcomes among seniors, 60% of whom are assumed to have arthritis. EnhanceFitness has demonstrated significant improvements in most SF-36 health assessment subscales, including a 35% improvement in physical function (9).

Despite the small number of people with arthritis who are meeting arthritis-specific activity recommendations, 55% of adults with arthritis reported in 2003 that a doctor or health professional suggested increasing physical activity to help joint symptoms (5). Although studies on the results of physician counseling on physical activity are equivocal, a review by the US Preventive Services Task Force concluded that multicomponent interventions that combined provider advice with behavioral interventions such as patient goal setting, written prescriptions, and mailed or telephone follow-up appeared most promising (10). The American College of Preventive Medicine statement on physical activity counseling also recommended use of the five A's model described below (11). Linking physician counseling interventions with community-based physical activity programs may also enhance the effectiveness of physician counseling (10).

Weight Control—"Control Your Weight"

Weight loss is well recognized as a primary prevention strategy for knee OA. Felson and colleagues found that women who lost an average of 11 pounds decreased their risk of knee OA by 50% (12). Obesity is also consistently associated with progression of OA. In a review of the relationship between weight and OA, Felson and

Chaisson concluded that "a modest amount of weight loss (10–15 pounds) is likely to alleviate symptoms and delay disease progression in patients with knee OA" (13). More recently, Messier and colleagues demonstrated that each pound of weight lost resulted in a fourfold reduction in loading forces on the knee per step taken (14).

The Arthritis, Diet, and Activity Promotion Trial (ADAPT) demonstrated that a combined diet and exercise intervention was effective in improving self-reported pain and function, and physical performance measures in moderately overweight to obese adults with knee OA. Participants in the combination arm of the trial lost more weight (5.7% of body weight) and achieved greater health improvements (24% improvement in function, 30% decrease in knee pain) than the exercise-alone or diet-alone participants (15).

The ADAPT study used structured diet and exercise programs, but some commercial and mutual-support diet programs may also be effective. Although not specific to arthritis, community-based programs such as Weight Watchers combine diet modification with physical activity and have a reasonable track record for weight loss. In a large, multisite, controlled trial, Weight Watchers produced a mean weight loss of approximately 5%. In a systematic review of commercial weight loss programs, Tsai and Wadden concluded that although the evidence base is suboptimal, the health consequences of the obesity epidemic necessitate attention to weight issues and referrals to commercial and self-help programs such as Weight Watchers, TOPS, and Overeaters Anonymous (16).

However, the majority of overweight or obese patients with arthritis do not receive professional advice to lose weight. In a 2003 survey, only 37% of the overweight and obese respondents with arthritis reported that a physician or health professional suggested losing weight to help their joint symptoms (5). Mehrotra and colleagues found that receiving professional advice was the strongest predictor of weight loss attempts; obese patients who received professional advice to lose weight were three times more likely to attempt to lose weight than those who did not (17). The five A's brief counseling model described below has been applied to weight loss counseling and the Partnership for Healthy Weight Management website provides information clinicians can use to evaluate weight loss programs (http://www.consumer.gov/weightloss; 18).

PROVIDING SELF-MANAGEMENT SUPPORT IN CLINICAL PRACTICE

Self-management activities need to be, by their very nature, carried out by arthritis patients themselves. However, physicians and other clinicians play an important role in providing self-management support, defined by the IOM as "the systematic provision of education and supportive interventions by health care staff to increase patients' skill and confidence in managing their health problems" (1). Routine clinical practice does not afford the luxury of extended time to provide sophisticated behavioral interventions, but simple behavioral counseling techniques can enhance the effectiveness of provider counseling or physician advice. The five A's model, originally developed to guide smoking cessation, has been applied to self-management strategies such as physical activity and weight loss counseling and can be a useful organizing framework to guide self-management support (18–20).

The Five A's Model

The five A's model is a pragmatic sequence of steps to guide the development of realistic plans for self-management. Each of the five A's outlines a specific task the clinician needs to accomplish regardless of which self-management activity is being promoted. The five A's, as described by Glasgow and others, are summarized below (19).

Assess

Assess current behaviors and beliefs, such as current physical activity level, participation in self-management education programs, or perceived importance of weight loss. When helping patients develop an action plan for the proposed self-management activity it is also important to assess their confidence in their ability to attend class, be physically active, or lose weight, and their intention to do so.

Advise

Offer clear, specific, personalized advice such as the need to lose weight or be more physically active, the benefits of increasing activity or attending an education class, and the risk of not making the recommended change.

Agree

Using collaborative goal setting, negotiate a mutually agreeable, specific, and achievable action plan for change. Realistic self-management action plans need to focus on patients' own goals, talking into account their values, priorities, and confidence in their ability to change. A clinician may see weight loss as the most important goal, but the person with arthritis may see increasing physical activity as a more feasible first step. Written action plans facilitate success.

Assist

Help patients to develop the skills and confidence to achieve their action plan by providing educational materials and referrals to community services such as ASMP (also called the Arthritis Foundation Self Help Program), physical activity programs, or weight loss programs. Also, help them identify who can support their self-management efforts.

Arrange Follow-Up

Successful behavior change requires ongoing support and assistance. Specific referral information such as, "I want you to call the Arthritis Foundation at this number to enroll in a self-help class" or "I want you to check out these three weight loss programs" facilitate self-management activity. Follow-up telephone or e-mail contact can also provide support and reinforcement. Self-management plans should be reassessed on follow-up visits, so progress can be applauded and problems resolved.

It is important for clinicians to use all five A's of the model. In an evaluation of the five A's model in clinical practice for exercise and weight loss counseling, Flocke and colleagues found that Assess and Advise happened frequently, but Assist and Arrange Follow-Up rarely occurred (20). Clinician counseling that skips the assessment step to move right into advice, or that makes referrals without getting agreement on the self-management activity and plan, is unlikely to effectively help patients to incorporate these critical self-management activities in their daily lives.

CONCLUSION

Self-management education, physical activity, and weight loss have all demonstrated health benefits for people with arthritis. All three are embedded in ACR guidelines for arthritis management and the nation's Healthy People 2010 objectives, and are core public health messages. However, evidence suggests that very few people with arthritis attend self-management education programs. Even though the majority of people with arthritis are not sufficiently physically active, more than half of them report receiving physician counseling to increase their physical activity. While more than half the people with arthritis are overweight or obese (5), just over a third of them report receiving physician advice to lose weight to help their arthritis symptoms. These self-management activities are the responsibility of the person with arthritis, but health care providers play an essential role in providing the necessary support to facilitate patient self-management.

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