

Solving the Problem of Nonadherence to Immunotherapy



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KEYWORDS

- Allergen immunotherapy • Adherence • Patient-centered care
- Shared decision making • Motivational interviewing

KEY POINTS

- Fewer than one-half of patients complete a course of allergen immunotherapy.
- Very little research has been conducted to address nonadherence to immunotherapy.
- Communication models including patient-centered care, shared decision making, and motivation interviewing can be used to help improve immunotherapy adherence.
- Sensitivity to health literacy, language, and cultural differences are also important to improved immunotherapy adherence.

INTRODUCTION

Allergen immunotherapy (AIT) is an effective form of therapy to treat subjects with allergic rhinoconjunctivitis, allergic asthma, stinging insect hypersensitivity, and atopic eczema. It involves the gradual administration of increasing doses of the causative allergens, for example, inhalant allergens for allergic rhinoconjunctivitis, asthma, and atopic eczema and stinging insect venom allergens for individuals allergic to Hymenoptera or stinging insects. Whereas conventional vaccination, for example, tetanus or diphtheria, initiate and boost the immunologic memory and thereby protect against these diseases, AIT decreases established immune responses mediated by immunoglobulin (Ig)E and allergen-specific memory T cells through a gradual and controlled exposure to the offending allergens.¹

Subcutaneous immunotherapy (SCIT) has been used to treat allergic diseases for over a century; however, it was not a universally accepted form of therapy until the end of the 20th century when the World Health Organization (WHO) sponsored a

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treatise on AIT entitled “WHO Position Paper, Allergen Immunotherapy: Therapeutic Vaccines for Allergic Diseases.” This treatise summarized the scientific evidence for such therapy and broadened its appeal to physicians and subjects who suffer from these diseases throughout the world.²

New forms of AIT, particularly sublingual immunotherapy (SLIT), now complement SCIT. However, as with any form of therapy, efficacy depends on appropriate diagnosis, selection, and education of patients who suffer from these diseases. Many subjects who begin a course of either SCIT or SLIT for a variety of different reasons do not complete or continue these forms of therapy.

ADHERENCE TO ALLERGEN IMMUNOTHERAPY

Despite the clinical value of AIT, patient adherence is often very low. Reports of AIT adherence rates have varied greatly. For example, a review of 12 studies (6 SCIT, 5 SLIT, and 1 nasal immunotherapy) reported adherence rates ranging from 27% to 97%.³ Variance in reported adherence likely reflects differing methodologies used to measure adherence. AIT clinical trials that rely on self-report data record unrealistically high adherence rates for reasons that include the implied obligation of patients to use their medication in the trial setting and inaccuracy of diary card data. Further, the adherence of clinical trial dropouts is frequently omitted from the reported data, thus further inflating an artificially high adherence rate. The consequence of these factors creates a distorted picture of actual adherence in clinical settings. For example, diary card trials have reported mean SLIT adherence rates of 87%,³ 99%,⁴ 90%⁵ and 80%.⁶ Self-report by means other than diary card is similarly subject to exaggeration. Of 71 families of SLIT-treated children interviewed by telephone, 84% reported adherence of greater than 75% at 6 months, again with no objective confirmation.⁷ Despite seeming to be more objective, chart review studies fare only slightly better because they still rely on patient self-report.^{5,6} Objective, methodologically sound measurement of adherence has often been absent from AIT trials. However, informative data emerge in asthma trials that have clearly demonstrated the inaccuracy of patient self-report when compared with objective adherence measures. In the final year of the 4-year Childhood Asthma Management Program clinical trial, patients on average took only 52% of their controller medication (as measured by returned medication), while reporting 91% adherence on diary cards (Fig. 1).⁸ In a 4-month study of 104 children with asthma, inhaled corticosteroid adherence measured by an electronic

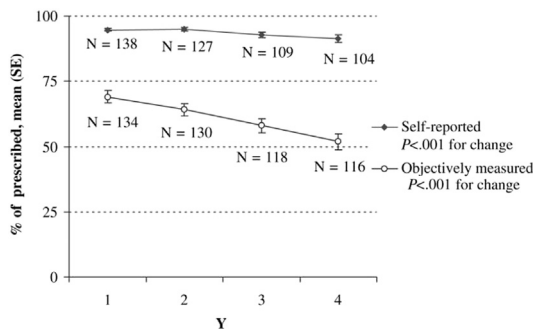


Fig. 1. Objective and self-reported adherence to asthma controller medication. SE, standard error. (From Krishnan J, Bender B, Wamboldt F, et al. Adherence to inhaled corticosteroids: an ancillary study of the childhood asthma management program clinical trial. *J Allergy Clin Immunol* 2012;129:112–8; with permission.)

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