Management strategies in pediatric allergic rhinitis—are we missing?

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Abstract: Allergic rhinitis is a widespread pediatric problem that affects sleep, learning, behavior, and quality of life. The present study aimed to show different possible strategies for managing pediatric allergic rhinitis but also mentioned that some methods still need to be included that can be an essential part of management. A qualitative research approach and a document analysis research design were used to respond to the main issues of interest. Findings reveal that different management treatments for allergic rhinitis include allergen avoidance, antihistamines, nasal corticosteroids, referral to a specialist allergy clinic, allergen immunotherapy, oral and intranasal anticholinergics, oral and intranasal decongestants, and patient education. However, the findings show that the most used interventions include the application of second-line antihistamines to treat and manage mild-to-moderate allergic rhinitis and the application of nasal corticosteroids to manage moderate-to-severe allergic rhinitis, allergen immunotherapy, and allergen avoidance. The use of patient education, combination therapy, decongestants, and anticholinergic therapy, though still relevant in clinical settings, is minimally mentioned in the reviewed literature sources. It's essential to have a strategic approach to managing allergic rhinitis because it has many complications like otitis media, recurrent/or chronic sinusitis, asthma, and snoring. Also, it affects sleep and, eventually school performance. There is a need to undertake more studies to assess the value and importance of patient education in managing pediatric allergic rhinitis.

Keywords: Allergic rhinitis; antihistaminic; nasal corticosteroids; allergen immunotherapy (AIT)

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Introduction

Pediatric allergic rhinitis is one of the most prevalent chronic diseases in childhood. It is associated with high public health burdens and a substantial adverse impact on the quality of life of those diagnosed with the condition. Allergic rhinitis is described in the literature "as a chronic, waxing/ waning, immunoglobin E (IgE)-based inflammation in the nasopharynx that occurs in response to typically innocuous environmental proteins" as per Hossenbaccus *et al.* (1). The available data shows that chronic illness is categorized according to the severity of symptoms and is caused by an

assortment of seasonal and perennial triggers responsible for the inflammation in the nasopharynx as per Dayasiri *et al.* (2). Some known triggers of pediatric allergic rhinitis include airborne pollens, mold, dust mites, cockroach waste, animal dander, fumes and odors, environmental shifts, smoke, and hormonal changes. Children with asthma are at a greater risk of pediatric allergic rhinitis, called the atopic march, a typical progression of allergic diseases, according to Velentza *et al.* (3).

The literature on rhinitis diagnosis is expansive and sufficiently documented, with scholars such as Schuler Iv

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et al. (4) underpinning the importance of avoiding triggers, medications, and immunotherapy in treating and managing a chronic condition. While pediatric allergic rhinitis is diagnosed with posterior or anterior rhinorrhea, sneezing, nasal blockage, and itching as per Schuler Iv *et al.* (4), findings on its management appear highly fragmented and without solid evidence, according to Scadding (5). Consequently, the present research paper undertakes a document analysis to identify the strategies used to manage pediatric allergic rhinitis.

Materials and methods

Research approach and design

The paper reports on a study that uses a qualitative research approach that mentioned treatment used for management in children with allergic rhinitis. The qualitative research approach was selected due to its capacity to provide datarich meaning and context. In contrast, document analysis was chosen due to its cost-effectiveness, accessibility of credible research journals on the topic, and efficiency and effectiveness in collecting data.

Selection of materials

A keyword search was conducted on Ebscohost, PubMed, and Nursing Reference Center databases to select relevant articles using the phrases "Pediatric allergic rhinitis", "rhinitis diagnosis and management", and "clinical management for allergic rhinitis". A total of 24 articles were initially selected based on keyword search, after which 16 were excluded either for methodological challenges or not related to the needs of the current research topic. A total of 8 research articles were included in the final sample.

Data analysis

Data interpretation from the journal articles was made to give them meaning and significance around the issues of interest. The analysis of the selected documents incorporated coding the content into themes using the framework for conducting thematic research. This framework entails "familiarizing yourself with the data, generating initial codes, searching for themes, reviewing, defining, naming, and producing the report," according to Kiger *et al.* (6). The suggested framework provides the capacity for searching for meaningful information across the sampled journal articles to identify, analyze, and report repeated patterns.

Results

The present study explored the strategies used in children with allergic rhinitis management. They found clarity in the methods used most for managing pediatric allergic rhinitis. *Table 1* below shows some management strategies and interventions mentioned in the reviewed literature.

The findings reveal the application of second-line antihistamines to treat and manage mild-to-moderate allergic rhinitis and the application of nasal corticosteroids to manage moderate-to-severe allergic rhinitis, allergen immunotherapy (AIT), and allergen avoidance. The use of patient education, combination therapy, decongestants, and anticholinergic therapy, though still relevant in clinical settings, is minimally mentioned in the reviewed literature sources.

Discussion

Management practices for pediatric allergic rhinitis are highly fragmented. The management strategies mentioned in the literature sources incorporated in this study include allergen avoidance, antihistamines, nasal corticosteroids, referral to a specialist allergy clinic, AIT, and oral and intranasal anticholinergics, oral and intranasal decongestants, and patient education. Studies such as by May et al. (7) underscore that the backbone of nonpharmacological management of chronic disease revolves around allergen avoidance. These studies are also clear that administering local or oral second-line antihistamines is the mainstay of treating and managing mild-to-moderate allergic rhinitis. At the same time, applying topical nasal corticosteroids is the mainstay of treating and managing severe allergic rhinitis. A combination therapy involving antihistamines and intranasal steroids should be considered a second line of treatment for patients who do not show any significant response to first-line pharmacological management. In contrast, referral to a specialist allergy clinic should be considered for children who do not offer any considerable response to optimal local and oral therapy. One seminal study by Gelfand (8) notes that second-line antihistamines should be considered in managing pediatric allergic rhinitis since they do not have the side effects of first-line antihistamines. This finding shows that the former has severe side effects related to the central nervous system



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and anticholinergic mechanisms; hence consideration should be made to second-line antihistamines in treating and managing pediatric allergic rhinitis.

Several authors propose AIT as a management trajectory for pediatric allergic rhinitis such as Noronha *et al.* (9) and Santos *et al.* (10). "Allergen immunotherapy (AIT) is the only disease-modifying option and can be provided through subcutaneous (SCIT) or sublingual (SLIT) routes." It mentioned that allergen-specific immunotherapy should be considered when pharmacotherapy is not responsive to the treatment needs and preferences of the patient, mainly due to its capacity to modify long-term disease outcomes. Patient education effectively improves treatment adherence and addresses the anxiety and depression associated with a chronic condition, as per Meng *et al.* (11).

Conclusions

The present research paper undertook a document analysis to identify the different management strategies in pediatric allergic rhinitis. The mediators mentioned in the reviewed literature include allergen avoidance, antihistamines, nasal corticosteroids, referral to a specialist allergy clinic, allergen immunotherapy, oral and intranasal anticholinergics, and oral and intranasal decongestants, and patient education. However, the findings show that the most used interventions include the application of secondline antihistamines to treat and manage mild-to-moderate allergic rhinitis and the application of nasal corticosteroids to manage moderate-to-severe allergic rhinitis, allergen immunotherapy, and allergen avoidance. The use of patient education, combination therapy, decongestants, and anticholinergic therapy, though still relevant in clinical settings, is minimally mentioned in the reviewed literature sources. There is a need to undertake more studies to assess the value and importance of patient education in managing pediatric allergic rhinitis. Moreover, a need exists to conduct quantitative and qualitative research studies into the issue since most of the available literature sources are reviews that are often prone to methodological challenges.

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Footnote

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Ethical Statement: The author is accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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