Evidence Report/Technology Assessment
Number 67

Management of Allergic Rhinitis in the Working-Age Population

Agency for Healthcare Research and Quality

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Preface

The Agency for Healthcare Research and Quality (AHRQ), through its Evidence-based Practice Centers (EPCs), sponsors the development of evidence reports and technology assessments to assist public- and private-sector organizations in their efforts to improve the quality of health care in the United States. The reports and assessments provide organizations with comprehensive, science-based information on common, costly medical conditions and new health care technologies. The EPCs systematically review the relevant scientific literature on topics assigned to them by AHRQ and conduct additional analyses when appropriate prior to developing their reports and assessments.

To bring the broadest range of experts into the development of evidence reports and health technology assessments, AHRQ encourages the EPCs to form partnerships and enter into collaborations with other medical and research organizations. The EPCs work with these partner organizations to ensure that the evidence reports and technology assessments they produce will become building blocks for health care quality improvement projects throughout the Nation. The reports undergo peer review prior to their release.

AHRQ expects that the EPC evidence reports and technology assessments will inform individual health plans, providers, and purchasers as well as the health care system as a whole by providing important information to help improve health care quality.

We welcome written comments on this evidence report. They may be sent to: Director, Center for Practice and Technology Assessment, Agency for Healthcare Research and Quality, 6010 Executive Blvd., Suite 300, Rockville, MD 20852.

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Structured Abstract

Objectives. This report assesses the evidence on how allergic rhinitis affects costs and work performance in working-age populations; the effectiveness of environmental measures, immunotherapy, and combination pharmacologic therapies; differences in treatment approaches and outcomes by clinician specialty; and variability in prevalence, treatment patterns, and outcomes by patient race and ethnicity.

Search Strategy. Nearly 1,600 English-language articles were identified principally from searches of MEDLINE, CINAHL, Cochrane Database of Systematic Reviews, DARE, International Pharmaceutical Abstracts, EconLit, and EMBASE.

Selection Criteria. Studies were included if the study population had allergic rhinitis, and if the study provided data on one of the key research questions and met minimal level-of-evidence criteria. We required patient-assessed symptom outcomes for efficacy questions.

Data Collection and Analysis. We summarized descriptive data in evidence tables and evaluated each study for methodological quality. Meta-analysis was considered when multiple studies on the same topic provided quantitative outcome data.

Main Results. Estimates of the effect of allergic rhinitis on *work performance* are variable. Patient-reported level of work impairment associated with allergic rhinitis ranged from 33 to 41 percent using a standardized validated instrument, with demonstrable improvement by seven to nine percentage points after treatment. Studies that directly measure work performance generally show lower degrees of impairment.

A few trials of *environmental control measures* in highly selected patients suggest that dust mite control measures decrease rhinitis symptoms. There is no strong evidence that air filtration systems decrease rhinitis symptoms.

Multiple trials of specific injection *immunotherapy* show improvement in symptoms compared with placebo. No serious adverse events were reported, and immunotherapy was well tolerated. Primary quality concerns are small trial size, lack of standardized clinical outcome assessments, and issues related to randomization procedures and concealment of allocation.

Combination symptomatic pharmacotherapy with antihistamines plus decongestants shows positive effects compared to monotherapy with either antihistamines or decongestants alone. Combination treatment with antihistamines plus nasal glucocorticoids shows positive effects compared to antihistamine alone, but no difference when compared to monotherapy with nasal glucocorticoids.

Little is described in the literature regarding patterns of allergic rhinitis care by *clinician specialty.* Several studies point to less-than-adequate knowledge regarding allergy treatment among patients in general medical practice. Two studies suggest that specialist clinician-delivered patient education results in improved allergic rhinitis symptoms.

Allergic rhinitis occurs in similar proportions across *racial and ethnic groups* in epidemiological studies, but there are essentially no data describing variation in treatment or outcomes by race or ethnicity.

Conclusions. Allergic rhinitis clearly has a negative impact on *work performance,* but the magnitude of this impact differs depending on the methodology used to measure it. Estimates of the effect of allergic rhinitis on *healthcare costs* appear to be unreliable. *Environmental measures* to reduce allergen exposure have not been definitively shown to be effective, with the possible exception of house dust mite controls. Specific *immunotherapy* is more effective than placebo, and *combination pharmacotherapy* is generally more effective than monotherapy for symptom control. There are insufficient data from which to draw conclusions about differences in treatment approaches between *generalist and specialist physicians* and in treatment patterns or outcomes by *patient race or ethnicity.*

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