Prevalence of Soy Allergy Lowest Among the Big 8

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Some evidence suggests that an increasing number of Americans report being allergic to one or more foods.[1] Consequently, more and more consumers are eliminating certain foods from their diet; however, they may be doing so unnecessarily. Data show the prevalence of self-reported food allergy is greater than the actual prevalence of IgE-mediated food allergy.[2] Soy may be one of those foods unnecessarily being avoided, as surveys published over the past decade or so consistently show that among the major allergens, the prevalence of soy is the lowest.

In 2004, the U.S. Congress passed the Food Allergen Labeling and Consumer Protection Act (FALCPA), which mandates that the label of a food containing an ingredient that is or is derived protein from a "major food allergen" must declare the presence of the allergen in the manner described by the law. Eight allergenic foods, commonly referred to as the “Big 8,” fall under the FALCPA. The Big 8 foods that must be declared on product labels in the U.S. are milk/dairy, eggs, fish, *crustacean* shellfish, tree nuts, peanuts, wheat and soy.

Although soy is one of the Big 8, the prevalence of soy allergy is relatively low in comparison to the other 7 foods in the Big 8. This point is made very clear by a paper recently published in the journal *Nutrition Today*. For data on the prevalence of IgE-mediated food allergy among U.S. and Canadian adults, the authors of this paper, Carina Venter, PhD, and myself, focused on the 4 surveys briefly described below:

1. The National Health and Nutrition Examination Survey **(NHANES)**, which is a periodic survey conducted by the National Center for Health Statistics of the Centers for Disease Control and Prevention. A total of 20,686 individuals were surveyed between 2007 and 2010.[3]
2. A cross-sectional, list-assisted random-digit-dial telephone survey of U.S. consumers conducted by the **FDA** known as the Food Safety Surveys (FSS), which involved 4,568 adults (data for year 2010).[4]
3. A cross-sectional survey of U.S. adults; surveys were administered via the internet and telephone from October 9, 2015 to September 18, 2016. The survey was partly funded by the National Institute of Allergy and Infectious Disease **(NIAID)**. Surveys were completed by 40,443 adults.[5]
4. The Surveying Canadians to Assess the Prevalence of Food Allergies and Attitudes Towards Food LAbelling and Risk **(SCAAALAR)** invited 10,596 households to complete a survey on food allergy; of those invited, 3,666 responded (35% response rate) and 3,613 completed the survey, representing 9,667 individuals (7,469 adults and 2,198 children). Data were collected for years 2008-2009.[6]

As shown in the table, in all four surveys the prevalence of soy allergy is lower than the other foods in the Big 8. The surveys show that 1, 1.6, 3.5 and 6.0 out of every 1,000 adults are allergic to soy. If one simply averages the results of the 4 surveys, then the evidence suggests about 3 out of every 1,000 adults is allergic to soy.

In recent years, the number of foods in the U.S. containing pea protein has markedly increased, as pointed out in our paper. Pea protein has replaced soy protein in many instances because the former is perceived as being non-allergenic. Therefore, it is especially noteworthy that a recent Canadian case series suggests the increase in the number of products containing concentrated sources of pea protein has resulted in an increase in the number of severe reactions to pea.[7]

Those individuals who are allergic to soy need to avoid soyfoods, although they can safely consume refined soybean oil because it is safe for soy-sensitive individuals. For this reason, highly refined soybean oil is exempt from labeling. On the other hand, if one is unclear about whether they are allergic to soy, but out of caution are avoiding soyfoods despite preferring to consume them, it is recommended that a physician diagnosis be made so that one does not unnecessarily avoid foods that can help to meet nutrient needs.

Food	US-NHANES[3]	US-FDA[4]		NIAID Adults[5]	Canada (SCAAALAR)[6]
		Self-reported (SR)	SR doctor-diagnosed		
Years data collected	2007-2010	2010		2015-2016	2008-2009
Sample size	20,686	4,568		40,443	7,469
Any food	9.72	9.8	4.6	10.8	8.34
Milk/dairy	2.64	4.1	2.0	1.9	1.89
Shellfish	2.04	3.6	1.6	2.9	1.91
Fish	0.46	1.7	0.8	0.9	0.60
Tree nuts	0.87	1.3	0.7	1.2	1.07
Wheat/gluten	0.63	1.3	0.9	0.8	0.86
Egg	0.51	1.0	0.5	0.8	0.67
Peanuts	0.89	0.9	0.6	1.8	0.78
Soy	0.35	0.1	0.1	0.6	0.16

References

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