

Is It Time to Admit Defeat on Patient Adherence?



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Despite decades of educating, cajoling, and incentivizing patients with asthma to take their daily asthma controller medication as prescribed, most patients are not willing to do so, and average reported adherence rates are frequently below 50%. Interventions including patient education and physician communication training have been only moderately effective, with no consistent improvement in studies seen between 1985 and 2012¹ or between 2012 and 2018.² We might be tempted to conclude that patients with mild asthma may be doing well enough if they take half their medication, but that conclusion cannot be extended to moderate to severe asthma. Furthermore, studies reporting mean levels of adherence miss one startling fact. Large numbers of patients completely abandon their medication. In a study of 5504 patients with asthma who had filled a prescription for combined fluticasone propionate/salmeterol, fewer than half returned to refill it within 12 months.³ A subsequent study from a Medicaid database reported similar rates of medication abandonment.⁴ In the largest study to date examining refill patterns in 2.17 million patients, 42.7% of those with asthma discontinued use in the first 30 days of treatment, more than in patients receiving medications for diabetes, high cholesterol, cardiovascular disease, breast cancer, glaucoma, or osteoporosis.⁵

The adherence picture cannot be much worse. We now have 40 years of evidence to conclude that we are unable to bend patient behavior to comply with the National Heart, Lung, and Blood Institute Expert Panel Report 3 guidelines. Is it time to admit defeat? Is there a better approach? Should we bend the guidelines to fit patient preference? A partial answer may be to explore giving patients with asthma and parents more control over their medication use. The excellent report by Sumino et al⁶ provides some insight into a strategy that gives patients more leeway when they take their controller medication. In an open-label, pragmatic trial, 206 pediatric patients with mild asthma were randomized to 1 of 2 conditions. Those in the symptom-based adjustment group were instructed to take beclomethasone each time they took albuterol when they experienced asthma symptoms. Those in the provider-based guidelines-directed adjustment group were instructed to take 1 puff of beclomethasone twice daily, every day. Over 12 months, the 2 groups did not differ on Asthma Control Test score (primary

outcome), lung function, or self-reported general health, physician activity, or emotional well-being. Essentially, the symptom-based adjustment strategies give patients and parents what they have for many years preferred⁷ and what 31% of pediatricians have prescribed,⁸ that is, the ability to take their controller medication when they feel a need to take it, and to not use it on symptom-free days. In other words, the Sumino et al study demonstrates no loss of control with episodic inhaled corticosteroid use over a traditional, guidelines-based approach. This approach empowers patients to collaborate with their provider on a treatment plan suited to their needs and preferences, and provides more control over self-management of their disease. It also avoids the scenario where the physician lays out a treatment plan as directed by evidence-based guidelines that is doomed to fail because it will be rejected by patients. As-needed controller medication strategies for adults⁹ and children¹⁰ have been examined elsewhere with similar results and have been embraced in the most recent Global Initiative for Asthma guidelines as a treatment alternative for mild asthma in adults or adolescents. More specifically, step 2 of the Global Initiative for Asthma guidelines indicates that a combined corticosteroid/long-acting β_2 -agonist may be taken as needed, or a low-dose inhaled corticosteroid can be taken whenever a short-acting β_2 -agonist is required.

Of course, numerous questions are left unanswered by the Sumino et al study. The children in this study were all well controlled on entry. In fact, because the diagnosis of mild asthma was based on primary care physician diagnosis, it is possible that some did not have asthma at all. Hence, this cohort may reflect the mildest of mild asthma, and perhaps some of the children might have been taken completely off medication and still remained well controlled. We do not have evidence of whether an as-needed strategy would be effective in children with moderate to severe asthma, although it might be argued that as-needed controller medication may be better than taking no medication. Future iterations of this study might adopt features not present here such as enrolling children who have not been well controlled, including a placebo arm, and using an objective measure to accurately assess β_2 -agonist use. Additional studies may introduce a shared decision-making (SDM) approach to establish what patients prefer and are willing to do.¹¹ Fundamental to SDM is negotiation between physician and patient to arrive at a treatment plan that both find acceptable. Unfortunately, in some settings SDM has been used to try to motivate patients to adhere to a guidelines-directed treatment plan instead of allowing the physician to find compromise that respects patient preferences. In a true patient-centered SDM program, patients exercise greater control and a compromised but realistic plan that may not perfectly follow established guideline treatment directives is established. Future medication-as-needed studies may adopt an SDM strategy that sets up a

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patient-centered approach to reach a treatment plan to which the patient is willing to adhere.

Finally, the Sumino et al study was a pragmatic trial, designed to test an intervention in the “real world” as opposed to a highly controlled randomized controlled trial.¹² Randomized controlled trials typically accept subjects within narrowly defined criteria and often include a behavioral run-in to exclude those who do not adhere to the study protocol. Although this approach is particularly important to understanding the effect of a medication on a disease, when human behavior is involved, randomized controlled trial results do not always accurately translate successfully into practice. Pragmatic trial designs are therefore particularly helpful when, as in the case of the Sumino et al study, the investigators wish to understand how well patients adopt self-management strategies. Such trials will continue to be important sources of data in future studies of as-needed medication use and disease control.

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