Original Article

Findings from an Online Survey Assessing the Burden and Management of Seasonal Allergic Rhinoconjunctivitis in US Patients

Eli O. Meltzer, MD[a], Judith Rosen Farrar, PhD[b], and Cary Sennett, MD, PhD[c] *San Diego, Calif; Canandaigua, NY; and Landover, Md*

What is already known about this topic? Symptoms of seasonal allergic rhinoconjunctivitis (SARC) affect 16% or more of the US population annually with demonstrated negative impact on sleep, daily activities, productivity, concentration, and emotions.

What does this article add to our knowledge? The patient-perceived burden of SARC assessed by an online survey is discussed in relation to newer treatments, increased access to treatments, and changing management protocols.

How does this study impact current management guidelines? The data suggest that patient expectations for therapy are increasingly being met and patients are taking more responsibility for their (child's) condition. Continuing to educate patients about SARC and its treatment remains a priority.

BACKGROUND: Seasonal allergic rhinoconjunctivitis (SARC) affects ≥16% of the US population annually. Telephone and in-office surveys have demonstrated negative effects of allergic rhinitis (AR) symptoms on sleep, daily activities, productivity, concentration, and emotions.

OBJECTIVE: The objective of this study was to assess the patient-perceived burden of SARC in relation to newer treatments, increased access to treatments, and changing management protocols.

METHODS: An online survey of symptom experience, impact on daily life, and management was conducted in US respondents who suffer (or whose child suffers) from SARC symptoms.

RESULTS: A total of 1001 surveys were completed: 500 adults (≥18 years old) and 501 children (12-17 years old, documented by their parents). Similar to earlier AR surveys, SARC symptoms negatively affected the patient's (and family's) quality of life, and were most severe in the spring. Before being treated, >50% of respondents reported daily symptoms during their season; 75% to 80% considered their symptoms moderate to severe. Patients saw a variety of health care professionals (including pharmacists) and used over-the-counter and prescription medications for symptoms. Those using prescription medications were generally more satisfied with treatment and less likely to switch or discontinue treatment. Nasal and/or ocular symptoms drove adherence, seeing a health care professional, and reviewing and/or changing treatment.

CONCLUSIONS: The majority of patients with SARC report moderate-to-severe symptoms that significantly impair their quality of life. However, patients appear to be taking more responsibility for their (child's) condition, and patient expectations for therapy are increasingly being met. Continued efforts will be needed to examine the contribution of better information and/or increased access to and availability of medications to control the disease. **(J Allergy Clin Immunol Pract 2016;■:■-■)**

Key words: *Allergic rhinitis; Antiallergic treatment; Nasal/ocular allergy symptoms; Patient perception; Quality of life; Questionnaire; Seasonal allergic rhinoconjunctivitis; Survey*

Seasonal nasal and ocular allergy, often referred to as seasonal allergic rhinoconjunctivitis (SARC) and sometimes as "hay

[a]Division of Immunology and Allergy, Department of Pediatrics, University of California San Diego School of Medicine, and Allergy and Asthma Medical Group and Research Center, San Diego, Calif

[b]Academic Services Connection, Inc., Canandaigua, NY

[c]Asthma and Allergy Foundation of America, Landover, Md

This work was supported by an unrestricted educational grant from MEDA Pharmaceuticals Inc.

Conflicts of interest: E. O. Meltzer is self-employed; has received consultancy fees from AstraZeneca, Boehringer-Ingelheim, Church & Dwight, GlaxoSmithKline, Greer, Johnson & Johnson, Meda, Mylan, Regeneron/Sanofi, and Teva; has received lecture fees (including service on speakers bureaus) from Greer, MEDA, Merck, Mylan, Takeda, and Teva; has received payment for developing educational presentations from Glenmark and the American College of Allergy, Asthma & Immunology. J. R. Farrar has received payment for writing or reviewing a manuscript with Asthma and Allergy Foundation of America (AAFA) (where their authorship was noted). C. Sennett's institution has received a grant from MEDA; and is employed by AAFA.

Received for publication August 21, 2016; revised October 5, 2016; accepted for publication October 14, 2016.

Available online ■■

Corresponding author: Eli O. Meltzer, MD, Division of Immunology and Allergy, Department of Pediatrics, University of California San Diego School of Medicine, and Allergy and Asthma Medical Group and Research Center, San Diego, CA. E-mail: eliomeltzer@gmail.com.

2213-2198

http://dx.doi.org/10.1016/j.jaip.2016.10.010

Abbreviations used
AR- Allergic rhinitis
HCP- Health care professional
INAH- Intranasal antihistamine
INCS- Intranasal corticosteroid
OTC- Over the counter
QoL- Quality of life
SARC- Seasonal allergic rhinoconjunctivitis

fever," is a common chronic disease, estimated to affect upward of 16% of the population of the United States in any one year.[1-3] Although estimates of the incidence and prevalence can vary widely depending on the specific population and analyses used,[3,4] trends indicate that neither has diminished despite a better understanding of the condition, new pharmacological and immunological treatments, and increased access to care. Indeed, patient-reported and/or physician-diagnosed seasonal nasal and ocular symptoms seem to have become more common.[3,5-8]

Patients commonly report bothersome symptoms affecting the nose (congestion, sneezing, itching, rhinorrhea) and eyes (itching, redness, watering, swelling) that can vary in frequency, intensity, and seasonality. The underlying mucosal inflammation also can exacerbate other conditions, and symptoms can impair patients' quality of life (QoL).[4,6] For children in particular, symptoms can negatively impact family and daily activities.[9] Management requires a multifaceted approach for most individuals, and the patient (and/or parent/caregiver) needs to understand the disease, its variability, and how and when treatment works to optimize clinical outcomes.[3,7,8,10] Standard approaches to manage SARC include environmental control methods, pharmacotherapy, and immunotherapy; patient education is critical for day-to-day care.[3,10] Discussion of management is beyond the scope of this paper, and readers are directed to several excellent reviews as well as current guidelines.[3,7,8,10-12] The goal of treatment is control of the disease, which translates to minimal symptoms and improved well-being and ability to function for the patient (and family).[3,6-8,10]

Data reported over the past 15 years from surveys of individuals with nasal allergies in the United States and health care professionals (HCPs) who treat these individuals illustrate how burdensome allergic rhinitis (AR) can be (Table I).[4,5,9,13-17] The surveys included patients with both perennial and seasonal allergy symptoms, and many patients had a combination of year-round symptoms that became worse in certain seasons. No survey focused predominantly on patients with seasonal allergy. Overall, the findings suggested that the impact of AR and its management had been underestimated, and conversations have ensued regarding best approaches for improving outcomes. Whether the outcomes have changed since then is of interest, particularly with the availability of newer drug products (eg, aerosolized intranasal corticosteroids [INCS], intranasal antihistamines [INAH], INAH+INCS combination, sublingual immunotherapy), increased over-the-counter (OTC) access to medications, and continued discussion of best paths to management. This paper describes an online survey undertaken to assess patients' perceptions of SARC, its impact on daily life, and its management.

TABLE I. Key outcomes of phone and paper surveys of patients with allergic rhinitis and health care professionals (HCPs) who treat those patients in the United States[4,5,9,13-17]

In previous surveys patients with allergic rhinitis and HCPs reported that:
The worst season for nasal and eye allergy symptoms was spring.
The most bothersome symptom was nasal congestion/stuffiness/blocked nose.
Nasal and ocular allergy symptoms negatively affected physical and emotional health, daily activities, cognitive ability, and productivity, and contributed to missed work and school days.
Patients used over-the-counter and prescription medications to reduce their symptoms—predominantly oral nonsedating antihistamines and intranasal corticosteroids.
Treatment dissatisfaction was high, and reflected incomplete relief, slow onset of relief, duration of relief less than 24 h, and/or a sense of reduced efficacy with use over time.
Inadequate efficacy was the primary reason for discontinuing or changing medications.
Nasal and ocular allergy exacerbated comorbid conditions, particularly asthma and rhinosinusitis.

METHODS

Survey

The survey was conducted online in the United States between March 2 and March 9, 2015, by Nielsen Consumer Insights on behalf of the Asthma and Allergy Foundation of America. The inclusion criteria for survey respondents were as follows:

- Ages 18 years or older
- Personally suffers (or has a child, aged 12-17 years, who suffers) from nasal and/or ocular symptoms of seasonal allergies
- Confirmed by a physician based on the question "Have you been told by a doctor that you have (or your child has) any of the following conditions…" as shown in Appendix E1, available in this article's Online Repository at www.jaci-inpractice.org
- Has sought treatment from a medical professional for SARC symptoms for themselves or their child in the past year

The survey was designed to be approximately 15 minutes in length and to obtain information on patient and/or parent perspectives of the burden of nasal and ocular seasonal allergy symptoms occurring at a time when they (their child) typically experienced symptoms (as opposed specifically to the week of survey administration). Survey design was similar to earlier phone surveys[4,5,9,13-17] but updated given the availability of newer prescription and OTC medications since those surveys were conducted. The survey is shown in Appendix E1, available in this article's Online Repository at www.jaci-inpractice.org.

Sample source

The sample source was derived from a Harris Poll panel of respondents for online consumer research supplemented by similar online panels from various Nielsen research partners. The sample was pulled randomly to provide a national census representation of respondents who met the inclusion criteria. To efficiently screen for parents of children with SARC, individuals preidentified from known panel statistics as parents of children (<18 years) were targeted.

Email invitations were sent to a total of 79,839 potential respondents with a password protected link, so that each link could only be used once.