Do Pediatricians Use Asthma Management Guidelines, and if Not, Why Not?

Simon Godfrey MD

Institute of Pulmonology, Hadassah University Hospital, Jerusalem, Israel

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The almost universal, progressive increase in asthma morbidity and mortality over the second half of the twentieth century was the stimulus to the development of various guidelines for improving patient care. It is now over 10 years since the first of a batch of asthma management guidelines was published by the National Institutes of Health in the USA [1], shortly to be followed by guidelines published by the British Thoracic Society [2], other national and international bodies and, in 1998, by the Israel Medical Association [3]. These guidelines were prepared by panels of experts in treating asthma and were revised from time to time in the light of experience and changes in the approach to management [4–6]. The guidelines were meant to provide the treating physician with practical tools for evaluating the severity of the asthma, deciding on the most appropriate treatment, and following the progress of the patient. It must be admitted that some of the guidelines, most notably the 'gold standard' Expert Panel Report [5], were so detailed and lengthy as to make them totally unreadable except to the devoted expert. As a result, abbreviated versions had to be developed [7;8], although the Israeli guidelines, coming on the scene at a later date, were constructed with brevity and clarity in mind.

However good and well written the guidelines, they will have no impact on the management of asthma in the community unless they are read, accepted and implemented by those physicians taking care of the majority of asthmatics. As far as children and young people are concerned, these physicians are the community pediatricians and family practitioners rather than hospital-based specialists who generally deal with only the most severe patients or those in whom community care failed. The question of whether or not the asthma management guidelines are being applied has been addressed in a number of ways. Questionnaires sent to patients about their asthma management have shown suboptimal care, and the implication has been made that this is due to widespread lack of adherence to asthma management guidelines [9–12]. Part of the explanation has been the underestimation of the severity of their asthma by patients who have come to accept their symptoms as reasonable [13], which may explain why their physicians have not stepped up treatment. A recent study from the Royal Children's Hospital in Melbourne, Australia, showed that only by an interactive face-to-face educational program of patients could asthma severity be reduced, while group education had little effect on severity [14].

Rather surprisingly, there appears to be relatively little information available in the literature on acceptance and application of asthma management guidelines by community-based physicians as distinct from their patients. In this issue of *IMAJ*, Sarrell et al. [15] describe a survey of Israeli pediatricians and family physicians undertaken one year after they received the Israeli version of the asthma management guidelines. Although the response rate to the questionnaire was only 64%, they still had data from 630 physicians of whom a surprising 75.3% had read and consulted the guidelines but only 30.7% had attended asthma management courses or workshops. Physicians who were fully self-employed tended to consult the guidelines more than those who were fully salaried (83.8% versus 70.8%) and to attend educational programs more (39.0 vs. 27.4%). The relatively high rate of reading and consulting the guidelines may be over-optimistic, since some 36% of physicians polled failed to return the questionnaire and it is fairly safe to assume that there was a majority of non-readers of the guidelines among these non-responders. Why self-employed physicians should have been more involved in reading the guidelines and attending seminars is not immediately evident from the study, although one could speculate that this was related to the need for the self-employed to provide a high standard of care in order to attract patients.

But reading the guidelines is not enough. Do those who have read them put the guidelines into practice when managing their patients with asthma? Finkelstein et al. [16] also found that 72% of the pediatricians they surveyed had read the guidelines, but only 50% were giving their patients treatment 'action plans' as recommended by the guidelines and only 21% were regularly using spirometers in their offices. In a survey of asthma management practices in five European countries, Lagerlov et al. [17] found great variation in practice among countries regarding items that should have been standardized according to the guidelines. Thus the use of inhaled corticosteroids varied from 31% in Germany to 58% in the Netherlands and, for exacerbations of asthma, physicians in Germany and the Slovak Republic often prescribed antibiotics, something which is definitely not recommended in the guidelines. So why are physicians not applying the guidelines even though they read them? Cabana et al. [18] recently surveyed 829 primary care pediatricians to determine whether or not they were applying four elements of the guidelines, and if not, what were the reasons they were not using them. In their study the response rate was only 55%; but of these, 88% had read or had access to the guidelines. Nevertheless, the self-reported compliance with applying the guidelines varied from 39 to 53% for different elements. The

reasons why the pediatricians did not apply the guideline elements studied included lack of agreement regarding the need for or dose of corticosteroids, lack of conviction of the usefulness of daily monitoring of peak expiratory flow, and lack of conviction of the value of counseling against cigarette smoking. Even casual reading of the various guidelines shows why physicians often find them difficult to apply. For example, the original Expert Panel Guidelines [5] imply that the severity of the asthma should be evaluated as if the patient was not receiving any treatment, which is rarely the case, while the British guidelines imply that the severity of asthma is judged by the treatment needed – hardly helpful when trying to decide on what treatment to use [4]. In the most recent version of the Global Initiative for Asthma guidelines [6], the estimation of the severity of asthma partly takes into account the treatment being given. Attitudes can be changed by physician education. In a study by Clark and colleagues [19], 74 general practice pediatricians were divided into a 'treatment' group that was given an asthma education seminar based on the asthma management guidelines and the development of communication and teaching skills, and a 'control' group that did not attend the seminar. Approximately 2 years after the seminar, those physicians in the 'treatment' group were more likely to follow the procedures laid down in the guidelines, their patients had fewer hospitalizations, and the parents rated them higher than those in the 'control' group. Oddly enough, there was no difference in the prescription of anti-inflammatory 'preventer' medications, and the authors suggest that they were simply used more efficiently by the patients of the 'treatment' group of physicians.

So at the present time, although most pediatricians and family practitioners have heard of and read the asthma management guidelines, many of their patients are not being treated according to the guidelines, and many physicians are not applying them in practice. Why is this? Are the guidelines correct? Although the guidelines were written by experts in the field with the very best intentions, it must be admitted that some elements that were included are neither practical nor based on scientifically evaluated evidence. For example, the insistence in the guidelines on giving patients peak flow meters to be used daily for prolonged periods is rarely applied because patients simply fail to use them [20–22]; and in any case, in the rare studies that have been undertaken the validity of such measurements has been called into question [23]. Likewise, patients are rarely willing to continue to use asthma diaries for prolonged periods, and few physicians bother to provide their patients with 'action plans', which anyway are often too complicated for the patient to follow.

Common sense dictates that the provision of simple, practical guidelines to assist the pediatrician and family practitioner in managing asthma in children is very worthwhile, especially in view of the confusing variety of treatments available and the importuning by drug companies to which the physician is constantly subjected. On the other hand, these guidelines need to be acceptable to both patients and physicians and based on evidence-based medicine rather than what may be currently 'politically correct'. Unfortunately, reliable data are extremely difficult to come by and further research is undoubtedly needed.

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Correspondence: Dr. S. Godfrey, Institute of Pulmonology, Hadassah University Hospital, P.O. Box 12000, Jerusalem 91120, Israel.
Phone: (972-2) 677-6417
Fax: (972-2) 563-1601
email: sgodfrey@netvision.net.il