Overcoming Barriers to Successful Aging

Self-Management of Osteoarthritis

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Maintaining a full and independent life is the essence of successful aging. In the process of aging, health-related events occur that compromise one's activities or even one's independence. Successful reversal of, or compensation for, those events is a component of successful aging. Osteoarthritis, a prototypic chronic disease, is such an event. Essentially incurable, it compromises comfort, physical function, and sometimes independence. In this article we address the ways in which patients, physicians, and other health professionals, working together, can minimize or prevent the harmful consequences of osteoarthritis.

Chronic disease is the principal health problem confronting persons above the age of 65 years. The average person above that age has two identifiable chronic diseases, the presence of which may or may not have an effect on that patient's life.[1] After age 65, arthritis is the foremost cause of disability[2] and osteoarthritis is the principal form of arthritis. Osteoarthritis does not kill; rather, it causes chronic pain and disability. In the absence of a cure, the therapeutic goal is to minimize the disease and its consequences over time. In many ways the management of osteoarthritis provides a model for the management of chronic diseases in general and for the art of graceful aging in particular.

Osteoarthritis results from the disintegration of intra-articular cartilage and from new bone formation around damaged joints. The cause of these changes is not clearly known. The process can be variable, affecting different joints at different times and fluctuating in both the rate of change and the symptoms that result. Inflammation is not commonly involved. Standard medical management consists of the use of systemic analgesic medications, exercise to maintain joint mobility and related muscle strength, and surgical replacement of badly damaged joints. When inflammation is present, intrarticular corticosteroid medications can be helpful. Overall, such treatment is moderately successful in diminishing symptoms but is rarely curative. In particular, it does not stem the progress of the disease. Therefore, discomfort and disability tend to increase over time, intensifying a patient's search for relief.

In general, conventional medical treatment of osteoarthritis addresses the abnormal biology of the disease but little else. As with most chronic diseases, the abnormalities associated with osteoarthritis are only part of the problem. In addition to symptoms such as pain and limited motion, the disease causes reduced physical capability, compromised work capacity, a restriction of social activities, and heightened emotional distress. Taken together, the disease and its consequences create an illness; the patterns of illness vary from patient to patient and change in the same patient over time. Moreover, the different components of the illness interact with one another, adding to the overall complexity and sometimes severity of the illness. For example, pain, loss of social contact, and diminished income can all create emotional distress, which in turn contributes to reduced physical activity. Similarly, lessened use of affected joints leads to muscle deconditioning and reduced strength, thereby increasing disability. These circumstances are intensified when more than one chronic disease is present. In that situation, biologic

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abnormalities, their consequences, and the adverse effects of treatment often interact, creating even more complex illness patterns.

The appropriate management of osteoarthritis is often more complicated than the mere application of conventional medical treatment. Not only must the immediate effects of abnormalities be addressed, the many other consequences also require attention. This entails knowledge of those consequences, including what corrective action must be taken to minimize or prevent them. In our view, the key to appropriate management is recognizing that the patient is the principal caregiver, sometimes with the help of his or her family. This becomes obvious when we consider the tasks that patients must perform, alone or with the family: using medications properly, changing behavior to improve symptoms or slow disease progression, interpreting and reporting symptoms accurately, adjusting to new social and economic circumstances, coping with emotional consequences, and participating in treatment decisions. It is the responsibility of physicians and other health professionals, and of the health care system in general, to help patients and their families become skilled at these tasks, to reinforce and support their efforts, and to provide the lines of communication and services that facilitate the new behavior pattern. This in turn means creating an effective partnership between the patient and the responsible physician, one in which each bears clearly identified responsibilities for the management program.[3]

The skills vital to the central role of patients in the care of osteoarthritis may be summarized as follows:

- *Using medications properly*

The proper use of medication requires understanding the medication, its purpose, benefits, and possible adverse side effects; finding easy ways to remember when to take medications; and having prompt access to advice when problems arise. In the management of osteoarthritis, the purpose of medications is to control pain, not to suppress inflammation. Acetaminophen has been shown to be as effective in this regard as more expensive analgesic and antiinflammatory drugs. In the management of chronic arthritis, nearly 50% of patients do not fully comply with medication regimens.[4,5] Although noncompliance may be attributable to the ineffectiveness of the medicine, poor understanding, a lack of accessible advice, or an unsatisfactory relationship with the physician are also known to be contributing factors.

- *Changing behavior to improve symptoms or slow progression of the illness*

For a patient with osteoarthritis, many other behaviors in addition to proper medication use may be helpful. For example, pain can often be relieved by using relaxation or cognitive distraction techniques, or even heat or cold to the painful area.[6] Also, regular exercise of affected joints, especially endurance exercise, not only retains mobility but counteracts the loss of muscle strength from disuse.[7,8] Illness progression is often as much created by loss of mobility and strength from disuse as it is by the arthritic process itself. Thus, progression can be limited by appropriate exercise. Similarly, persistence in social activity despite handicap or deformity will minimize depression, which by itself can intensify the seriousness of an illness.

- *Interpreting and reporting symptoms accurately*

Patients with osteoarthritis need to interpret and report their symptoms accurately. This is important for two reasons. First, only the patient knows accurately the full effects of the disease and its treatment. Reporting symptoms and side effects to health professionals is critical to the design and midcourse correction of treatment programs. Thus, patients need to acquire skill in recognizing and describing symptoms. Second, accurately interpreting symptoms is central to effective self-management. For example, if pain is interpreted as indicating disease progression, the patient will tend to avoid activities that increase pain. If, on the other hand, the pain is interpreted as stemming from an effect of the disease such as deconditioning, then for therapeutic reasons the patient should increase activity, especially exercise. Similarly, if physical weakness is interpreted as a consequence of disease that is responsive to medication, medication will tend to be increased; if it is seen as a consequence of deconditioning, exercise would be the appropriate therapeutic measure. In addition, medications have potential adverse effects, some of which mimic symptoms of arthritis. Accurate discrimination of symptoms allows appropriate responses. Such reframing of symptom interpretation is central to selecting suitable strategies of both management and professional treatment.

- *Adjusting to new social and economic circumstances*

Discomfort and disability can restrict a person's social life and work capacity, leading to increased isolation. The maintenance of normal activities is a primary goal of successful aging. Reorganization of the time, place, context and duration of social contacts can minimize the handicapping effects of osteoarthritis. Similarly, adjustments in working conditions, such as the use of assistive devices and sheltered workplaces can be of substantial aid in maintaining a person's productivity.

- *Coping with the emotional consequences of osteoarthritis*

Worry, frustration, anxiety, and situational depression are common accompaniments of physical discomfort and handicap. It is crucial that patients perceive them as symptoms of the underlying disease and its consequences and not as personal failings. Recognizing negative emotions as symptoms allows patients to address their condition in practical terms. They can do this in the following ways: by encouraging greater tolerance and understanding, by themselves and their families; by seeking to improve their situation through self-management activities; by forming new social or work habits and connections (for example, joining a support group); and by the appropriate use of medications.

- *Use of community resources*

Many communities offer programs of value to persons with osteoarthritis. These include organized exercise programs, swimming facilities, information meetings, social activities, self-help education, support groups, and mobile services for transportation and meals. The Arthritis Foundation and its chapters are a ready source of information about such activities and services.

- *Developing a partnership with the physician and other health professionals*

The foundation of effective management of chronic arthritis is the development of a partnership between patients and health care professionals. Patients know best the effects of the disease and its treatment, how well self-management practices are working, and what they hope to achieve in the future. The physician and other health professionals, on the other hand, know best the general methods for managing osteoarthritis, the available self-management methods and the strengths and weaknesses of different medical or surgical approaches. All those involved in this partnership, both patients and health care professionals, can contribute knowledge of community resources. Integration of this knowledge leads to the most appropriate management program.

How can the patient's role be achieved? There are three realms where action by the health care system is necessary. The first is developing and installing patient education programs which impart both the knowledge and the skills for self-management and for partnership with health professionals. The second is achieving new behaviors by physicians and other health professionals that support patient education, that reinforce and sustain self-management practices, and that create an environment that enables a partnership to emerge and grow. The third is reorganization of health services to provide the patient education, to support physicians and other providers in their new responsibilities, to facilitate easy communication between patients and health care providers, and to reorganize finances to support the new services.

Substantial evidence is available concerning the benefits of patient education in the management of osteoarthritis and other forms of chronic arthritis. A meta-analysis of previous studies was published in 1987.[9] Additional studies have assessed the value of different self-management forms.[10–14] In our own studies, participation by patients with osteoarthritis in the Arthritis Self-Management Program (ASMP) led to substantial declines in pain and depression, as well as a reduction in the use of health services.[10] Four years after participating in ASMP, without follow-up reinforcement, patients continued to report major reductions in pain and in the use of health services despite a 9% increase in measured physical disability.[15] The cumulative evidence for the benefits of self-management in cases of osteoarthritis, coupled with similar evidence for its effectiveness in treating chronic diseases in general, leaves little doubt that this approach provides a valuable supplement to current health care practices.

It is unclear precisely how self-management practices achieve their advantageous results. Following a training program, knowledge grows and patient behaviors change in many ways. We have found, however, that although patient behavior changed considerably, these changes correlated only weakly with the benefits achieved.[16] A much stronger correlation has been found with the patients' perceived ability to cope with the consequences of their arthritis.[17] That is, as a result of training, their confidence in their abilities grew. Interestingly, it emerged from the four-year study that as time went on, patients' confidence continued to grow. This may well explain their sustained reductions in pain as well as their reduced need for medical services.[15] Based on the combined results of the aforementioned studies, it is reasonable to assume that the various effects of training, which include growth in knowledge, the acquisition of specific self-management behaviors, and changes in attitude, all contribute to the beneficial outcomes.

Will the average patient be interested in learning and practicing self-management? This is an important questions for at least two reasons. First, the studies of self-management have been experimental in nature and conducted only in volunteers. Although volunteers have been numerous and participation has been substantial when similar programs have been offered by the National Arthritis Foundation, it is difficult to predict the extent of participation should self-management training be offered to all patients as a routine component of health care service. Second, most of the studies were conducted outside of standard health care institutions. If self-management training can be incorporated into the health care system, with support of the physicians, its appeal may be significantly enhanced. Interest will doubtless vary among patients, but there is reason to expect that it will be substantial. For example, we have recently completed focus group discussions with some of our primary care patients suffering from chronic diseases, the purpose of which was to elicit information about their wishes regarding medical care. Consistently and strongly, these patients identified the following as their most urgent needs: information about the disease and its implications for their lives, easy communication with health professionals, the acquisition of self-management capabilities, and the opportunity to learn from other patients. To give a further example, when participants in the ASMP were asked which components of the program they found most valuable, the most common answers were, first, the opportunity to learn from other patients and, second, the chance to help other patients.[18] Recently the Kaiser health plan in Colorado instituted group visits by patients with their physicians and other health professionals in which the patients set the agenda. Both patients and physicians have rated these test visits as extremely useful and have asked that they be continued.[19] Finally, when physicians who involved patients in decision making were compared with physicians who did not, it was found that patients expressed significantly greater satisfaction with, and were more likely to continue seeing, the former.[20]

What can we expect from our health care system once it has been changed along the lines we are advocating? The clinical and experimental evidence is clear. Assuming that the results can be transposed to a general setting, the outcomes should be as follows:

- Patients will report fewer symptoms, less emotional distress, increased activity, and more independent living.
- There will be decreases in the direct and indirect costs of health care for osteoarthritis in particular and for chronic diseases in general. For example, cost-effectiveness analyses that have been conducted in some of the aforementioned studies on patient self-management education have indicated that the savings in overall health care costs may be eight times greater than the cost of education. As crude as these analyses have been, they do suggest that we can expect substantial savings from the widespread use of self-management practices.
- Both patients and health professionals will report higher levels of satisfaction.

In many ways, the concepts and practices discussed in this article will seem self-evident both to patients with chronic arthritis and to experienced clinicians. But they are not commonplace in contemporary health care. The reasons for the disparity between health care needs and what the health care system currently provides are beyond the scope of this paper. The problem has partly to do with the origin of the health care system at the turn of the last century—at a time, that is, when acute diseases predominated. In that setting, patients were inexperienced and passive; physicians were possessed of all the available knowledge and skill and consequently determined the course of action.[21,22] The problem lies also in the advantages that have accrued to the profession owing to its socioeconomic dominant position.[23] At about the middle of this century, however, matters changed. Chronic diseases replaced acute diseases as the most prevalent cause of medical distress. At the same time, the population of older persons (who disproportionately experience chronic disease) began to increase. Both of these trends have continued steadily. Today the contradiction between a health care system built for acute disease and the chronic health problems that people more commonly have is vividly reflected in the fact that the treatment of chronic disease is responsible for 70% of current health care expenditures.[24]

The urgent need today is to make health care services commensurate with existing health problems. Doing so entails creating new roles for patients, health professionals, and the health care system overall. The starting point for health care reform is to forge partnerships between patients and health professionals. It is the responsibility of the health care system to foster and serve that partnership. Seen from the larger perspective of our country's health care system and the medical needs of its population, the appropriate care of osteoarthritis is a perfect example of both what is not and what needs to be.

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