

Enquiring About Tolerance (EAT) Study

Final Report Summary
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A randomised controlled trial of early introduction of allergenic foods to induce tolerance in infants

Authors: Dr Michael Perkin, Dr Kirsty Logan & Professor Gideon Lack

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INTRODUCTION AND RATIONALE

Food allergy is a significant health problem in the UK affecting 6% of children, and for particular foods such as peanut and egg the rate is rising. There is currently a lack of agreement in the scientific community about when is the best time to introduce allergenic foods into the infant diet in order to minimise the risk of developing allergies.

The UK government currently recommends that infants are exclusively breastfed until around six months of age, and that some foods are best avoided before six months of age (e.g. egg, wheat, peanuts, tree nuts, sesame seeds, fish and shell fish). Some recent studies are now suggesting that regularly eating foods that might cause allergy may be a better way of preventing it. One of these studies was called The LEAP (Learning Early About Peanut allergy) study which found that the early introduction of peanut into the diet of babies at high risk of developing allergies protected against the development of peanut allergy.

The Enquiring About Tolerance (EAT) Study aimed to investigate whether the early introduction from three months of age of 6 allergenic foods (milk, peanut, sesame, fish, egg, wheat) into the infant diet, alongside continued breastfeeding, reduced the number of children developing food allergies and other allergic diseases (such as eczema and asthma) by three years of age.

METHODS

The EAT Study enrolled exclusively breastfed infants from England and Wales. The study aimed to recruit infants who represented the general population.

Infants were split randomly into two groups. One group (the Standard Introduction Group) followed standard UK government advice and were asked to exclusively breastfeed for around 6 months, after which introduction of allergenic foods was a matter of parental choice.

The second group (the Early Introduction Group) was asked to introduce 6 allergenic foods from the age of 3 months. Parents were asked to introduce baby rice and/or pureed fruit or vegetables and then some cows' milk-based yoghurts whilst continuing to breastfeed. Then fish, egg, milk, sesame and peanut were introduced sequentially in random order with 2 new foods per week. Wheat was always the last food given and not before 4 months. The aim was for babies to be consuming these foods twice weekly by five months of age in addition to still being breastfed.

It was important that breast milk remained an important part of any babies' diet during the first year of life, so all mothers in the study were encouraged to breastfeed for at least six months regardless of study group.

For safety reasons, all infants in the intervention group were skin prick tested to the 6 foods to ensure they were not already showing signs of food allergy. If they were they had a food challenge to confirm whether the child had a food allergy.

Parents completed online questionnaires every month until their baby was 12 months, and then every 3 months up to 3 years of age. These questionnaires asked about consumption of allergenic foods, allergy symptoms and general health and behaviour.

Both groups had a clinic visit at 12 months of age and at 3 years of age. They again had skin prick testing to the 6 foods, tree nuts and aero allergens e.g. dust, grass, pollen. They had an eczema examination, growth check and dietetic consultation. Those with positive skin-prick tests to one of the six foods or those with symptoms suspicious of food allergy underwent a food challenge to confirm.

RESULTS

The early introduction of allergenic foods alongside breastfeeding was both safe and demonstrated a significant reduction in food allergy prevalence in those that consumed sufficient amounts of allergenic foods from 3 months compared to those encouraged to follow the UK infant feeding advice of around six months exclusive breastfeeding. However, when every participant was analysed regardless of whether they managed to follow their assigned protocol the reduced allergy rate of 21% seen was not significant.

For those who fed their infant the recommended amount of peanut there was a significant reduction in peanut allergy, 2.5% in the standard introduction group compared to no cases in the early introduction group (0%).

There was also a significant reduction for egg allergy- 5.5% in the standard introduction group compared to 1.4% in the early introduction group.

The safety of participants was monitored very closely throughout the study. No cases of anaphylaxis (severe allergic reaction) were reported in the early introduction group during the key early introduction period.

The EAT study suggests that cooked egg can be a safe way to introduce egg into infants' diets before 6 months of age which contrasts with previous studies which have used raw egg powder.

The study found that the prevention of food allergy could be achieved with weekly consumption of small amounts of allergenic food - about 1 ½ teaspoons of peanut butter and one small boiled egg.

Breastfeeding rates were the same in both groups with over 96% of infants still being breastfed at 6 months of age and over 50% in both groups at one year of age.

There was no effect of the trial intervention on growth.

In common with the UK population, ethnic participants were more likely to have food allergy and eczema than white participants.

CONCLUSION

The findings of the EAT study suggest that early introduction of allergenic food in sufficient quantity from 3 months of age may be able to help prevent food allergies developing in children.