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NUTRITIONAL AND PSYCHO-SOCIAL ISSUES IN FOOD ALLERGY

## 0893 | Effects of allergenic food diversity and avoidance on the risk of IgE sensitization in the first year of life

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**Introduction:** The timing and effects of introducing allergenic foods into the diet of infants on allergy prevention remains unclear. We aimed to investigate allergenic food diversity and avoidance in relation to the risk of allergic sensitization during infancy.

**Objectives:** Subjects ( $N = 272$ ) were enrolled from the Prediction of Allergies in Taiwanese CHildren (PATCH) birth cohort study. Detailed information about the feeding practices and food diversity toward six allergenic foods (fruits, egg white, egg yolk, fish, shellfish, and peanuts) was obtained using age-specific questionnaires for infants at 6 and 12 months of age. Fecal secretory IgA, eosinophil cationic protein (ECP), and serum levels of total and allergen-specific IgE were also measured in infants at 12 months of age.

**Results:** Allergenic food diversity was significantly lower in infants who were IgE sensitized at 12 months of age ( $3.2 \pm 1.4$  items vs  $3.7 \pm 1.3$  items,  $P = .006$ ). Compared to infants introduced to 0-2 allergenic food items, infants introduced to 5 or more (OR, 0.61; 95% CI, 0.43-0.86) or 3-4 allergenic items (OR, 0.62; 95% CI, 0.40-0.93) showed significantly reduced risks of IgE sensitization. Additionally, egg white and yolk avoidance by 12 months of age was associated with IgE sensitization (OR, 1.41; 95% CI, 1.11-1.79 and OR, 1.26; 95% CI, 1.07-1.48, respectively), as well as to food sensitization.

**Conclusions:** Based on our results, we suggest that increased oral antigenic stimulation through increased allergenic food diversity, particularly through introduction of eggs during infancy, confers protection against IgE sensitization.

## 0894 | IgE sensitization to food allergens and food allergy manifestation in children following different vegetarian diets (first results)

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**Introduction:** In today's world, the popularity of vegetarian diets has increased dramatically over the past few decades, and many parents encourage their children to pursue this type of diets. Increased

interest in non-traditional diets (vegetarianism and pescetarianism) is observed in Russia as well. However, a nutritional status and health of children following unconventional diets have not been studied in Russia.

**Objectives:** To assess an IgE sensitization to food allergens and food allergy manifestations in children following different vegetarian diets.

**Results:** The study included 30 children aged 1-17 year following different restricted diets: lacto-ovo-vegetarian (9), lacto-vegetarian (11), ovo-vegetarian (1), vegan diet (4). The IgE levels to several food allergens (cow's milk, soy, beef, pork, egg white, fish (cod), wheat, chicken) were measured in blood samples by UniCAP.

Self-reported (or parents-reported) allergic reactions to food had 18 children from 30 (60%). 4 patients had diagnosed atopic dermatitis, 1 – oral allergy syndrome, 13 had recurrent skin symptoms. 6 patients had sIgE sensitization to 1 and more food allergens. Increased sIgE level was detected only in children with food allergic manifestations. IgE sensitization to cow's milk proteins ( $\leq 3.5$  kUA/l) was found in 4 (13.3%) children (2 lacto-ovo-vegetarians, 1 lacto-vegetarian, 1 vegan). 4 (13.3%) children (2 lacto-ovo-vegetarians, 1 lacto-vegetarian, 1 vegan) had IgE sensitization to egg white ( $\leq 17.5$  kUA/l). 2 patients had sensitization to soy, 2 – to wheat, 1 – to fish. Multiple sensitization was found in 3 children. One boy following vegan diet was sensitized to 5 food allergens (cow's milk, soy, fish (cod), wheat).

**Conclusions:** Food allergy and IgE sensitization to food allergens are common conditions in children following different vegetarian diets.

## 0895 | Excessive food elimination by pediatricians in food allergic infants and their mothers

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**Introduction:** The prevalence of food allergy (FA) has increased in recent decades. Food allergy has different clinical presentations based on the immunological mechanisms.

**Objectives:** In this study, we aimed to determine the clinical approach of the pediatricians for the diagnosis and management of the FA. One hundred and seventy pediatricians from different cities of Turkey fulfilled a questionnaire including 24 multiple-choice or fill-in-the-blank questions.

**Results:** Sixty-nine percent of the participants were pediatricians, 17% were pediatric allergists, and 13% were pediatric gastroenterologists. Ninety percent of participants claimed that they took care of FA patients. Among the participants 83% reported that they offer diet elimination for children with FA and 82% for their breastfeeding mothers. The most frequently eliminated foods in children's and mothers' diet are as follows, respectively: Cow's milk (79-86%), egg (51-50%), peanut (48-43%), hazelnut (44-36%), shellfish (27-28%), food with additives (21-26%), walnuts (29-25%), almonds (28-25%), soy (17-23%), fish (23-21%), strawberry (22-21%), tomato (20-18%), sesame (16-17%), cacao (17-14%), cow's meat (10-14%), kiwi (17-14%), orange (8-12%), blackberry (11-9%), sheep meat (4-8%), grapefruit (7-7%), mango (7-7%), bananas (7-6%), mandarin (8-6%), goat meat (3-6%), chicken meat (3-5%), gluten (8-7%), lentil (6-5%), lemon (4-5%). The subgroup analyses revealed that only 1 food was eliminated in 21% of mothers and 19% of infants' diet, 1-5 foods in 51% and 48.5%, 5-10 foods in 21% and 26%, more than 10 foods in 28% and 35%, respectively. Eighty-three of participants offer calcium supplement for the mother who are on dairy elimination and 60% consult the patients with a dietitian. Twenty-four percent of respondents postpone starting of complementary feeding over 6 months.

Fifty percent of the participants reported blood in stool as an IgE-mediated FA symptom and 19% reported anaphylactic reactions as a presentation of non-IgE-mediated FA.

**Conclusions:** Elimination diets are suggested by a great majority of the pediatricians for both children and breastfeeding mothers and this elimination covers a large number of food groups even the ones known to be non-allergic for most of the time. It is noteworthy that participants could not differentiate IgE-mediated and non-IgE-mediated FA findings with 100% accuracy. The introduction of interdisciplinary education programs can be proposed.

## 0896 | The role of a dietitian in the management of wheat-dependent exercise-induced anaphylaxis

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**Introduction:** Wheat-dependent exercise-induced anaphylaxis (WDEIA) is a distinct form of food allergy, occurring when wheat consumption is combined with a triggering co-factor e.g. exercise or

alcohol. Its manifestations range from urticaria / angioedema to anaphylaxis. Patient education and dietary counselling should be offered to prevent further episodes of WDEIA.

**Objectives:** A retrospective case series review of patients with WDEIA from 2 major UK allergy centres to determine the impact of dietitians' input and dietary changes on the overall management of these patients.

**Results:** Out of the 73 patients diagnosed with WDEIA only 18 (24.6%) were seen by a specialist allergy dietitian. All changed their diet; the majority (94%) started a gluten-free diet. 55 patients (75.4%) were not reviewed (not referred or no allergy dietitian available). Lack of the review was associated with a 3-fold increase in the frequency of post-diagnosis reactions ( $P < .05$ ). Although they were mostly mild, 2 patients reported severe anaphylaxis.

**Conclusions:** WDEIA patients are less likely to develop further allergic reactions post-diagnosis if a dietitian is involved in their care. Specialist allergy dietitians play a key role in the management of patients with WDEIA and should be an integral part of the multidisciplinary team in all centres managing WDEIA.

## 0897 | Allergy service dietetic support and food challenge testing: variation in practice

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**Introduction:** Improving Quality in Allergy Services (IQAS) accreditation sets a minimum level of dietetic support for food allergy services. Dietetic support provides evidence based, tailored advice empowering patients to avoid inappropriate dietary restrictions, prevent nutritional deficiencies and reduce anxiety around foods.

**Objectives:** A multi-centre survey was completed investigating levels of dietetic support and service parameters, and also investigated practices around food challenge testing.

**Results:** A high level of variation was identified in the provision of dietetic input for food allergy patients ranging from no input available to varying lengths of appointment time. There was general consensus around offering food challenge to patients who were likely to reintroduce the food back into their diet. Availability of double blind challenge testing was low. There were differences with regards to the location of low risk food challenge testing; some centres performed hospital challenge for all patients regardless of risk whereas other centres supported low-risk patients to self-challenge at home.

**Conclusions:** Variations in levels of dietetic support and practice have been identified due to a number of underlying causes with potential impact on the provision of clinical services to patients.