

1 Online Supplement

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3 Self-reported asthma was defined in children 6-17 years old as a positive answer to the
4 question “Has a doctor or other health professional ever told you that your child has asthma?”
5 This was followed by “Does your child still have asthma?” and further stratified by severity, as
6 defined by “During the past 12 months, has your child had an episode of asthma or an asthma
7 attack,” or “had a visit to an emergency room or urgent care center because of asthma?” All ages
8 were asked, “In the past 12 months has your child had wheezing or whistling in his/her chest?”
9 Self-reported allergic rhinitis was assessed by a positive response to the questions, “Has a doctor
10 or other health professional ever told you that your child has hay fever?” (2005-2006) or “During
11 the past 12 months, has your child had an episode of hay fever?” (2007-2010). Self-reported
12 food allergy was assessed by a positive response to the question, “Does your child have any food
13 allergies?” (2007-2010). If yes, then the subject was asked “What foods is your child allergic
14 to?” with options including wheat, cow’s milk, eggs, fish, shellfish, corn, peanuts, other nuts, soy
15 products, and other foods.

16 Allergic sensitization to foods (peanut, egg, milk, and shrimp) and aeroallergens (D.
17 Farinae, D. Pteronyssinus, cat, dog, cockroach, mouse, rat, ragweed, rye grass, bermuda grass,
18 oak, birch, Aspergillus, Alternaria, and thistle) was assessed by ImmunoCAP (Phadia, Upsalla,
19 Switzerland) in 2005-2006, as has been previously described.[12, 13] Because of limited serum
20 quantities, participants ages 1-5 had sIgE measured to 9 allergens (peanut, milk, egg, shrimp,
21 Alternaria, cat, cockroach, dog, dust mite). Participants older than 6 had sIgE measured to all 19
22 allergens. Overall sensitization was defined as sIgE of ≥ 0.35 kU/L, and for foods, *a priori*
23 sensitization categories based on levels of sIgE were defined as previously described.[13] To
24 account for oversampling, complex sampling methods, and non-response, cluster sampling units,

25 pseudo-strata and sampling weights provided with the surveys were used for all analyses. All
26 analyses were done in STATA 12.1 (College Station, Texas).

- 27 E1. Liu, A.H., R. Jaramillo, S. Sicherer, R. Wood, S.A. Bock, A.W. Burks, et al., *National prevalence*
28 *and risk factors for food allergy and relationship to asthma: results from the National Health and*
29 *Nutrition Examination Survey 2005-2006*. J Allergy Clin Immunol, 2010. **126**(4): p. 798-806 e13.
- 30 E2. McGowan, E.C., R.D. Peng, P.M. Salo, D.C. Zeldin, and C.A. Keet, *Changes in Food-Specific IgE*
31 *Over Time in the National Health and Nutrition Examination Survey (NHANES)*. J Allergy Clin
32 Immunol Pract, 2016. **4**(4): p. 713-20.

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Table E1: Association between Developmental Disorders and Levels of Food Sensitization among Children in NHANES 2005-2006

	Crude OR (95% CI)	P value	Adjusted OR* (95% CI)	p value*
Peanut				
Overall	1.92 (1.21 – 3.07)	0.009	1.83 (1.05 – 3.18)	0.04
≥2 kU/L	1.06 (0.36 – 3.15)	0.91	0.90 (0.27 – 2.95)	0.85
≥14 kU/L	0.50 (0.16 – 1.54)	0.21	0.22 (0.03 – 1.56)	0.12
Milk				
Overall	0.94 (0.47 – 1.84)	0.85	1.04 (0.57 – 1.90)	0.89
≥2 kU/L	0.70 (0.28 – 1.75)	0.42	0.81 (0.24 – 2.66)	0.71
≥15 kU/L	N/A		N/A	
Egg				
Overall	0.70 (0.41 – 1.19)	0.17	0.81 (0.43 – 1.53)	0.50
≥2 kU/L	0.96 (0.26 – 3.58)	0.94	1.83 (0.38 – 8.88)	0.43
≥7 kU/L	0.91 (0.10 – 0.48)	0.93	2.61 (0.34 – 20.3)	0.33
Shrimp				
Overall	0.51 (0.27 – 0.97)	0.04	0.44 (0.22 – 0.88)	0.02
≥2 kU/L	1.10 (0.40 – 3.04)	0.85	1.05 (0.35 – 3.15)	0.93
≥5 kU/L	2.91 (0.10 – 8.40)	0.05	2.62 (0.69 – 9.97)	0.14

*Models adjusted for sex, age, race/ethnicity, household income, and low birth weight

N/A – not available due to small sample size