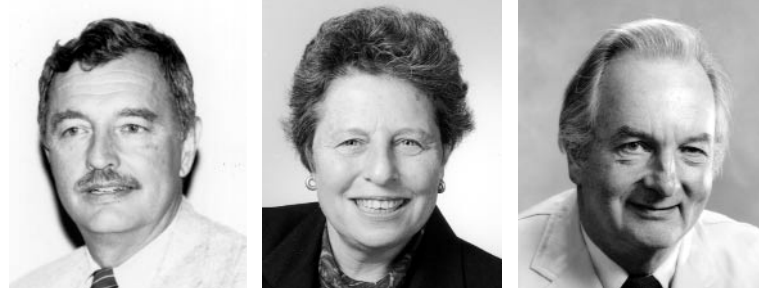


Editorial

Patient Self-Management in Arthritis? Yes!



Nearly 2 decades ago a new treatment modality was proposed as an important therapeutic adjunct for patients with arthritis: self-management¹. An underlying premise was that absent the help of the patient, optimal chronic disease outcomes could not be attained. The choice of the term “self-management” was deliberate and is important. It is not “self-care,” although it includes this domain, because it also includes making appropriate use of professional medical care. It is not “patient education” in the traditional sense, since it is directed at changes in health status and appropriate health care utilization rather than an accumulation of knowledge and to a lesser extent behavior change.

The new treatment modality was effective¹⁻³. It reduced pain, sometimes reduced disability, improved fatigue, and reduced utilization of medical services. It was effective for at least 4 years. Effectiveness was documented by a number of well controlled studies by multiple groups in different settings with different ethnic groups and in different countries⁴⁻¹¹. The Arthritis Self-Management Program (ASMP) was endorsed and recommended by the US Centers for Disease Control, the Arthritis Foundation, and the American College of Rheumatology (ACR)^{11,12}. It has led to similar efforts in other areas of medicine, such as pain, back pain, and a generic chronic disease course¹³⁻¹⁸.

The mechanism of action of a new treatment is always of interest, and often not certain. The ASMP was originally expected to work through: (1) Encouraging exercise, use of nonpharmacologic pain-management techniques, and through specific resource recommendations, exercise prescriptions, relaxation techniques, cognitive distraction, use of aids and devices, and action plans¹⁹. (2) Use of a series of 6 weekly 2-hour interactive seminars with 2 trained lay leaders, at least one of whom had arthritis and could serve as a role model for participants.

A third mechanism of action, improvement in personal perceived self-efficacy, subsequently proved to be perhaps

the most important. Improvement of the patient’s confidence that they can manage the consequences of their arthritis enabled the person to actively seek and implement solutions. As an explanatory variable, perceived self-efficacy explained more of the variance in outcomes than any other variable^{20,21}. Most of the more than a dozen studies of the ASMP model over the past 15 years of which we are aware have been positive, except for one²². This is extraordinarily reassuring, since concerns about maintaining high leader quality in relatively unsupervised settings have always been present.

The single dissenting study²² thus requires critical dissection. This study, by Solomon and colleagues in a recent issue of this journal, attempted to evaluate the ASMP course in patients recruited from a primary care physician network in a “randomized control” study, and concluded that the program was not effective in such a setting. This would be a serious conclusion, since it would imply that ASMP-type courses should not be given to primary care patients. Leaving aside caveats such as that this was a single network with a single trainer and that other primary care patient populations such as those in the Kaiser Permanente system have been found to improve with these interventions, there are serious and unsettling flaws in their study design and execution²³.

First, this was not a randomized trial, despite the misleading use of this term in the title. The authors randomized 12 sites into 2 groups of 6; patients were not randomized. It is of course permissible to use groups as the unit of randomization, but use of only an “n” of 6 is inadequate to ensure balanced groups. Then, when recruitment into the course lagged, they transferred a large control site into the intervention arm! Thus, this is not a randomized trial, and the unbalanced treatment groups further document this. The intervention group had about half the number of patients with rheumatoid arthritis (RA), was 7 years older, was more

See Patient self-management in arthritis? Yes, more research! page 1133.

numerous, less educated, and less affluent. In all, 6 of 20 baseline variables differed significantly between groups; such differences would be highly unlikely in a truly randomized study. The effect of this imbalance is hard to predict, but it suggests the likelihood of other, unmeasured, major differences between groups as well as those reported.

Second, Solomon, *et al* used an active control, *The Arthritis Helpbook*²⁴, in the control group, which may have had the result of lowering between-group differences. Most prior work has either used questionnaire-only controls or has used information-only controls such as Arthritis Foundation pamphlets, in order to minimize the likelihood that the control group would have been given an active intervention. The *Helpbook* is the major resource of the ASMP course, and is aimed directly at the identical goals of behavior change and self-efficacy improvement as the group interactions of the course. Solomon, *et al* had, as they acknowledge, great difficulty in patient recruitment and retention. Only 12% agreed to participate. Only 50 and 62% of the intervention and control groups, respectively, completed the study. Of those characterized as study "completers," only 84% actually had actually completed two-thirds of the course.

Additionally, there may have been a problem with study design and data collection. In previous studies, even in large health plans, the study completion rate is usually above 80%. With the very high dropout rate in the Solomon study it is difficult to draw any conclusions about the intervention. A final problem involves the actual delivery of the ASMP, which was designed to be delivered by a pair of lay leaders, at least one of whom had arthritis and thus could serve as a role model for the participants. From the article it appears that there was only one leader who was sometimes "assisted" by someone with arthritis. Based on this and some of the content that was listed that is not in the ASMP protocol, there are questions about the fidelity of delivery of the intervention.

On its face, one would not expect patients in one kind of practice or another to be more or less responsive to a self-management program, particularly when the physicians are not involved in the study, which selects subjects by diagnostic codes from an administrative database. We find it curious that Solomon, *et al* selected the "practice setting" explanation for their results, which goes against prior literature, as opposed to discussing recruitment bias, lack of randomization and resulting imbalances between groups, possible ineffective program delivery, effects of having an active control intervention, or high dropout rates, which we suggest are far more likely.

Granting the success of the ASMP program and the repeated documentation of its effectiveness in many settings, why have only a small minority of persons with arthritis actually taken the course? A large issue is access to the course because of logistical problems, with courses

offered generally once or twice a year in a metropolitan area at locations unavoidably inconvenient for many. There is an accompanying capacity issue, where the number of lay leaders that would be required to lead small groups for many millions of persons with arthritis is immense. There are 3 approaches to these problems, which together may take arthritis self-management into the next era.

First, by systematically placing self-management programs within health care delivery systems, and repeating offerings over several years, there is growing evidence of increased patient participation. While initial enrollments may be only 10 or 15% of those eligible, with regular offerings participation rates increase markedly. Such system-wide implementation of our Chronic Disease Self-Management Program (ASMP's sister program) is now being undertaken by the Kaiser Permanente System, Health Insurance Plan of New York, Health Care Cooperative of Puget Sound, the National Health Service of England, and more than 100 other health care organizations^{23,25}. Patient education is recommended by the ACR for osteoarthritis of the hip and knee²⁶.

Second, there is now a mail-based program termed "SMART" (Self-Management Arthritis Relief Therapy) that provides the same approach to improved self-efficacy and behavior change as the ASMP. It uses a computer-supported "tailored print intervention" with a series of interactive questionnaires and responses enabling very personalized recommendations. The program includes the *Helpbook*. This intervention has been studied in 3 truly randomized trials including managed care, rheumatologist patients, and primary care patients, with major effectiveness documented^{27,28}. Results have been similar to those with the ASMP course, with the increased specificity of recommendations offsetting the loss of extensive person-to-person interaction. A mail-delivered program allows access to any person at any time. Computer-based algorithms and operations permit applications of essentially any size.

Third, we are developing, with National Institutes of Health support, a Web-based ASMP program embodying the same principles and materials. Features include an interactive "learning center" where participants can learn self-management techniques, a "communications center" where participants and leaders can interact by use of bulletin boards and e-mail, and a personal "my stuff center" where participants can keep progress logs, journals, and medication records. Preliminary Web applications in low back pain and in generic chronic disease suggest that these efforts are likely to be effective.

Increased patient self-management of chronic illness is essential to improved patient outcomes. The magnitude of effect of such interventions in arthritis is similar to that of nonsteroidal antiinflammatory drugs, with rather less gastropathy, and with effects that are additive to those of medical treatment. Yet these interventions remain unfamiliar

to many and poorly understood by others. It is time for broader dissemination, and that will require efforts from all of us.

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