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Sesame Sensitization in Children with Allergic Symptoms: Prevalence and Associated Allergic Conditions

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ABSTRACT

Objective: The aim of this study was to determine the prevalence of sesame sensitization in pediatric patients with allergic manifestations and to investigate its association with other allergic diseases.

Materials and Methods: This study was conducted between November 2020 and August 2021 at Gaziantep University Training and Research Hospital, Pediatric Immunology and Allergy Clinic, including 808 pediatric patients who were either followed up or admitted with diagnoses such as atopic dermatitis, urticaria, asthma, allergic rhinitis, recurrent wheezing, and other allergic conditions. All patients underwent a skin prick test (SPT). Complete blood count, sesame-specific and total IgE levels were measured in patients with a positive sesame SPT. An oral food challenge was performed in patients with a positive sesame SPT.

Results: The mean age of the patients was 5.71±5.18 years, with the youngest being 1 month old and the oldest 18 years old. A total of 386 patients (47.8%) had sensitivity to at least one allergen in the skin prick test, while 24 (3.0%) patients showed sesame sensitization. Only 3 patients (0.4%) had sesame-specific IgE levels ≥ 0.35 kU/L. In patients with a positive sesame SPT, itching was significantly more common (p=0.029), allergic disease prevalence was higher (p=0.020), younger age was associated with a higher likelihood of sesame sensitization (p=0.009), and eosinophil counts were elevated (p=0.009). Among the 24 patients with a positive sesame SPT, 7 (0.86%) had a positive oral food challenge test, thereby confirming sesame allergy.

Conclusion: To our knowledge, this is the first study to investigate sesame sensitization prevalence in allergic pediatric patients in Turkey. Our study revealed a notable prevalence of sesame allergy among children with allergic conditions. These findings suggested that sesame allergy often begins at an early age and showed a significant association with symptoms like itching. Physicians should be vigilant about sesame sensitization in pediatric patients with allergic complaints and consider appropriate diagnostic testing.

Keywords: Sesame sensitization, Skin prick test, Sesame-specific IgE, Allergic diseases

INTRODUCTION

Food allergy is a significant health issue that requires attention in both children and adults (1). It is a growing public health concern with varying prevalence across different populations (2). The spectrum, distribution, and frequency of food allergies are influenced by ethnic, cultural, and dietary differences, leading to variability between populations (3). In the United States, epidemiological studies indicate that approximately 8% of children are diagnosed with food allergies (4).

The most common food allergens in children include cow's milk, egg white, peanuts, tree nuts (such as walnuts and hazelnuts), sesame, sunflower seeds, poppy seeds, pumpkin seeds, flaxseeds, and seafood (5). In Turkey, the most frequently reported food allergies are egg white, cow's milk, and sesame (1). A study conducted among children aged 6-9 years in the Black Sea region of Turkey reported a self-reported food allergy prevalence of 5.7% based on survey data, whereas the prevalence confirmed by double-blind placebo-controlled food challenge (DBP-CFC) was 0.8% (1).

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Food allergies are primarily mediated by immunoglobulin E (IgE) antibodies against specific food proteins (6). Tolerance to food allergens tends to develop with age (7). The diagnosis of food allergies relies on a combination of clinical history, physical examination, food-specific IgE measurement, skin prick test (SPT), food elimination diets, and oral food challenge tests, which remain the gold standard (8).

Sesame (*Sesamum indicum*) is one of the most allergenic edible seeds and is widely used in various food products (9, 10). Sesame seeds contain high amounts of oil (45–60%) with a balanced ratio of oleic and linoleic acids (35–45%) (11). In Turkey, sesame is predominantly used in tahini, halva, bagels (*simit*), and confectionery products rather than for oil production. Sesame is one of the top 10 oilseed crops worldwide, with global cultivation covering approximately 6.5 million hectares. In Turkey, sesame is cultivated on approximately 30,000 hectares, yielding 17,000 tons annually (1). Sesame seeds are composed of approximately 20–25% protein and 20–25% carbohydrates, in addition to their high oil content (12).

The prevalence of food allergies varies by region, and sesame is a significant cause of anaphylaxis in the Middle East (2). In recent years, the consumption of sesame has increased in Western diets (13). The prevalence of sesame allergy, like other food allergies, varies geographically and is particularly high in countries where sesame is commonly consumed. In Israel, sesame is the third most common food allergen after egg and cow's milk and the second leading cause of anaphylaxis after milk (14). In the United States and Canada, the reported prevalence of sesame allergy ranges between 0.1% and 0.2% (3, 13). A study conducted at Hacettepe University in Turkey found that the prevalence of sesame allergy among children with food allergies was 3.8% (15).

The clinical manifestations of food allergies include skin symptoms (atopic dermatitis, urticaria, angioedema), gastrointestinal symptoms (vomiting, constipation, diarrhea, gastroesophageal reflux, eosinophilic gastroenteropathy), and respiratory symptoms such as recurrent lower respiratory tract infections and asthma (16, 17).

To date, no study in Turkey has specifically investigated the prevalence of sesame allergy in children with allergic symptoms. Given the widespread use of sesame in various foods in the Gaziantep region, this study aims to determine the prevalence of sesame allergy among children presenting with allergic complaints and to explore its association with other allergic conditions.

MATERIALS and METHODS

Study Design, Setting and Population

This retrospective cross-sectional study was conducted between November 2020 and August 2021 at Gaziantep University Training and Research Hospital, Department of Pediatric Immunology and Allergy. Pediatric patients diagnosed with or presenting with atopic dermatitis, urticaria, asthma bronchial, allergic rhinitis, recurrent wheezing, or other allergic conditions were included in the study. Pediatric patients diagnosed with or presenting with atopic dermatitis, urticaria, asthma bronchial, allergic rhinitis, recurrent wheezing, or other allergic conditions were included in the study. All 808 patients included in the study underwent a skin prick test (SPT) regardless of their presenting complaint, in accordance with the routine diagnostic approach of our clinic. The demographic and clinical characteristics of the patients were obtained through a questionnaire completed by their parents. The collected data included gender, age, reason for referral or follow-up in the pediatric immunology and allergy clinic, history of allergic symptoms, presence of allergic diseases in family members, history of hospitalizations (including frequency and reason), and history of anaphylaxis.

All participants underwent a SPT. For patients with a positive sesame SPT result, additional laboratory analyses were conducted, including measurements of sesame-specific IgE levels, eosinophil count, and total serum IgE levels. Furthermore, patients who tested positive on the sesame skin prick test were subsequently subjected to an oral food challenge.

Ethical Considerations

The study was conducted in accordance with the principles of the Declaration of Helsinki, patient rights regulations, and ethical guidelines. Before the study commenced, ethical approval for this retrospective study was obtained from the Clinical Research Ethics Committee of Gaziantep University (Decision No: 2020/293, dated November 4, 2020).

Laboratory Analyses

Skin Prick Test (SPT)

The skin prick test was performed using an Ovem brand applicator and allergens provided by the ALK company. Sensitization to the following allergens was evaluated: five-grass pollen mix, *Parietaria officinalis*, cypress,

Dermatophagoides pteronyssinus (house dust mite), *Dermatophagoides farinae* (house dust mite), cockroach, cat fur, dog hair, Alternaria (mold), *Aspergillus* mix (mold), *Cladosporium* (mold), olive tree pollen, cow's milk, sesame, meat, egg white, peanut, and pistachio.

In accordance with the institutional protocol, all patients underwent skin prick testing with both inhalant and food allergens, regardless of whether they had a known or suspected history of food allergy. This approach allows for early detection of sensitization in patients with complex or overlapping allergic phenotypes.

Prior to testing, patients were required to discontinue antihistamines for at least 10 days. Histamine was used as a positive control, while physiological saline was used as a negative control. For children under the age of 3, the test was applied to the back, whereas for children over 3 years of age, it was performed on the volar aspect of the forearm. The test was evaluated at the 15th minute by measuring the wheal diameter. A wheal diameter of ≥3 mm was considered positive (18).

Sesame-Specific IgE

Sesame-specific IgE levels were analyzed using a commercial assay kit, and results were reported in kU/L. Measurements were performed using the Immulite 2000 XP CLIA (chemiluminescence immunoassay) system.

Eosinophil Count and Percentage

Eosinophil levels were measured using fluorescence flow cytometry with a Sysmex XN analyzer. The eosinophil count was expressed as cells per mm^3, and values above 300 cells/mm^3 were considered elevated.

Total Serum IgE Level

Total IgE levels were determined using the turbidimetric method, with results expressed in IU/mL. A total IgE level above 100 IU/mL was considered elevated.

Statistical Analysis

Statistical analyses were performed using SPSS for Windows, version 22.0. The normality of data distribution was assessed using the Shapiro-Wilk test. Non-normally distributed numerical variables were compared between two independent groups using the Mann-Whitney U test. Associations between categorical variables were analyzed using the chi-square test. Descriptive statistics were presented as median and interquartile range (IQR) for numerical variables. A p-value of <0.05 was considered statistically significant.

RESULTS

Among the 808 patients included in the study, 480 (59.4%) were male, and 328 (40.6%) were female. The mean age of the participants was 5.71 years, with the youngest patient being 1 month old and the oldest 18 years old. When asked about their existing symptoms, the following were reported: skin rash in 368 (45.5%) patients, itching in 429 (53.1%), wheezing in 193 (23.9%), cough in 220 (27.2%), shortness of breath in 189 (23.4%), nasal itching, sneezing, and runny nose in 332 (41.1%), and other complaints in 2 (0.2%) patients. A diagnosis of allergic disease was present in 358 (44.3%) patients, with 175 (21.7%) having food allergy, 105 (13.0%) asthma, 39 (4.8%) allergic rhinitis, 32 (4.0%) atopic dermatitis, 13 (1.6%) urticaria, and 2 (0.2%) other diagnoses. A maternal history of allergic disease was reported in 168 (20.8%) patients, a paternal history in 129 (16.0%) patients, and a sibling history in 157 (19.4%) patients. Regarding hospitalization history, 321 (39.7%) patients had been hospitalized, according to family reports. A history of anaphylaxis was present in 41 (5.1%) patients. A total of 386 (47.8%) patients had sensitivity to at least one allergen in the skin prick test, while 24 (3.0%) patients showed sensitivity to sesame. Additionally, sesame-specific IgE ≥ 0.35 Ku/L was detected in 3 (0.4%) patients, and 7 (0.86%) patients had a positive sesame challenge test (Table I).

The age group analysis revealed that sesame sensitization was most frequently observed in infants aged 0–2 years, with a prevalence of 4.76%. This rate decreased progressively with age: 3.68% in preschoolers (3–5 years), 2.08% in school-age children (6–11 years), and 1.19% in adolescents (12–18 years) (Figure 1.).

Among the study participants, 24 patients tested positive for the sesame skin prick test. Patients were categorized into positive and negative groups, and the relationship between various clinical parameters was analyzed. Skin rash was observed in 13 (3.5%) of the patients with a positive sesame skin prick test (p=0.389). In contrast, itching symptoms were significantly more common in patients with a positive sesame skin prick test (p=0.029). Wheezing was present in 4 (2.0%) of the patients with a positive sesame skin prick test (p=0.400). Similarly, 5 (2.3%) patients with a positive sesame skin prick test had

Table I: Demographic and Clinical Characteristics of the Study Population

Parameter	N = 808, n (%)
Age (Years)	5.71 (Min:0.08, Max:18)
Gender	
Male	480 (59.4)
Female	328 (40.6)
Complaints	
Skin rash	368 (45.5)
Itching	429 (53.1)
Wheezing	193 (23.9)
Cough	220 (27.2)
Shortness of breath	189 (23.4)
Nasal itching, sneezing, and runny nose	332 (41.1)
Other complaints	2 (0.2)
Allergic Disease Diagnosis	358 (44.3)
Food allergy	175 (21.7)
Asthma	105 (13.0)
Allergic rhinitis	39 (4.8)
Atopic dermatitis	32 (4.0)
Urticaria	13 (1.6)
Other diagnoses	2 (0.2)
Family history of allergies	
Mother	168 (20.8)
Father	129 (16.0)
Sibling	157 (19.4)
History of Hospitalization	321 (39.7)
History of Anaphylaxis	41 (5.1)
Skin Prick Test Positive for Any Allergen	386 (47.8)
Skin Prick Test Positive for Sesame	24 (3.0)
Sesame-Specific IgE ≥ 0.35 Ku/l	3 (0.4)
Positive Sesame Challenge Test	7 (0.86)

a cough (p=0.475). Shortness of breath was observed in 2 (1.0%) of the patients with a positive sesame skin prick test (p=0.077). Additionally, nasal itching, sneezing, and rhinorrhea were present in 8 (2.4%) patients with a positive sesame skin prick test (p=0.433) (Table II).

Among the patients with a positive sesame skin prick test, 18 (5%) had a diagnosis of allergic disease, which was statistically significant (p=0.002). Atopic dermatitis

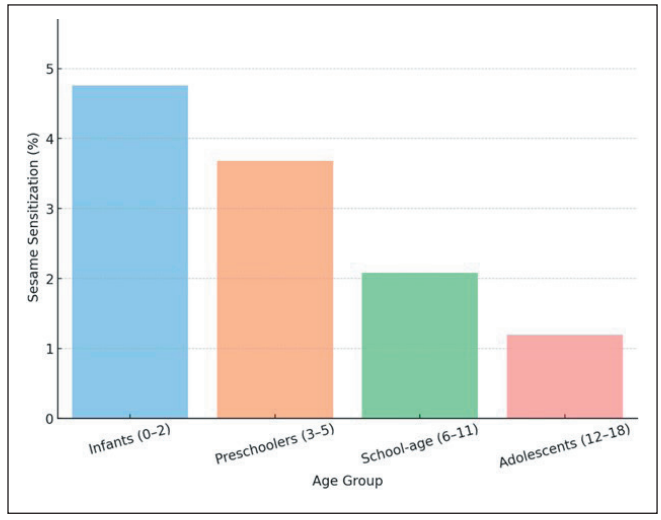

Figure 1: Sesame Sensitization by Age Group.

was present in 2 (6.3%) patients with a positive sesame skin prick test (p=0.327). Food allergy was observed in 16 (9.1%) patients with a positive sesame skin prick test, showing a statistically significant relationship (p=0.001). Urticaria was present in 1 (7.7%) patient with a positive sesame skin prick test (p=0.395) (Table II).

Regarding family history, 6 (3.6%) patients with a positive sesame skin prick test had a maternal history of allergic disease (p=0.614). A paternal history of allergic disease was present in 4 (3.1%) patients (p=0.925). A sibling history of allergic disease was observed in 3 (1.9%) patients (p=0.359). A history of hospitalization was present in 6 (1.9%) patients with a positive sesame skin prick test (p=0.134). Additionally, a history of anaphylaxis was reported in 3 (7.3%) patients with a positive sesame skin prick test (p=0.150) (Table II).

The mean age of patients with a positive sesame skin prick test was 1.5 years [1.08–2], whereas the mean age of patients with a negative test was 4 years [1–10]. Patients with a positive sesame skin prick test had a statistically significantly lower mean age (p=0.006). The median (IQR) eosinophil count in patients with a positive sesame skin prick test was 450 [290–675], compared to 270 [155–510] in those with a negative test. The eosinophil count was significantly higher in patients with a positive sesame skin prick test (p=0.009). The median (IQR) total IgE value was 48 [27–102] in patients with a positive sesame skin prick test, while it was 54 [18–242] in those with a negative test (p=0.665) (Table II).

Table II: Comparison of Clinical and Laboratory Parameters Between Patients with Positive and Negative Sesame Skin Prick Test Results

Parameter	Positive (N=24), n (%), Median [25%-75%]	Negative (N=784), n (%), Median [25%-75%]	p value
Skin rash	13 (54.2)	355 (45.3)	0.389
Itching	18 (75.0)	411 (52.4)	0.029*
Wheezing	4 (16.7)	189 (23.9)	0.400
Cough	5 (20.8)	220 (28.1)	0.475
Shortness of breath	2 (8.3)	187 (23.9)	0.077
Sneezing and runny nose	8 (33.3)	324 (41.3)	0.433
Allergic disease diagnosis	18 (75.0)	340 (43.4)	0.002*
Atopic dermatitis diagnosis	2 (8.3)	30 (3.8)	0.327
Food allergy diagnosis	16 (66.7)	159 (20.3)	0.001*
Urticaria diagnosis	1 (4.2)	12 (1.5)	0.395
Maternal allergic disease	6 (25.0)	162 (20.7)	0.614
Paternal allergic disease	4 (16.7)	125 (15.9)	0.925
Sibling allergic disease	3 (12.5)	154 (19.6)	0.359
History of hospitalization	6 (25.0)	315 (40.2)	0.134
History of anaphylaxis	3 (12.5)	38 (4.8)	0.150
Age (years)	1.5 [1.08–2]	4 [1–10]	0.006*
Eosinophil count (cells/μL)	450 [290–675]	270 [155–510]	0.009*
Total IgE (IU/mL)	48 [27–102]	54 [18–242]	0.665

Table III: Characteristics of Patients with Positive Sesame Challenge Test

Parameter	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7
Age (Years)	1.5	1.5	0.75	3	0.83	0.83	6
Sesame-specific IgE (Ku/L)	<0.10	<0.10	<0.10	0.37	<0.10	<0.10	<0.10
Eosinophil count (cells/μL)	270	770	350	500	700	710	710
Skin Prick Test (SPT)							
Cow's milk SPT	+	+	-	-	-	-	-
Egg white SPT	+	+	-	-	-	-	-
House dust mites SPT			-	-	-	-	-
Cat SPT	+	+	-	-	-	-	-
Dog SPT	+		-	-	-	-	-
Walnut SPT	-	+	-	-	-	-	-
Almond SPT	-	-	-	-	-	-	
Five-grass mix SPT	-	-	-	-	-	-	+
Cypress SPT	-	-	-	-	-	-	+

SPT: Skin Prick Test

Characteristics of patients with positive sesame challenge test were shown in Table III. Among the study participants, seven patients were identified with a positive sesame challenge test, including six males and one female. The mean age of these patients was 2.13 years. Notably, only one patient had a detectable sesame-specific IgE re-

sult. The average eosinophil count among patients with a positive sesame challenge test was 461.42 cells/μL. All patients with a positive sesame challenge test also exhibited at least one additional allergy. Specifically, one patient had a positive skin prick test for cow's milk, four for egg white, one for *Dermatophagoides pteronyssinus* (house dust mite), one for *Dermatophagoides farinae* (house dust mite), one for cat, one for dog, one for walnut, one for almond, one for a five-grass mix, and one for cypress. Importantly, no patients in our study presented with an isolated sesame allergy. A significant association was observed between sesame allergy and egg allergy, suggesting a potential link between these two food allergens (Table III).

Among the seven patients with a positive sesame oral food challenge, five had a reported history of allergic symptoms such as urticaria, itching, or vomiting following sesame ingestion prior to the diagnosis. The remaining two patients were asymptomatic but were referred for sesame testing due to co-sensitization to other food allergens. Although all 24 patients with a positive sesame SPT underwent OFC, not all had a documented history of sesame-related symptoms.

DISCUSSION

Our study investigated the frequency of sesame sensitization among pediatric patients with allergic manifestations and evaluated its association with other allergic diseases. We found that 3% of the children in our study had a positive sesame skin prick test, and among them, 0.86% were diagnosed with sesame allergy through an oral food challenge test. These findings indicate that sesame allergy is not rare among children with allergic conditions and align with previous studies that have reported variations in prevalence across different regions. Notably, our study also identified a significant association between sesame sensitization and itching symptoms, as well as a higher prevalence of allergic diseases in patients with a positive sesame skin prick test. These results underscore the importance of screening for sesame allergy in pediatric patients presenting with allergic symptoms, particularly in regions where sesame consumption is high.

In our cohort, 24 out of 808 patients (approximately 3%) exhibited a positive sesame SPT. This prevalence is higher than the 0.1% to 0.2% reported in Western populations but aligns more closely with rates observed in regions where sesame consumption is a common dietary component (19). Kazancıoğlu et al. reported that sesame allergy has become increasingly prevalent in pediatric populations, particularly in areas where sesame-containing foods are frequently consumed (1). Alibrahim et al. found that parent-reported food allergies, including sesame, were more frequent in Middle Eastern countries compared to Western nations (2). Berin conducted a study in which they stated that food allergy is the result of multiple genetic and environmental factors leading to a lack or loss of tolerance to specific foods (20). These findings highlight the role of dietary exposure in shaping sensitization patterns and suggest that increased consumption of sesame in certain regions may contribute to a higher prevalence of sesame allergy.

In our study, the mean age of the participants was 5.71 years, with the youngest patient being 1 month old and the oldest 18 years old. Our findings indicate that sesame allergy tends to develop at an early age. Sillcox et al. reported that food allergies can manifest at any age, including early infancy, and their study demonstrated that food allergies typically begin within the first two years of life (14). Similarly, Yavuz et al. conducted a study comparing the onset age of allergy symptoms before and after one year of age and found that symptoms were significantly more common in children under the age of one (15).

Our findings indicate a significant association between sesame sensitization and certain allergic conditions. Specifically, itching symptoms were significantly more prevalent among patients with a positive sesame SPT. Additionally, 18 out of 24 patients (75%) with sesame sensitization had a diagnosis of allergic diseases, and 16 patients (66.7%) had food allergies. These associations are consistent with Santos and Brough's study that have identified sesame allergy as common among children with existing food allergies (5). Moreover, the observed co-sensitization to other allergens, such as egg white and house dust mites, suggests potential cross-reactivity or a propensity for polysensitization in this population.

Recent studies have also reported similar findings regarding co-existing food allergies in sesame-allergic patients. Saf et al. found that sesame allergy often occurs alongside peanut and tree nut allergies, further supporting the hypothesis of cross-reactivity among these allergens (21). Additionally, Dreskin et al. demonstrated that 2S albumins, which are present in sesame, peanuts, and tree nuts, play a significant role in allergenicity and cross-reactivity (22). Our findings corroborate these results, re-

inforcing the need for comprehensive allergy testing in patients sensitized to sesame.

The clinical manifestations observed in our study cohort varied, with skin rash, wheezing, cough, shortness of breath, and nasal symptoms reported among patients with sesame sensitization. While some studies have reported severe reactions, including anaphylaxis, associated with sesame allergy (23), the relatively lower rates of severe respiratory symptoms in our study may reflect differences in exposure levels, genetic factors, or the presence of concomitant atopic conditions. Nevertheless, the potential for severe reactions necessitates vigilance among healthcare providers when evaluating and managing patients with sesame sensitization.

Sillcox et al. analyzed data from the Cross-Canada Anaphylaxis Registry and found that sesame-induced anaphylaxis accounted for a notable proportion of food-induced anaphylactic reactions in children (14). This underscores the importance of early diagnosis and management strategies, including patient education, avoidance measures, and access to emergency epinephrine. Furthermore, Kubala et al. emphasized the psychological impact of sesame allergy, highlighting that food allergies can significantly affect patients' quality of life due to the risk of accidental exposure and dietary restrictions (24).

Oral immunotherapy (OIT) has been investigated as a potential desensitization strategy for sesame allergy. Huang et al. evaluated the safety and feasibility of sesame OIT in infants and toddlers and found promising results regarding tolerance induction (18). Similarly, You et al. assessed the clinical outcomes of sesame OIT and reported improvements in quality of life and reduction in allergic symptoms among treated patients (12). However, real-world data suggest that the safety and effectiveness of sesame OIT vary, with some patients experiencing adverse reactions during desensitization (13). While our study did not include OIT as a treatment modality, our findings support the need for further research into immunotherapeutic strategies for sesame allergy.

The prevalence of sesame sensitization in our study is higher than that reported in some Western countries but aligns with findings from regions with high sesame consumption. Nagakura et al. reported that a prevalence of 0.23% for sesame allergy in the United States (25), whereas our study found a prevalence of 3%. This discrepancy underscores the influence of dietary habits and cultural practices on the prevalence of food allergies. Additionally, our observation of a significant association between sesame sensitization and other allergic conditions is consistent with findings from other studies, suggesting that sesame allergy often coexists with other atopic diseases (8).

Furthermore, Chua et al. explored the effectiveness of low-dose preschool sesame OIT in a real-world setting and found that it was generally well-tolerated, though the long-term benefits remain unclear (13). These studies collectively emphasize the need for a multifaceted approach to sesame allergy management, incorporating both avoidance strategies and potential immunotherapy interventions.

Our findings align with previous studies that have reported both regional and global variations in the prevalence of sesame allergy. For instance, Kazancıoğlu et al. reported a sesame allergy prevalence of 3.8% among Turkish children with food allergies, a rate similar to our observed 3% prevalence in a broader pediatric allergic population in Turkey (1). In contrast, Adatia et al. documented a substantially lower prevalence of sesame allergy (0.1–0.2%) in the United States and Canada, reflecting differences in dietary exposure and cultural habits (19). Similarly, Brough et al. conducted a multicenter European study and found considerable heterogeneity in nut and sesame seed allergy prevalence depending on the region, further emphasizing the role of geographic and environmental factors in food sensitization patterns (9). These comparisons reinforce that sesame allergy is more prevalent in populations with high sesame consumption, such as Turkey and the Middle East, and less so in Western countries, thus validating the importance of local dietary habits in allergic disease epidemiology.

Our study has some limitations that should be acknowledged. First, the cross-sectional design precludes the establishment of causality between sesame sensitization and allergic conditions. Second, the use of SPT alone for diagnosing sesame sensitization may result in false positives or negatives, as commercially prepared sesame extracts may lack certain allergenic proteins, leading to inaccurate results (23). Future studies incorporating oral food challenges, considered the gold standard for food allergy diagnosis, would provide more definitive prevalence rates. Lastly, our study population was derived from a single tertiary care center, which may limit the generalizability of our findings to the broader population.

It should be noted that many patients with sesame sensitization in our cohort also had comorbid allergic conditions such as asthma, atopic dermatitis, and other food allergies. Therefore, while symptoms like itching or urticaria were more frequently reported in sesame-sensitized individuals, it remains challenging to determine whether these manifestations were directly caused by sesame sensitization or by other underlying atopic diseases. This diagnostic complexity underscores the importance of confirmatory oral food challenge testing to distinguish true clinical allergy from isolated sensitization in multi-atopic pediatric patients.

In conclusion, our study highlights a higher prevalence of sesame sensitization among children with allergic manifestations in our region compared to Western countries. The significant association between sesame sensitization and other allergic conditions underscores the need for comprehensive allergy assessments in this population. Given the potential for severe allergic reactions, including anaphylaxis, clinicians should maintain a high index of suspicion for sesame allergy, particularly in regions with high sesame consumption. Further research is warranted to elucidate the natural history of sesame allergy and to develop effective management strategies for affected individuals.

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Conflict of Interest

All authors declare that no conflict of interest may have influenced either the conduct or the presentation of the research.

Ethical Approval

The study was conducted in accordance with the principles of the Declaration of Helsinki, patient rights regulations, and ethical guidelines. Before the study commenced, ethical approval for this retrospective study was obtained from the Clinical Research Ethics Committee of Gaziantep University (Decision No: 2020/293, dated November 4, 2020).

Data Availability

The data set used and/or analyzed during the present study is available upon reasonable request.

Authorship Contributions

Concept: **Sait Ucar, Ercan Kucukosmanoglu,** Design: **Sait Ucar, Ercan Kucukosmanoglu,** Data collection or processing: **Sait Ucar, Ercan Kucukosmanoglu, Elif Arik,** Analysis or Interpretation: **Sait Ucar, Ercan Kucukosmanoglu, Ozlem Keskin,** Literature search: **Sait Ucar, Elif Arik,** Writing: **Sait Ucar,** Approval: **Sait Ucar, Ercan Kucukosmanoglu, Ozlem Keskin.**

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