

# Management of Allergic disorders in Saudi Arabia: Challenges and future perspectives

Zafar Rasheed\* 

Department of Pathology, College of Medicine, Qassim University, Buraidah, Saudi Arabia

**Address for correspondence:**

Dr. Zafar Rasheed, Department of Pathology, College of Medicine, Qassim University, Qassim, Saudi Arabia.  
E-mail: zafarrasheed@qu.edu.sa

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Allergy is a common health problem affecting individuals worldwide, with varying prevalence rates across different regions. Saudi Arabia, being one of the countries in the Middle East, has witnessed an increase in the prevalence of allergic disorders in the past few decades. Allergic disorders encompass various conditions, such as allergic rhinitis, asthma, atopic dermatitis, and food allergies. Studying the management of allergic disorders and their associated challenges and future perspectives is crucial for understanding the burden of these conditions and designing effective preventive strategies. This article explores the management of allergic disorders and their associated challenges and future perspectives in Saudi Arabia, shedding light on the current situation and highlighting relevant research findings.

## Prevalence of Allergic Disorders in Saudi Arabia

Several studies conducted in Saudi Arabia indicate an increasing prevalence of allergic disorders among both children and adults.<sup>[1,2]</sup> According to Alharbi and colleagues, the prevalence of asthma among children in Saudi Arabia ranges from 8% to 25%.<sup>[3]</sup> A meta-analysis examining the prevalence of asthma in Saudi Arabia, it was found that the prevalence of asthma increased from 1990 to 2000 and a reported pooled weighted prevalence of asthma at 14.3%, lifetime wheeze at 16.5%, and rhinitis at 21.4%.<sup>[4]</sup> Interestingly, the prevalence of asthma varied across different regions of Saudi Arabia, but there was no significant difference between rural and urban areas. When looking specifically at children, the previous studies conducted over the past three decades have reported a prevalence range of 8%–25% for asthma in Saudi Arabia.<sup>[5]</sup> Allergic rhinitis (or hay fever) is characterized by inflammation of the nasal passages and is often triggered by allergens such as pollen, dust mites, or animal dander. Recently, a study by Alahmadi *et al.* (2023) estimated a 45% prevalence of allergic rhinitis in 466 Saudi individuals.<sup>[6]</sup> Moreover, studies also reported a higher prevalence of allergic rhinitis in adults (14.1–29.5%) compared to children (7.0–20.6%).<sup>[7,8]</sup> Atopic dermatitis is another type of allergic disorder characterized as

a chronic inflammatory skin condition. Limited research has examined the prevalence of atopic dermatitis in Saudi Arabia. A groundbreaking study conducted in Saudi Arabia from April 2008 to March 2009 focused on 854 Saudi citizens, ranging in age from 3 to 65 years. The study revealed that the prevalence of atopic dermatitis reached its peak at 45.4% in 2010.<sup>[9,10]</sup> Recently, Alakeel *et al.* (2022) also point out a significant increase in atopic dermatitis prevalence in Saudi Arabia underscores the urgent requirement for early diagnosis and effective management of patients.<sup>[11]</sup> Another type of allergic disorder common in Saudi Arabia is Food Allergies, which are basically immune reactions triggered by the ingestion of certain foods such as peanuts, tree nuts, shellfish, or milk. Studies on the prevalence of food allergies in Saudi Arabia are limited; however, they highlight a rising trend. In Saudi Arabia, the majority of studies conducted have focused on children, patients, students, or specific regions.<sup>[12-16]</sup> For example, a study performed at allergy clinics, which included 103 patients (79% children), found that the prevalence of food allergies was 1.5% among those aged 14 and older, and 6% among pediatric patients.<sup>[12]</sup> Another study involving university students reported diagnosed food allergies in 9.6% of the 5497 participants.<sup>[16]</sup> However, these studies also highlighted that there is a lack of public understanding when it comes to food allergy diagnoses and management in Saudi Arabia.<sup>[15]</sup> These figures highlight the significant burden of allergic disorders in the country.

## Management of Allergic Disorders

Managing allergic disorders requires a comprehensive and multidisciplinary approach. This article outlines the current management strategies and available treatment options for asthma, allergic rhinitis, and atopic dermatitis in Saudi Arabia. The diagnosis and treatment of allergic disorders in Saudi Arabia have made significant advancements in recent years.<sup>[5,7,17-19]</sup> Allergists and immunologists employ a multidisciplinary approach, combining clinical history, physical examination, and various diagnostic tools, including skin prick tests, blood tests, and lung function tests.<sup>[5,7]</sup> Management strategies depend on the severity and type of

allergic disorder. The Saudi Food and Drug Authority has approved a wide range of medications for the treatment of allergies, including antihistamines, nasal corticosteroids, and bronchodilators.<sup>[20,21]</sup> Immunotherapy is also gaining popularity as a long-term management option for severe allergies.<sup>[22]</sup> As far as the preventive measures are concerned, Saudi Arabia has recognized the importance of preventive measures in reducing the burden of allergic disorders.<sup>[23,24]</sup> Health education campaigns have been implemented to raise awareness about allergens, triggers, and methods of prevention.<sup>[23,24]</sup> In addition, efforts have been made to improve indoor air quality, particularly in schools and health-care facilities.<sup>[25]</sup>

## Challenges and Future Perspectives

The Saudi Arabian government plays a crucial role in managing allergic disorders and ensuring the well-being of its citizens and residents.<sup>[5,7,23,24,26]</sup> However, there are a number of challenges faced by the Saudi Arabian government in managing allergic disorders. One of the primary challenges is the lack of awareness and education about these conditions. The general public and even some health-care professionals may have limited knowledge of the causes, symptoms, and appropriate management strategies for allergies. This gap in awareness can lead to delays in diagnosis, inappropriate treatment, and poor control of allergic disorders. Another challenge is a “limited specialized health-care providers.” Saudi Arabia has a shortage of specialized health-care providers in the field of allergy and immunology. The number of allergists and immunologists in the country is insufficient to meet the growing demand for specialized care. This shortage poses a significant challenge in terms of timely diagnosis, management, and access to expert advice for patients with allergic disorders. Accessibility to health-care services is another challenge, many patients, especially in remote areas, face difficulties in accessing health-care facilities for diagnosis and treatment. Limited availability of health-care centers specialized in allergy care poses a barrier to patients and exacerbates the burden of allergic diseases. “Cost of treatment and medications” has also been considered a challenge of Saudi Arabia, allergic disorders require long-term management and often involve expensive medications, including inhalers, antihistamines, and immunomodulators. The cost of these treatments can be a significant burden for patients, especially those from lower socioeconomic backgrounds. The Saudi Arabian government faces the challenge of providing affordable access to necessary medications and ensuring that cost does not become a barrier to patient care. Other than these, “The lack of standardized protocols” for the management of allergic disorders poses a challenge for both health-care providers and patients. A lack of consensus on diagnostic criteria, treatment guidelines, and follow-up protocols can result in inconsistencies in care and hinder effective management. Establishing standardized protocols and guidelines for the management of allergic disorders can improve the quality of care and ensure consistent treatment across different health-care facilities. There will be a number of

future perspectives of Saudi government for the management of allergic disorders, “increasing public awareness” is one of the most important further perspectives. The Saudi Arabian government should prioritize campaigns aimed at increasing public awareness about allergic disorders. Initiatives, such as educational programs in schools, community awareness campaigns, and public service announcements, can help improve recognition of allergic symptoms, encourage early diagnosis, and promote appropriate management strategies. Moreover, investing in training programs for health-care professionals in the field of allergy and immunology is crucial to address the shortage of specialized providers. Providing scholarships, fellowships, and continuous medical education opportunities can help build a strong workforce of allergists and immunologists, thereby improving access to specialized care for patients across the country. In addition, focusing on strengthening the primary health-care system is essential for improving the management of allergic disorders. Enhancing the skills of primary care physicians in diagnosing and managing allergies can lead to early identification, appropriate treatment, and better control of allergic diseases. This can be achieved through specialized training programs, workshops, and the inclusion of allergy-related topics in the medical curriculum. Not only have these, the Saudi Arabian government can leverage technology to overcome accessibility barriers and improve health-care services in remote areas. Implementing telemedicine programs and e-health initiatives can enable patients to access specialized care remotely, reducing the need for travel and providing timely advice from allergists and immunologists. Importantly, encouraging research and collaboration in the field of allergic disorders are crucial for understanding the local burden, identifying risk factors, and developing effective prevention and management strategies. The government can support research grants, establish collaborations between academic institutions and health-care facilities, and promote knowledge-sharing platforms to foster advancements in the field of allergic disorders.

## Conclusion

Allergic disorders, including allergic rhinitis, asthma, atopic dermatitis, and food allergies, are prevalent health issues in Saudi Arabia. Research studies have consistently reported high prevalence rates of these conditions among different age groups and regions of the country. Understanding the prevalence of allergic disorders is essential for health-care providers, policymakers, and researchers to effectively address this health burden. The management of allergic disorders in Saudi Arabia poses significant challenges for the government. These challenges range from the lack of awareness and specialized health-care providers to limited accessibility and high costs of treatment. However, by focusing on increasing public awareness, improving health-care infrastructure, strengthening primary care, embracing technology, and promoting research and collaboration, the Saudi Arabian government can pave the way for a better future in managing and tackling allergic

disorders. Addressing these challenges will not only improve the quality of life for individuals with allergies but also contribute to reducing the overall burden of allergic diseases on the health-care system. Designing preventive strategies, implementing proper diagnosis and treatment approaches, and raising public awareness are crucial for managing allergic disorders and improving the quality of life for those affected by them. Further research is warranted to explore the underlying factors contributing to the rising prevalence of allergic disorders in Saudi Arabia and to develop effective preventive and management strategies.

## Competing Interests

The author declares no competing interests.

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