

To Reduce Infant Allergy Trial of a Maternal Diet Rich in Eggs and Peanuts Revealed

A large randomized trial published found that increasing maternal consumption of eggs and peanuts during [pregnancy](#) and breastfeeding did not significantly reduce the risk of egg or peanut allergy in infants at 1 year of age who had a strong family history of allergic disease.



Study

The investigators planned to recruit 2,136 women who were less than 23 weeks pregnant, had a singleton pregnancy, and planned to breastfeed for at least 4 months. The fetus also had to have at least two [biological family](#) members with medically diagnosed allergic disease, such as asthma, eczema, allergic rhinitis, or IgE-mediated food allergy. Women with egg or peanut allergy were excluded because they could not safely follow the intervention.

The sample size was based on an estimated 16% egg or [peanut allergy](#) in this high-risk population. They designed the study to capture a 30% reduction in allergy compared to low intake.

The 23-week initiation point marks when fetal [immune cells](#) become responsive to allergens, while the period up to four months after birth appears important for primary food-allergy prevention.

The study was conducted in Adelaide, Melbourne, Perth, and Sydney, Australia. It enrolled 2,137 pregnant women, of whom 1,070 women were randomly assigned to a high [egg-peanut](#) diet and 1,067 to a standard diet.

The high-intake diet included at least 6 eggs and 60 peanuts per week, in any form, from enrollment until 4 months after delivery during lactation, or until [breastfeeding](#) ended if it stopped earlier. Those in the standard-diet group were asked to consume no more than 3 eggs and 30 peanuts per week. The investigators considered this consistent with current best practice because guidelines do not recommend maternal avoidance of common food allergens during pregnancy or lactation, and the amounts also reflected typical Australian intake.

Randomization was stratified by city and birth order. Monthly surveys were used to monitor adherence. Outcome assessors, the trial statistician, investigators, and the serious-adverse-event committee were unaware of group assignments, while participants and intervention staff knew the assigned diet because the intervention involved [whole foods](#).

After the intervention, both groups received [Australasian guidance](#) on infant feeding and allergy prevention, with solid foods recommended around 6 months of age and peanut butter and cooked egg introduced during the first year.

The primary outcome was [IgE-mediated egg](#) or peanut allergy at 1 year of age. Infant assessment occurred at a median age of 12.9 months.

Infants underwent skin-prick testing for egg white and peanut. Those with positive tests but no history or test results strongly suggestive of [clinical allergy](#) underwent in-hospital oral food challenges.

Secondary outcomes included egg allergy, peanut allergy, sensitization to each allergen, and medically diagnosed [eczema](#) at 4 and 12 months.

In both groups, 88% continued to lactate until 4 months. The participants showed moderate adherence to the assigned [diet](#). Among participants with known adherence status, 64.4% in the high-intake group met the egg target, and 66.6% met the peanut target, across 75% or more of the monthly surveys.

In the [standard-diet group](#), these figures were 72.7% for eggs and 79.7% for peanuts. Both groups differed markedly in the actual weekly consumption of eggs and peanuts.

Findings

IgE-mediated egg or peanut [allergy](#) occurred in 83 of 1,066 infants (7.8%) in the high egg-peanut group and 89 of 1,064 infants (8.4%) in the standard-diet group, with no statistically significant difference in the combined risk of egg or peanut allergy.

When the analysis was restricted to women who breastfed for 4 months with adequate adherence to the assigned diet, the [null finding](#) remained unchanged, with allergy rates of 5.6% and 6.8% in the respective groups.

Other analyses supported these results, with little evidence that the intervention effect differed according to [birth order](#), household intake of eggs and peanuts, or socioeconomic status.

The individual allergy outcomes were similar between groups, including IgE-mediated egg allergy and peanut allergy, infant egg or peanut sensitization, and [medically diagnosed](#) eczema at 4 and 12 months.

No apparent differences were found in maternal or infant [safety outcomes](#). Serious adverse events occurred in 3.6% of the high-intake group and 3.8% of the standard-diet group. Infant anaphylaxis to egg or peanut occurred in 0.5% and 0.9%, respectively.

Conclusion

One limitation was that the actual prevalence of egg or peanut allergy was only about 8%, rather than the anticipated 16%. According to the authors, this might have reduced the study's ability to

detect a preventive effect. The authors note that the [confidence](#) interval does not completely exclude a clinically important 30% reduction in risk.

The lower-than-expected allergy prevalence may reflect changes in infant feeding after the 2016 Australian [allergy-prevention guidelines](#). The authors noted that their 16% estimate came from data collected before the guideline update and cited another Australian study in which direct provision of the guidelines promoted introduction of egg and peanut at around 6 months and reduced allergy prevalence.

Future studies should account for the reduced incidence of these allergies, linked to changes in [infant feeding practices](#) in some countries, when determining sample sizes.

The authors concluded that higher maternal intake of eggs and peanuts during pregnancy and [lactation](#) did not reduce or increase the risk of IgE-mediated egg or peanut allergy in infants. They also pointed to separate evidence supporting timely introduction of egg and peanut directly into the infant diet.

Source:

<https://www.news-medical.net/news/20260917/Can-maternal-diet-prevent-infant-food-allergy-A-large-trial-puts-eggs-and-peanuts-to-the-test.aspx>