

# The Prevalence of Cashew Allergy and Skin Prick Test Sensitization in 1 Year Old Infants

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## Introduction

Cashew is the most common cause of tree nut allergy in Australian children. However, there are limited data on population-level cashew allergy prevalence and risk factors, particularly in infants.

We aim to describe prevalence of cashew sensitization and allergy in 1 year old infants and identify risk factors for developing cashew allergy.

## Methods

Data was from the EarlyNuts cohort, a population-based sample of infants recruited in Melbourne, Australia from 2016-2019. Families completed a questionnaire and infants underwent skin prick test (SPT) to cashew, milk, egg & peanut.

Infants with positive SPTs were offered oral food challenges (OFC). Questionnaires collected demographic data and allergy risk factors. Allergy outcomes were determined by challenge outcomes or convincing history of an allergic reaction.

Weights were used to adjust estimated prevalence to reflect the distribution of risk factors among the combined sample of participants and non-participants.

## Results

1933 infants were recruited, with cashew SPT and allergy outcomes determined in 1414. The prevalence of cashew allergy was 1.49% (95%CI: 0.91-2.44%). Cashew sensitization (SPT result  $\geq 3$ mm) was found in 1.96% (95%CI: 1.28-2.99%) (Fig 1).

Infants with eczema or peanut allergy in the first year of life were more likely to be cashew allergic (table 1). 25.2% of participants (95%CI 22.7-27.8%) had been introduced to cashew before 12 months of age (Fig 2).

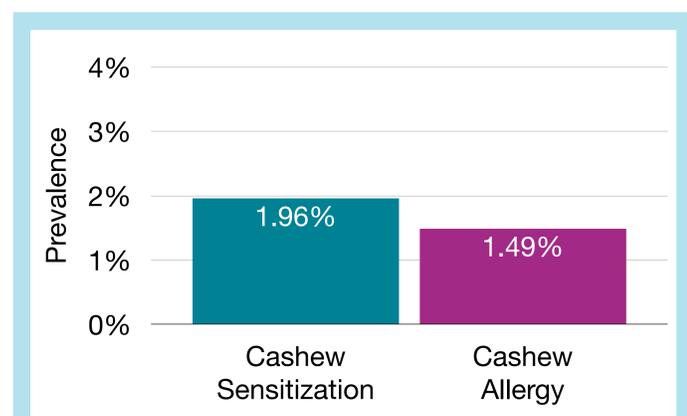


Fig 1: Cashew allergy prevalence

| Risk Factor/Association                | Cashew Sensitisation |              |         | Cashew Allergy |              |         |
|--|----------------------|--------------|---------|----------------|--------------|---------|
|  | aOR                  | 95% CI       | P value | aOR            | 95% CI       | P value |
| Peanut allergic                        | 8.88                 | 2.98 - 26.47 | <0.01   | 19.30          | 5.44 - 68.43 | <0.01   |
| Eczema                                 | 4.46                 | 1.91 - 10.45 | <0.01   | 5.75           | 2.08 - 15.88 | <0.01   |
| Timing of introduction ( $\geq 12$ mo) | 1.86                 | 0.40 - 8.69  | 0.43    | 0.65           | 0.16 - 2.62  | 0.55    |
| Sibling with food allergy              |                      |              |         |                |              |         |
| No siblings                            | 1.19                 | 0.53 - 2.66  | 0.68    | 1.05           | 0.40 - 2.74  | 0.93    |
| Yes, allergic siblings                 | 0.63                 | 0.08 - 5.13  | 0.67    | 1.00           | 0.12 - 8.43  | 1.00    |
| Parents with food allergy              | 1.92                 | 0.64 - 5.77  | 0.24    | 0.54           | 0.07 - 4.05  | 0.54    |
| Family history of atopy                | 1.51                 | 0.63 - 3.64  | 0.36    | 1.05           | 0.39 - 2.83  | 0.92    |
| Parental history of atopy              | 2.07                 | 0.86 - 5.02  | 0.11    | 1.39           | 0.51 - 3.76  | 0.51    |
| Parents born in any Asian country      | 4.35                 | 1.75 - 10.78 | <0.01   | 1.99           | 0.64 - 6.22  | 0.24    |
| Child country of birth (Australia)     | 1.00                 | -            | -       | 1.55           | 0.20 - 12.21 | 0.68    |

Table 1: Risk factors for development of cashew allergy and sensitization

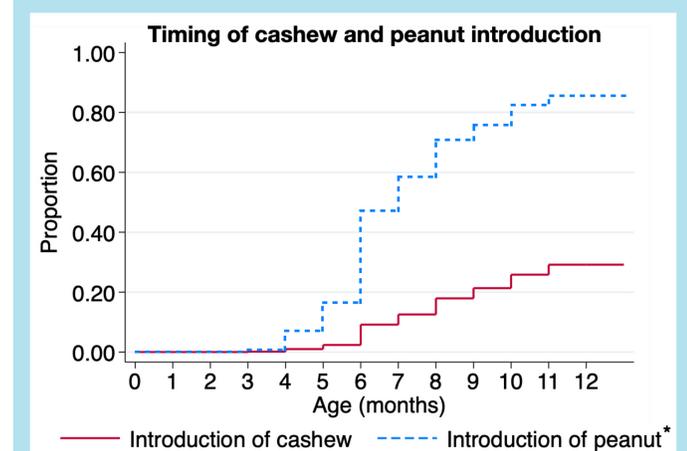


Fig 2: Timing of introduction in study cohort. \*Introduction of peanut reproduced with permission from Soriano et al<sup>1</sup>

## Key points:

1. The population prevalence of cashew allergy in 12mo infants is 1.49%
2. The prevalence of sensitization (Cashew SPT  $\geq 3$ mm) is 1.96%
3. There was an association between cashew allergy and peanut allergy, and also between cashew allergy and the presence of eczema
4. By 12 months, only 25% of the study population had been introduced to cashew, suggesting infant feeding guidelines have not translated to all allergens

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## References

1. Soriano VX, Peters RL, Ponsonby AL, Dharmage SC, Perrett KP, Field MJ, et al. Earlier ingestion of peanut after changes to infant feeding guidelines: The EarlyNuts study. *J Allergy Clin Immunol.* 2019;144(5):1327-35.e5