Participants were more likely to have been born in October (50%), asthma (46%), and allergic rhinitis (27%). Atopic disorders included atopic dermatitis (29%), cow's milk (23%), and shellfish (2%). Other self-reported food allergies included egg (29%), cow’s milk (22%), soy (11%), wheat (6%), fish (4%), and shellfish (2%). Atopic disorders included atopic dermatitis (50%), asthma (46%), and allergic rhinitis (27%). Participants were more likely to have been born in October, November, or December (P < .0001). Eighty-two percent (n = 3877) had been breastfed for a median of 7 months. The median age at first known exposure to PN was age 12 months (mean = 18.5 months), while the first known reaction was at a median age of 14 months (mean = 29.5 months). Seventy-four percent report that the first reaction to PN occurred with the first exposure, and ingestion was reported as the most common route of exposure (91%). The first reactions occurred primarily in the home, beginning a median of 3 minutes after exposure, 76% requiring medications. The median age at first known exposure to TN was 24 months (mean = 48 months), while the median age at first reaction to TN was 36 months (mean = 77 months). Sixty-eight percent reported that the first reaction occurred with the first exposure, and the majority of first TN reactions (61%) occurred in the home. Ingestion was the most common route of exposure to TN (88%). Half of all the reactions involved >1 organ system. A second reaction to PN was described by 2226 registrants (48%), and 1072 (23%) reported a third reaction. A second reaction to TN was reported by 564 people (34%) and 240 (14%) described a third. Subsequent PN and TN reactions attributable to accidental ingestion were more severe, more common outside the home and more likely to require treatment with epinephrine, when compared with initial reactions. Ninety percent of the participants reported having epinephrine available at all times. Of the 10% who did not, 45% had not been given a prescription.

Conclusions. This registry is the largest collection of patients with food allergies and emphasizes important and novel features of PN and TN reactions. Reactions are often severe, often occur on the first exposure, and require some type of medication or medical intervention. Subsequent reactions to PN and TN reportedly worsened in most patients. The majority of patients reported having epinephrine on hand, but it is worrisome that >500 patients did not have epinephrine readily available, and almost half of these patients had not even been given a prescription.

Conclusions. This study provides valuable insight into a very important aspect of food allergy. Because 89% of the registrants are children, this data is very valuable for pediatricians, as it provides new insights into the features of these PN and TN allergies, reaffirms previous observations, and provides a valuable source of information for health care providers.

THE US PEANUT AND TREE NUT ALLERGY REGISTRY: CHARACTERISTICS OF REACTIONS IN SCHOOLS AND DAY CARE


Purpose of the Study. To describe clinical features of allergic reactions to peanuts and tree nuts occurring in school or day care environments.

Study Population. Participants were from the US National Peanut and Tree Nut Allergy Registry (PAR), which is a voluntary, self-reported, or parental reported registry of individuals who are allergic to peanuts and/or tree nuts. This group of individuals from the database had experienced peanut and/or tree nut allergic reactions in a school or day care setting.

Methods. One hundred subjects were randomly selected from the PAR database and telephone interviews were performed to characterize the number of allergic reactions, causative food, initial symptoms, severity of final reactions, method of food contact, and the treatment rendered/school response.

Results. Of 4586 total database registrants, 750 (16%) reported allergic reactions to peanuts and/or tree nuts while in school or day care. One hundred subjects or parental surrogates described 115 reactions to peanuts and 9 reactions to tree nuts. For 25% of these subjects, a school reaction was the first indication of peanut or tree nut allergy. A total of 32% had 1 prior reaction, 37% had 2, 11% had 3 and 20% had >3 prior reactions. A total of 64% occurred in preschool with the remainder in elementary school or higher. Mode of contact included 60% occurring from ingestion, 24% from skin contact/possible ingestion, and 16% from inhalation/possible skin contact/possible ingestion. Peanut butter craft projects accounted for the most common ingestion. Treatment was given in 90% of reactions. Antihistamines were given in 84% and epinephrine in 28%. Epinephrine was administered by teachers, nurses, parents, and others. A nurse was on location for only 23% of reactions. Treatment delays were secondary to delayed recognition of reactions, calling parents, not following emergency plans, and, in 1 case, inability to administer self-injectable epinephrine.

Conclusions. Peanut and tree nut allergic reactions are common in school and day care environments. Both accidental exposures and new onset reactions can occur. School personnel need to be educated to recognize and treat food-allergic reactions.

Reviewers’ Comments. There are 2 weakness from this article that stem from the reliance on self-reported information. First, this could represent an overestimation of severity of school peanut and tree nut reactions as described in the article. Second, when nonmedically trained personnel report such events, reliability and historical recall need to be taken into account. However, in the school and day care environment, nonmedically trained personnel will be the first to recognize signs and symptoms of allergic reactions and therefore need to be educated regarding food allergies. Successful management includes prevention, prompt recognition, availability of medications, written emergency plans, and early administration of epinephrine by teachers, nurses, parents, cafeteria workers, and other school and day care personnel.
The US Peanut and Tree Nut Allergy Registry: Characteristics of Reactions in Schools and Day Care
Candace F. Remer and Michael Kaplan

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