Commentary: Self-Management Programs in the Treatment of Asthma

Harry Kotses, PhD
Ohio University

Air flow obstruction in asthma may be caused by a number of factors, chiefly inflammation and airway smooth muscle contraction. Over the years, the relative significance of these two events for asthma has varied; sometimes one or the other was thought to be more important. In recent times, more emphasis has been placed on inflammation than on muscle contraction. As knowledge of asthma accumulated, it became increasingly clear that it is an inflammatory disease. Modern methods of controlling the disease, medications that are sometimes remarkably effective, rely primarily on reducing inflammation. At the same time, reduction of airway smooth muscle contraction continues to be a goal of asthma therapy, but its importance is secondary (Busse & Reed, 1988).

Traditional psychological interventions for control of asthma, interventions such as relaxation procedures outlined in this article, reduce airway smooth muscle contraction, not inflammation. The distinction may be made on the basis of studies of healthy individuals who experience no inflammation but exhibit pulmonary function improvement following relaxation (Kotses, 1998). The mechanism for this is unclear, although some form of neural control has been suggested (Glaus & Kotses, 1983). At the same time, evidence that inflammation is controlled by relaxation is lacking. Some even find it difficult to take this proposition seriously. But these considerations do not relegate behavioral interventions to a minor role in the control of asthma. Inflammation may be controlled by behavioral techniques, but indirectly. This has been demonstrated by outcome studies of asthma self-management.

The objective of asthma self-management is to train patients to avoid asthma and reduce attacks (Bailey, Davies, & Kohler, 1998). A combination of education and behavior control procedures may be used to arrive at this goal. Among other things, patients are taught: to manage an asthma attack; to identify their asthma triggers and to avoid them; to recognize the early warning signs of asthma and to use them as cues for initiation of attack management procedures; to take medication properly; and to minimize the consequences of asthma by avoiding or reducing interpersonal and other problems caused by asthma. Throughout asthma self-management training, cues are introduced into the patient’s environment whose purpose is to prompt asthma management activities. The combination of education and behavior control helps the patient to avoid asthma and, if it occurs, to reduce it quickly and efficiently. By accomplishing these goals, self-management leads to a lessening of inflammation.

There is a need for asthma self-management in medicine, one that has been recognized. At a recent meeting of physicians who treat asthma, I was struck by the frequency with which they mentioned behavior problems relating to topics such as medication compliance and avoidance of allergens. To address these problems, self-management is now featured prominently in National Institutes of Health (e.g., National Heart, Lung, and Blood Institute, 1997) publications dealing with management of asthma. Its use in the practice of asthma control is increasing. And the long-range outlook for
asthma self-management, while uncertain, appears to be good. There is every reason to think that asthma self-management will improve in effectiveness as we learn more about behaviors that contribute to asthma. I believe there is a future for self-management in the control of asthma.

I am less optimistic about the future of behavioral relaxation for control of asthma. A number of arguments led me to this conclusion. First, as I implied, relaxation training may alter bronchomotor tone without affecting air flow restriction imposed by asthma. Another way to say this is that asthma is not synonymous with airway smooth muscle contraction. Bronchomotor tone is affected by factors independent of asthma, and its reduction is not necessarily a reduction of asthma. Second, relaxation procedures have yielded increases in air flow that are both small and brief (Kotses, 1998). If improvement in the potency of relaxation for bronchomotor control is not realized, its use for management of asthma may be limited. Third, for patients whose asthma is well-controlled, the degree of incremental improvement afforded by behavioral relaxation is unclear. In my view, these observations are cause for reserving judgment on the use of relaxation as a component of a comprehensive program of asthma management. For the present, this may be a good idea. A definitive answer to the question of effectiveness of relaxation for control of asthma may be forthcoming when researchers get around to evaluating the components of asthma self-management programs.

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References


