Original Article

The Burden of Rhinitis and the Impact of Medication Management within the Community Pharmacy Setting

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What is already known about this topic? Rhinitis is a chronic, prevalent collection of disorders of the upper airways, which is often trivialized by patients despite its high burden to individuals and society.

What does this article add to our knowledge? Patients with rhinitis self-select their rhinitis medication, without health care provider assistance. A majority of medication selections were suboptimal and are potentially a major contributor to the high burden of rhinitis to individuals and society.

How does this study impact current management guidelines? Current guidelines need to articulate the role of community pharmacist in the management of rhinitis akin to a clinical pharmacy triage service and provide a pharmacist-specific clinical pathway to optimize rhinitis management in the community.

BACKGROUND: The burden of rhinitis is high. It is unknown to what extent this burden is related to inappropriate medication use.

OBJECTIVE: This study aimed to identify the way in which people with rhinitis medicate their condition and to evaluate the appropriateness of this medication management.

METHODS: Pharmacy customers who visited Sydney metropolitan community pharmacies and purchased medication for nasal symptoms were the sampling frame for this study. To determine the condition for which the participants were seeking medication and the appropriateness of their medication selection, the following data were collected with a researcher-administered questionnaire: participant's demographics, symptoms, medication selected. An expert panel of clinical researcher pharmacists and specialist respiratory physician evaluated the appropriateness of medication selection based on the Allergic Rhinitis and its Impact on Asthma international guidelines.

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Abbreviations used
AR- Allergic rhinitis
ARIA- Allergic Rhinitis and its Impact on Asthma
BSACI- The British Society for Allergy & Clinical Immunology
HCP- Health care professional
INCS- Intranasal corticosteroid
IR- Idiopathic rhinitis
MR- Mixed rhinitis
NAR- Nonallergic rhinitis
OTC- Over the counter
QOL- Quality of life

RESULTS: Two hundred and ninety-six participants were recruited from 8 pharmacies; 63.2% had a doctor's diagnosis for the symptoms for which they were selecting treatment. Seventy percent of participants self-selected their medications. Seventy-one percent of the participants were identified as having rhinitis. Overall, 16.5% of participants who had rhinitis selected optimal medications. Sixteen percent of participants with allergic rhinitis reported wheezing (6.3% selected optimal medications).
CONCLUSIONS: The majority of the participants with rhinitis selected suboptimal medications from community pharmacy highlighting the significant burden of rhinitis in community pharmacy and the contribution of medication management. Pharmacists need to take a proactive and evidence-based role in the management of rhinitis supported by clinical pathways when need to be articulated and promoted in all rhinitis guidelines. **(J Allergy Clin Immunol Pract 2018;■:■-■)**

Key words: *Clinical pathways; Community pharmacy; Medication management; Rhinitis; Self-management*

Rhinitis can be broadly classified as allergic rhinitis (AR) or nonallergic rhinitis (NAR), but some types of rhinitis can have both AR and NAR components (known as mixed rhinitis [MR]).[1,2] This overlap in rhinitis often makes differential diagnosis difficult, with recent data suggesting that 75% of patients have AR, 60% have NAR, and 35% have MR.[3] In the population with AR, approximately 40% to 70% of patients have a mixed condition with idiopathic rhinitis (IR) and between 40% and 50% of patients with rhinitis have IR alone.[4-6] Although AR and NAR have distinct pathophysiologies and are induced by different triggers, both are risk factors for the development of asthma.[7]

AR is the most prevalent form of rhinitis affecting up to 30% of the world's population,[8] and in Australia, AR affects 19% of the population.[9] AR often coexists with asthma and when undertreated can worsen asthma control[10,11] Up to 80% of people with asthma have coexisting AR, and at least 30% of patients with known AR also have asthma.[12-14]

Undertreated rhinitis can have a substantial negative impact on patients' quality of life (QOL) impairments in work productivity, school performance, social interactions, sleep and driving performance,[8,14,15] which contributes to the overall disease burden. The high financial costs associated with poorly managed rhinitis, including the direct treatment-related costs and indirect costs through lost wages and reduced productivity, create a substantial socioeconomic burden on individuals and society.[16]

Rhinitis is often regarded as a "background noise," a nuisance and a trivial disease by patients as it is not a life-threatening condition[17]; however, one could question the role the validity of this latter statement in light of the recent thunderstorm asthma incidence and the relationship between AR and asthma.[18] It is often underrecognized by patients,[19,20] with 45% of patients with AR shown not to have a doctor's diagnosis of their condition.[21] In many instances, patients do not associate their nasal symptoms as being chronic or serious,[22,23] and do not seek medical advice.[24] Moreover, patients often self-diagnose and self-select medications from community pharmacies, without pharmacist guidance.[22,25] On the other hand, patients who recognize having AR may not only trivialize it because they have asthma, but may also underestimate the magnitude of its impact on their QOL[19,24] and frequently accept living with symptoms.[19,26] They often do not realize the benefits of being appropriately managed. This problem may be amplified within the Australian primary health care setting, as the majority of guideline-recommended rhinitis treatments can be independently self-selected over the counter (OTC) from community pharmacies without needing a prescription or having to seek pharmacist advice.[22,27,28]

This study was developed to provide more information about the burden of rhinitis in Australia as research related to the way in which rhinitis symptoms are managed and the appropriateness of selected treatment(s) within community pharmacies is scarce. Moreover, examining approaches to rhinitis symptom management may provide evidence for intervention in terms of both prescription policies and pharmacist counseling in OTC medications, which are available in Australia as either schedule 2 (self-selected) or schedule 3 (pharmacist only medicine) requiring pharmacist advice.[29]

This study aimed to identify the way in which people with rhinitis symptoms choose to medicate and to evaluate the appropriateness of their medication management choices.

METHODS

Study design

This research took the form of a cross-sectional observational study conducted on a sample of pharmacy customers selecting medications to treat nasal symptom(s) from community pharmacies during July to September 2015 (Australian spring) and April to June 2016 (Australian autumn) (Figure 1). The study was approved by the University of Sydney Human Research Ethics Committee (Ref No. 2015/527).

Setting

Community pharmacies within the Sydney Metropolitan area that expressed an interest in research or in providing pharmacy services were invited to participate.

Participants

Data were collected through the process of a researcher standing in the pharmacy for an average of 6 hours per day and approaching each pharmacy customer who fulfilled the following eligibility criteria (Figure 1).

Inclusion criteria. Pharmacy customers who independently self-selected an OTC medication(s) or approached a pharmacist for an OTC or prescribed medication for nasal symptoms were eligible for inclusion in this study. Pharmacy customers who were purchasing on behalf of their family members were also included, if they were able to complete the data collection process.