

Food allergen labelling and consumer confusion

A. Sakellariou*, A. Sinaniotis, L. Damianidou,
N. G. Papadopoulos, E. Vassilopoulou

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Food allergy represents an important health problem constituting a continuously increasing burden for public health. The frequency and potential severity of reactions to eight foods (cow's milk, egg, fish, crustaceans, peanuts, soybeans, wheat and tree nuts) explain the *Food Standards Code labelling requirements* from food industry (1). The aim of this study was to estimate consumers' ability to recognize food allergens in labels, depending on the existence of personal food allergy history, educational level and professional direction and suggest potential changes in labelling (2).

Study population was constituted by three groups: group I was comprised of 83 randomized selected parents of both allergic and nonallergic children, selected from the general population (Athens

primary schools). Parent's age ranged between 27 and 43 years (mean age 35, SD ± 5.62).

Group II was constituted by 34 parents of food-allergic children (28 females, age range 19–57 years; mean age 32, SD ± 11.4), who have visited the allergy clinic of our hospital.

Group III was comprised of 43 healthcare professionals (age range 20–46 years; mean age 33, SD ± 7.9) without any food allergy history.

A list of 59 terms, used on food labels, describing common allergenic ingredients on products been sold in the Greek market was created. Participants were asked to match only one food with each putative term that has been used to describe food.

Data were analysed with SPSS 13.0. Paired sample *t*-test was used to compare mean values and one way ANOVA for statistical comparisons. A *P*-value < 0.05 was considered significant.

Group III had a higher percentage ($P < 0.05$) of recognition with more correct answers in almost every term, comparing to groups I and II. At least one participant of group III recognized each ingredient.

No statistical difference in total recognition was found between groups I and II ($P = 0.852$), with slight differences in respective terms such as lecithin ($P = 0.0042$).

Seven terms could not be matched by participants of group II (Fig. 1). There were significant differences between groups' average high scores (76.27% for

group I, 71.18% for group II and 50.8% for group III).

More specific, the percentage of people matching correctly more than 50% of the terms with the respective allergen was 4.819% for group I, 2.941% of group II and 39.53% for group III ($P < 0.05$).

Gender was significantly correlated to the ability of recognizing an ingredient on a label, with females having more correct answers in ingredients, such as farina ($P = 0.034$) and lactose ($P = 0.035$).

Individuals with higher education level in groups II and III reached better scores ($P = 0.044$; 0.004 respectively).

Group II, constituted by 27.58% of egg-allergic and 24.13% of milk-allergic, matched correctly more terms describing egg or milk products respectively.

Despite Food Standard Code requires allergen labelling, findings from this study support that there are still obscure points in implementation (3). Mercifully, food-allergic participants recognized most terms used to describe the offending allergen causing them reactions (4).

Females appeared more familiarized with food labels probably because they are mainly responsible for a household's diet.

Food-allergic participants from group I accomplished higher scores than the non food allergic from the same group, related to their greater worry to recognize a specific allergenic ingredient, a worry that lacks from a healthy individual (5).

Food Standards Code has not eliminated two significant problems, dealing with the use by manufacturers of 'may contain' statements, as well as complex terminology which are still extensive. These reveal that the guidance is insufficient and limited to stating, which allergenic substances should be declared on a label.

This study reveals consumers' confusion on ingredients contained in commercial food products. There is profound need to state exact terms for use for each food allergen and

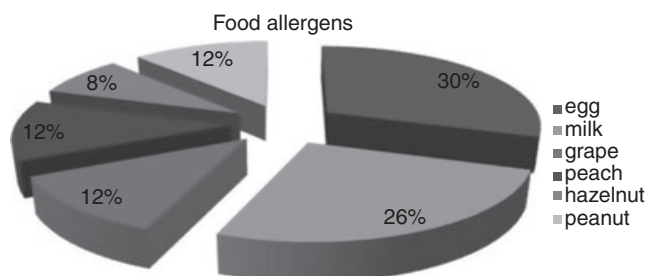


Figure 1. Food allergic participants' (group II) ability to recognize allergens on food labels.

allow only limited use of 'may contain' statements to avoid misleading labelling.

*Allergy Department
2nd Pediatric Clinic
University of Athens
Athens
Greece
Tel.: +30 210 777 6964
Fax: +30 210 777 7693
E-mail: fallen.ate@gmail.com

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