

# Nannies' Knowledge, Attitude, and Management of Food Allergies of Children: An Online Survey

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**What is already known about this topic?** Similar food allergy knowledge studies with restaurant personnel, daycare centers, and school nurses have been undertaken in the past. There are limited data in the medical literature regarding nannies' knowledge of food allergies of children.

**What does this article add to our knowledge?** This survey identifies gaps in knowledge in the nanny population with regard to food allergy in children and underscores the importance of more comprehensive education of nannies in recognizing and managing food allergy emergencies.

**How does this study impact current management guidelines?** Ultimately, this study should inspire increased dialogue among nannies, families, and physicians so that the best care possible is provided for children, especially those at risk for severe food allergy reactions.

**BACKGROUND:** Rates of food allergies in children as well as the rate of families who employ nannies have increased dramatically over the past decade. It is essential that nannies have the knowledge and tools necessary to recognize and treat food allergy reactions.

**OBJECTIVE:** To identify gaps in knowledge in the nanny population with regard to food allergy in children.

**METHODS:** A Web-based survey was sent by e-mail to 709 nannies.

**RESULTS:** A total of 153 nannies (22%) completed the online survey: 26% of respondents had formal educational training at a nanny school; 99% recognized food allergy as a potentially fatal event; 37% reported caring for a child with food allergies. Of these, 71% had food allergy action plans, and 63% had epinephrine available. A total of 71% reported training on administering epinephrine. The nannies' major concerns included accidental ingestion and discomfort in administering epinephrine. A total of 36% were uncomfortable with recognizing a food allergy emergency, whereas 46% were uncomfortable administering epinephrine; 6% thought that a sensitized child could safely eat a small amount of allergenic food, whereas 14% believed that dilution with water might reduce an allergic reaction. A total of 66% desired additional

information about recognizing food allergies, and 71% agreed that food allergy training should be required for all nannies.

**CONCLUSION:** Nannies demonstrated gaps in knowledge with regard to food allergy in children, which reflects the need for more stringent training and education. Increased communication among parents, nannies, and physicians is needed to protect children with food allergy. © 2014 American Academy of Allergy, Asthma & Immunology (J Allergy Clin Immunol Pract 2015;3:63-7)

**Key words:** Food allergy; Nanny; Children; Child care; Epinephrine; Survey

As more and more families have 2 working parents, the need for reliable, trustworthy child care is becoming increasingly important. Despite the cost, many parents are turning to in-home child care for these needs. Parents are drawn to the flexibility, personal relationships, and one-on-one care that nannies provide. This trend has increased in popularity, and, according to the International Nanny Association, the number of nannies in the United States has increased 25% in the past 5 years to more than 1.2 million.<sup>1</sup> In fact, US Census data from 2011 determined that, of the 32.7 million children who received regular child care, 13% were cared for by non-family members, including nannies.<sup>2</sup>

The rates of food allergy in children also are rising. The most recent data from the Centers for Disease Control and Prevention showed that food allergies among children increased approximately 50% between 1997 and 2011. Food allergies affect approximately 15 million people in the United States, including 1 in 13 children.<sup>3</sup> With increasing prevalence and severity, it is important that child caregivers are knowledgeable and prepared should an allergic reaction occur. The in-home environment can be unstructured and exempt from the medical-legal requirements placed on sanctioned day care centers. Unlike employees of many daycare centers, nannies may not receive formal food allergy preparedness training. As a result, the nanny is responsible for the safety of children with no backup while parents are at work.

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**TABLE I.** Demographic data that represents a fairly broad range of nanny ages\*

	Total percentage
Age	
18-24 y	12
25-44 y	53
45-65 y	33
>65 y	2
Sex	
Women	100
Men	0
Race and/or ethnicity	
White	89
African American	5
Hispanic or Latino	2
Asian	1
Other	3

\*Responders were mainly white women, with a combined 1954 years of child care experience and an average of 13 years on the job.

Twelve-hour days are not uncommon, and nannies often prepare most meals 5 days a week for their charges. It is essential that this subset of caretakers have the knowledge and tools necessary to recognize and treat food allergy reactions.

Similar food allergy knowledge studies have been undertaken in the past by surveying restaurant personnel, pediatricians, and school nurses.<sup>4-7</sup> Despite their growing presence, there are limited data in the medical literature regarding nannies' understanding of food allergies. With this survey, we attempted to identify gaps in knowledge in the nanny population with regard to food allergy in children.

## METHODS

A 46-question anonymous online questionnaire was sent to 6 nanny organizations that responded to our request for participation. The survey was forwarded to member nannies on their e-mail lists, with a total of 709 nannies opening our questionnaire. Of these 709 nannies, 153 nannies responded to >1 question of the survey, but many did not complete the questionnaire in its entirety. Because of this, different questions had a different number of responses. The institutional review board at Cleveland Clinic approved this study. Questions in the survey were quantitative and qualitative, and were divided into sections that covered multiple aspects of food allergy knowledge in an attempt to obtain as much information as possible. The content of the survey was based on the clinical experiences of the investigators as well as previous food allergy survey studies.<sup>4,5</sup> Questions were reviewed and revised by members of the Cleveland Clinic allergy staff, and the survey was piloted with local nannies to assess generalizability to the lay public. Respondents completed the survey online, which took approximately 10 to 15 minutes to complete. A copy of the final survey is provided in this article's Online Repository at [www.jaci-inpractice.org](http://www.jaci-inpractice.org).

## RESULTS

### Demographic and training information

The demographic data of the nannies who participated are detailed in Tables I and II. All the responders were women, with a combined 1954 years of child care experience, and an average of 13 years on the job; 67% obtained 2 to 4 years of college

**TABLE II.** Sampling from nannies all over the United States

Geographic location	No. responders
Massachusetts	19
Ohio	14
Georgia	12
Maryland	8
New Jersey	8
Michigan	8
North Carolina	8
Pennsylvania	7
New York	6
Virginia	6
Illinois	6
Wisconsin	5
Colorado	5
Texas	4
South Carolina	4
Missouri	3
Florida	3
California	3
Washington DC	3
Arizona	3
Washington	2
Connecticut	2
Rhode Island	2
Iowa	2
Indiana	1
Tennessee	1

education, 21% had a high school education, and 12% had gone on to complete a graduate degree. A total of 26% had formal nanny training, whereas the remaining either received no formal training or obtained a college degree in a related child care field.

### Characteristics of children and employers

Of 303 children, 136 were toddlers, 111 were school aged and 56 were infants (<1 year). Respondents had a high rate of experience with children with food allergy and reactions. Thirty-seven percent reported having cared for a child with food allergies, whereas 17% cared for children with food allergies outside of work. Thirteen percent reported having a child who experienced a food allergy emergency, and 10% had a child under their care experience a food allergy emergency who had no known history of food allergy. Four of these children required epinephrine administration, although further details were not provided.

Common allergens include peanut, cow's milk, tree nuts, and hen's egg. Other reported allergens included shellfish and fish, wheat and/or gluten, soy, potato, pea, and some fruits. Seventy-one percent had a food allergy action plan in place to help manage food allergy emergencies for affected children, and a similar number of caregivers (72%) reported that employers had discussed safe meal preparation. Sixty-three percent of caregivers had self-injectable epinephrine available for a severe allergic reaction. Twenty-five percent of all the respondents, regardless of whether or not they cared for children with food allergy, reported employers restricting common food allergens, such as shellfish or peanuts, from the household. Almost all of the nannies thought that parents were reasonable with regard to their request to follow allergy precautions.

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