PARENTAL MANAGEMENT OF ASTHMA TRIGGERS WITHIN A CHILD’S ENVIRONMENT


Purpose of the Study. To assess the type and frequency of attempts by families to control environmental precipitants of asthma symptoms and their degree of consistency with current National Heart, Lung, and Blood Institute (NHLBI) asthma guidelines.

Study Population. A nationwide sample of 896 children (ages 2–12 years) with asthma who had used asthma-related health care within the previous 2 years. Patients were selected randomly from the panels of 106 primary care clinicians participating in a trial to evaluate the effect of physician asthma education on health care utilization.

Methods. A cross-sectional, telephone-based survey was conducted. Respondents were asked open-ended questions to identify triggers for their child’s asthma and to describe specific actions taken to eliminate these triggers in the home. Demographic information regarding the patient (age, race, gender, type of insurance, and health care utilization for asthma within the last year) and the household (income, number of persons in the household, education of the caregiver) was collected. Specific queries were used to discern patient asthma severity, if smokers resided in the home, and if the family had received asthma education from their primary care manager. Actions to address asthma triggers were categorized as recommended, reasonable, neutral, or not recommended based on NHLBI recommendations.

Results. Eighty percent of parents (717 of 896) could identify at least 1 asthma trigger (mean: 2.2; range: 0–9). Eighty-two percent (582 of 717) of these parents had attempted an environmental-control measure. Of the 1788 actions reported by these respondents, 51% were not likely to be useful for the specified trigger (eg, the purchase of an air filter when the environmental trigger reported would not likely be addressed by an air filter). Two hundred sixteen (24%) children lived with a smoker. Only 16 of the 216 families (7%) reported attempting to reduce or eliminate smoke exposure. No specific demographic characteristic predicted which parents were more likely to institute environmental controls. Characteristics positively associated with addressing triggers included receiving asthma education (odds ratio [OR]: 1.78; 95% confidence interval [CI]: 1.26, 2.52) and the number of primary care office visits in the last year (OR: 1.05; 95% CI: 1.00, 1.10).

Conclusions. More than half of the environmental modifications initiated by families are not consistent with current NHLBI guidelines. Despite the proven benefits of reducing tobacco-smoke exposure, few families reported any attempt to decrease smoke exposure. The lack of reliable correlation between an identifiable demographic group and environmental modification underscores the importance of education and encouragement in all families.

Reviewer’s Comments. Physician contact and physician asthma education, rather than family education or finances, seemed to correlate with attempts at environmental modifications. However, it is unclear from this study if the modifications instituted were endorsed by physicians. The NHLBI guidelines describe tobacco smoke as the “most important environmental indoor irritant.” Tobacco smoke remains a difficult challenge. Continued effort by health care providers to encourage smoking cessation is essential.

INCREASED PREVALENCE OF LATEX-SENSITIZATION AMONG CHILDREN WITH CHRONIC RENAL FAILURE


Purpose of the Study. To assess the prevalence of latex sensitization and identify risk factors for latex sensitization among children with chronic renal failure.

Study Population. Ninety-three patients (44 boys and 49 girls; median age: 10.5 ± 6.0 years) with chronic renal failure who presented to the University of Vienna Children’s Hospital Nephrology Clinic between 1997 and 2000.

Methods. Latex sensitization was assessed by a questionnaire-based history and measurement of total and latex-specific serum IgE by solid-phase immunoassay. Patients and parents were queried regarding the etiology of renal failure, age at onset, number of renal transplantations, surgical procedures, hemodialysis, clinical symptoms with latex exposure, personal and family history of allergy, and history of pacifier use. Patient responses were compared with medical histories and were consistent. Patients were designated as latex sensitized if their latex-specific serum IgE was ≥0.35 kilounits of allergen-specific IgE per liter (kUA/L). Neither skin-prick testing nor provocation testing was performed.

Results. Of the 93 patients enrolled, 10 (10.8%) were found to have latex-specific IgE levels (0.35–9.44 kUA/L). Of those, only 1 patient reported clinical symptoms on latex exposure compared with 4 patients with no demonstrable latex-specific IgE. No reactions to latex were reported to occur during medical care. A personal or family history of allergy, a greater number of urogenital surgeries, and hemodialysis were reported more frequently in latex-sensitized children. Gender, age at enrollment, age at first urogenital surgery, renal transplantation, and the use of pacifiers did not differ between latex-sensitized and -nonsensitized children.

Conclusions. The prevalence of latex sensitization among children with chronic renal failure is greater than that previously reported for the general pediatric population (10 of 93 vs 8 of 1175 in an unslected pediatric population). Eight of the 10 sensitized patients in this study had renal disease diagnosed within the first year of life and therefore had early and repeated exposures to latex. The small sample size prevented detection of significant associations with any determinant of renal disease or definite risk factor for sensitization.

Reviewer’s Comments. Atopy and repeated exposure to latex allergens have been previously associated with sensitization to latex. Children with chronic renal failure are frequently exposed to latex and therefore are likely at increased risk. A larger study population would be required to further characterize this increased risk. This study raises interesting questions regarding the impact of both timing and cumulative amount of latex exposure for all children with chronic illnesses.

FOOD ALLERGY

PREVALENCE OF PEANUT AND TREE NUT ALLERGY IN THE UNITED STATES DETERMINED BY MEANS OF A RANDOM DIGIT DIAL TELEPHONE SURVEY: A 5-YEAR FOLLOW-UP STUDY

Purpose of the Study. To determine the prevalence of self-reported peanut and tree-nut allergy among the general population of the United States in 2002 and compare it with prevalence rates obtained 5 years earlier.

Study Population. A total of 4855 households representing a census of 13 493 participated.

Methods. A nationwide, cross-sectional survey was administered by telephone to persons called by a random sampling of telephone numbers in the continental United States. Adults acted as surrogates for minors with peanut or tree-nut allergy. Differences in responses between groups were tested by \( \chi^2 \) analysis.

Results. Fifty-three percent of contacted homes participated. Peanut allergy, tree-nut allergy, or both was self-reported in 166 (1.2%; 95% confidence interval [CI]: 1.0%, 1.4%) individuals in 155 (3.2%; 95% CI: 2.7%, 3.7%) households. These prevalence rates were similar to those reported in 1997. Any differences in prevalence rates between people of different race/ethnicity did not reach statistical significance. There was an overall male predominance of peanut or tree-nut allergy in children (\( P = .02 \)) and a female predominance in adults (\( P = .0008 \)). The prevalence of reported peanut allergy among children increased significantly from 0.4% in 1997 to 0.8% in 2002 (\( P = .05 \)), but the rate of tree-nut allergy did not change significantly. The prevalence of peanut and tree-nut allergy in adults did not change significantly between 1997 and 2002. Overall, the adjusted prevalence rate taking into account individuals with reported allergy without convincing histories was 1.04% (95% CI: 0.9%, 1.2%). Of the reported reactions, 79% involved either respiratory symptoms or multiple organ systems. Only 74% of children and 44% of adults were evaluated by a physician for their allergic reactions, and self-injectable epinephrine was prescribed for 46% of the children and 23% of the adults.

Conclusions. The authors reported similar overall rates of peanut and tree-nut allergy in the United States, as was noted in 1997, but over this 5-year period the prevalence of peanut allergy in children doubled.

Restrictive comments. The findings of increased prevalence of peanut allergy may be expected with the well-documented increase of atopic diseases in the past decades. Why the prevalence of tree-nut allergy would be unchanged during this same period will require additional investigation. A notable finding in this study is that \( >25\% \) of children and 50% of adults who reported peanut or tree-nut allergy did not seek medical evaluation. Even more remarkable is that after medical evaluation for peanut or tree-nut allergy, self-injectable epinephrine was prescribed to approximately half of the children and less than one quarter of the adults. This underscores the need for continued improvement in the care of patients with food allergy, which is increasing in prevalence.

Timothy Andrews, MD
James R. Banks, MD
Arnold, MD

PEANUT ALLERGY: RECURRENCE AND ITS MANAGEMENT


Purpose of the Study. To determine the rate of peanut allergy recurrence, identify risk factors for recurrent peanut allergy, and develop specific recommendations for the treatment of patients with resolved peanut allergy.

Study Population. Children >4 years old with prior diagnosis of peanut allergy who had undergone and passed an oral peanut challenge.

Methods. Children were evaluated by using questionnaires, skin tests, and peanut-specific IgE levels. Patients were invited to undergo a double-blind, placebo-controlled food challenge (DBPCFC) unless the history of a possible recurrence reaction was so convincing that a challenge would be potentially dangerous.

Results. Sixty-eight patients were evaluated. Forty-seven patients continued to tolerate peanut, of whom 34 ingested concentrated peanut products at least once per month and 13 ate peanut infrequently or in limited amounts but passed a DBPCFC. The status of 18 patients was indeterminate because they ate peanut infrequently or in limited amounts and declined to have a DBPCFC. After excluding 12 patients originally diagnosed with peanut allergy based solely on a positive skin-prick test or peanut-specific IgE level, 3 of 15 patients who consumed peanut infrequently or in limited amounts had recurrences, compared with no recurrences in the 23 patients who ate peanut frequently (\( P = .025 \)). The recurrence rate was 7.9% (95% confidence interval: 1.7%, 21.4%).

Conclusions. Children who outgrow peanut allergy are at risk for recurrence, and this risk is significantly higher for patients who continue largely to avoid peanut after resolution of their allergy. It is recommended that patients eat peanut frequently and carry epinephrine indefinitely until they have demonstrated ongoing peanut tolerance.

Reviewer’s Comments. Recent studies reported that up to 20% of peanut-allergic children may outgrow this condition, giving hope to many patients. Follow-up of the children who passed an oral peanut challenge showed that some children experienced acute allergic reactions to peanut some time after having passed a challenge. Children avoiding peanut were more likely to have recurrence of their peanut allergy than those ingesting peanut on a regular basis. The possibility of recurrence of peanut allergy and importance of regular dietary peanut intake should be discussed with patients and their parents when considering oral peanut challenges. It should be noted that recurrence has been reported solely for peanut and fish allergy, whereas recurrence of other food allergies such as those to cow’s milk, egg, soy, or wheat have not been described in the literature.

Anna Nowak-Wegrzyn, MD
New York, NY

DISTRIBUTION OF PEANUT ALLERGEN IN THE ENVIRONMENT


Purpose of the Study. To determine the amount of peanut protein detectable in a variety of common exposure settings and examine the effectiveness of measures used to clean peanut from tables and hands.

Methods. A monoclonal-based enzyme-linked immunosorbent assay was used to detect 1 of the major peanut proteins (Ara h1) from surface-wipe samples of hands, tables, and other surfaces and from air samples.

Results. After purposeful handling of a teaspoon of peanut butter, hand-washing with liquid soap, bar soap, or commercial wipes resulted in no detectable Ara h1. However, using plain water without soap or an antibacterial hand sanitizer left detectable Ara h1 on 3 of 12 and 6 of 12 hands, respectively. Purposeful placement of a teaspoon of peanut butter on 1 square foot of tabletop followed by
Prevalence of Peanut and Tree Nut Allergy in the United States Determined by Means of a Random Digit Dial Telephone Survey: A 5-Year Follow-up Study
Timothy Andrews and James R. Banks
*Pediatrics* 2005;116;544
DOI: 10.1542/peds.2005-0698T

Updated Information & Services

including high resolution figures, can be found at:
http://pediatrics.aappublications.org/content/116/Supplement_2/544.T

Subspecialty Collections

This article, along with others on similar topics, appears in the following collection(s):
Environmental Health
http://classic.pediatrics.aappublications.org/cgi/collection/environmental_health_sub
Allergy/Immunology
http://classic.pediatrics.aappublications.org/cgi/collection/allergy:immunology_sub
Asthma
http://classic.pediatrics.aappublications.org/cgi/collection/asthma_sub

Permissions & Licensing

Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
https://shop.aap.org/licensing-permissions/

Reprints

Information about ordering reprints can be found online:
http://classic.pediatrics.aappublications.org/content/reprints

Pediatrics is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since . Pediatrics is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2005 by the American Academy of Pediatrics. All rights reserved. Print ISSN: .

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN

Downloaded from http://pediatrics.aappublications.org/ by guest on October 3, 2017
Prevalence of Peanut and Tree Nut Allergy in the United States Determined by Means of a Random Digit Dial Telephone Survey: A 5-Year Follow-up Study

Timothy Andrews and James R. Banks

*Pediatrics* 2005;116;544
DOI: 10.1542/peds.2005-0698T

The online version of this article, along with updated information and services, is located on the World Wide Web at:

http://pediatrics.aappublications.org/content/116/Supplement_2/544.1