A Slice of FPIES: Insights on demographics, risk factors, foods avoided, and management from 441 children with FPIES

Lisa M. Bartnikas, MD,[1,2] Michelle C. Maciag, MD,[1,2] Scott H. Sicherer, MD,[3] Linda J. Herbert, PhD,[4] Michael C. Young, MD,[1,2] Fallon Schultz Matney, MSW, LCSW, CAM,[5] Amity A. Westcott-Chavez, MA, MFA,[5] Carter R. Petty, MA, [1,2] Wanda Phipatanakul, MD, MS[1,2] and Theresa A. Bingemann, MD[6]

[1]Boston Children's Hospital, Boston, MA, [2]Harvard Medical School, Boston, MA, [3]Department of Pediatrics, Division of Allergy and Immunology, Icahn School of Medicine at Mount Sinai, New York, NY, [4]Division of Allergy and Immunology, Children's National Medical Center, Washington, DC, [5]International FPIES Association (I-FPIES), Point Pleasant Beach, NJ, [6]Allergy and Clinical Immunology, Rochester Regional Health and the University of Rochester School of Medicine and Dentistry, Rochester, NY.

Rationale

- Food protein-induced enterocolitis syndrome (FPIES) is a non-IgE-mediated gastrointestinal food allergy.
- Little is known about demographics, food triggers and risk factors for FPIES.

Methods

- We performed a retrospective analysis of surveys completed by members of the International FPIES Association (I-FPIES).
- The survey was administered to I-FPIES members both: (1) at the FPIES Education Conference for families of children with FPIES, held 8/4/2018 in Philadelphia, PA, and (2) available electronically on the I-FPIES website and on the organization's Facebook page to followers of I-FPIES 12/3/2018-1/7/2019.
- Families self-identified as having a child with FPIES.
- Not every question was answered by respondents so the total number of responses varies for each question.

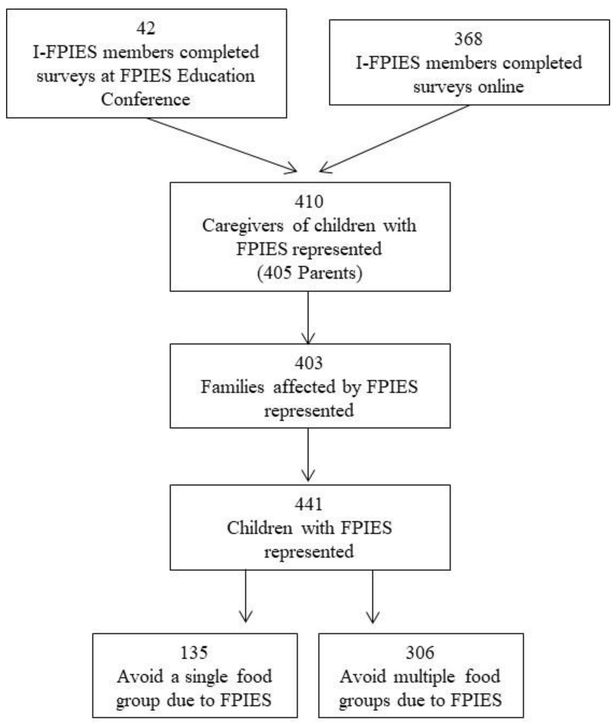

Figure 1. Overview of respondents and children represented.

Results

Caregiver's age, median (range) (N=410)	**35 yr, (20-62 yr)**	
Caregiver's relationship to child with FPIES (N=408)	**%**	**(N)**
Mother	96.1%	(392)
Father	3.2%	(13)
Other	0.7%	(3)
Caregiver's race (N=404)		
White	94.5%	(382)
Hispanic	2.0%	(8)
Asian	1.7%	(7)
Native American	0.5%	(2)
Native Hawaiian, Pacific Islander	0.5%	(2)
Multi-race, non-Hispanic	0.5%	(2)
African American	0.2%	(1)
Child's age, median (IQR) (N=428)	**2 yr, (1.25-4 yr)**	
Number of food groups avoided, median (range) (N=441)	**3, (1-13)**	
Child's gender (N=274)	**%**	**(N)**
Male	49.3%	(135)
Female	50.7%	(139)
Child's race (N=269)		
White	86.2%	(232)
Other	5.2%	(14)
Hispanic	3.7%	(10)
Multi-race, non-Hispanic	2.6%	(7)
Asian	0.7%	(2)
Native American	0.7%	(2)
African American	0.4%	(1)
Native Hawaiian, Pacific Islander	0.4%	(1)
Child's/children's school/daycare attendance (N=403)		
Attends	53.6%	(216)
Does not attend*	46.4%	(187)
Not attending due to concern for FPIES (N=184)	53.8%	(99)

Table 1. Demographics of respondents. *6 children ≥ 5 years old were not in school; 2/6 were not in school due to FPIES. IQR: Interquartile range.

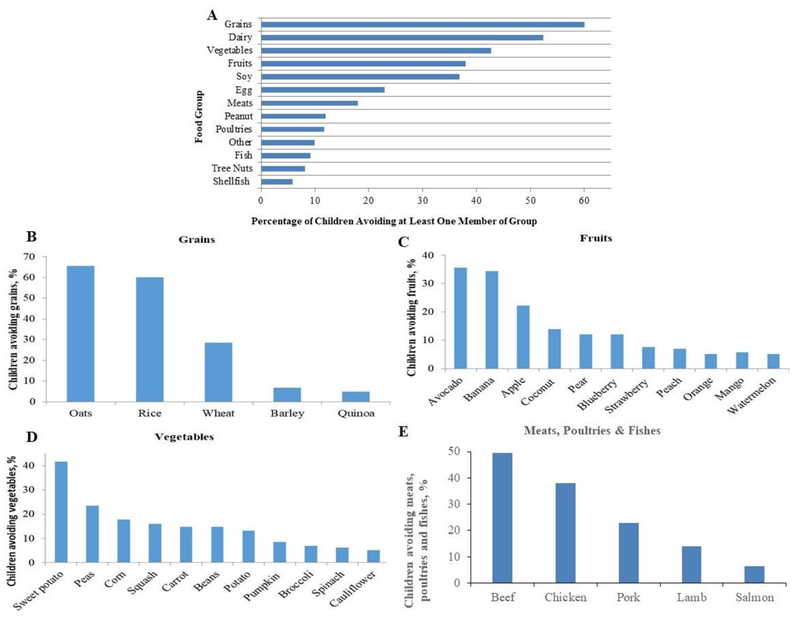

Figure 2. Food groups avoided due to FPIES. A. Percentage of children (N=441) avoiding individual food groups. **B-E.** Individual foods avoided within a group. Only foods avoided by >5% within the food group are represented.

Results, cont'd

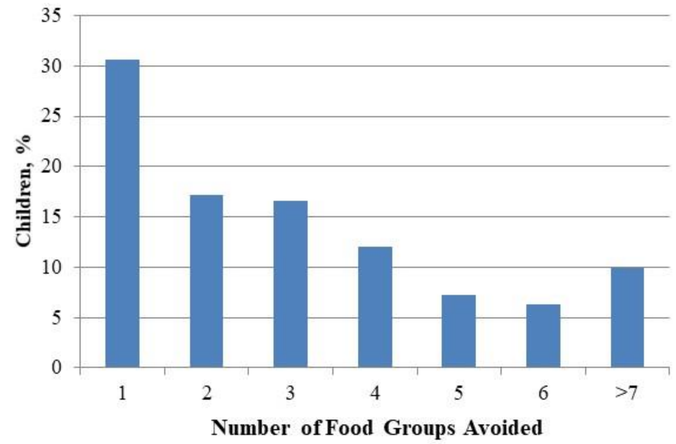

Figure 3. Number of food groups with at least one member avoided. Percentage of respondents (N=441 respondents) avoiding number of food groups. Food groups were defined as: cow's milk, soy, egg, peanut, tree nuts, fishes, shellfishes, poultries, meats, grains, vegetables, fruits and other.

	Child			Parent		
	Single food group avoided % (N)	**Multiple food groups avoided % (N)**	**P-value**	**Single food group avoided % (N)**	**Multiple food groups avoided % (N)**	**P-value**
Male child	46.7% (35/75)	48.7% (77/158)	0.768	--	--	--
White race	83.8% (67/80)	87.2% (156/179)	0.465	--	--	--
Any atopy	50.4% (62/123)	56.9% (152/267)	0.229	41.8% (56/134)	51.7% (156/302)	0.057
Allergic rhinoconjunctivitis	15.4% (19/123)	18.7% (50/267)	0.430	26.9% (36/134)	33.8% (102/302)	0.152
Asthma	12.2% (15/123)	15.0% (40/267)	0.463	20.9% (28/134)	24.2% (73/302)	0.454
Atopic dermatitis	27.6% (34/123)	37.0% (99/267)	0.068	10.4% (14/134)	17.5% (53/302)	0.058
IgE-mediated food allergy	22.8% (28/123)	26.6% (71/267)	0.420	7.5% (10/134)	11.3% (34/302)	0.225
Celiac disease	1.6% (2/123)	1.1% (3/267)	0.682	2.2% (3/134)	4.6% (14/302)	0.233
First-degree relative with FPIES	14.2% (19/134)	23.0% (69/300)	**0.035**	--	--	--

Table 2. Factors associated with avoiding multiple foods due to FPIES. Any atopy was defined as the presence of allergic rhinoconjunctivitis, asthma, atopic dermatitis or IgE-mediated food allergy.

Conclusions

- Avoiding multiple food groups is common.
- Having a first-degree relative with FPIES is associated with the affected child avoiding multiple food groups.
- These insights may impact recommendations for food introduction.

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