

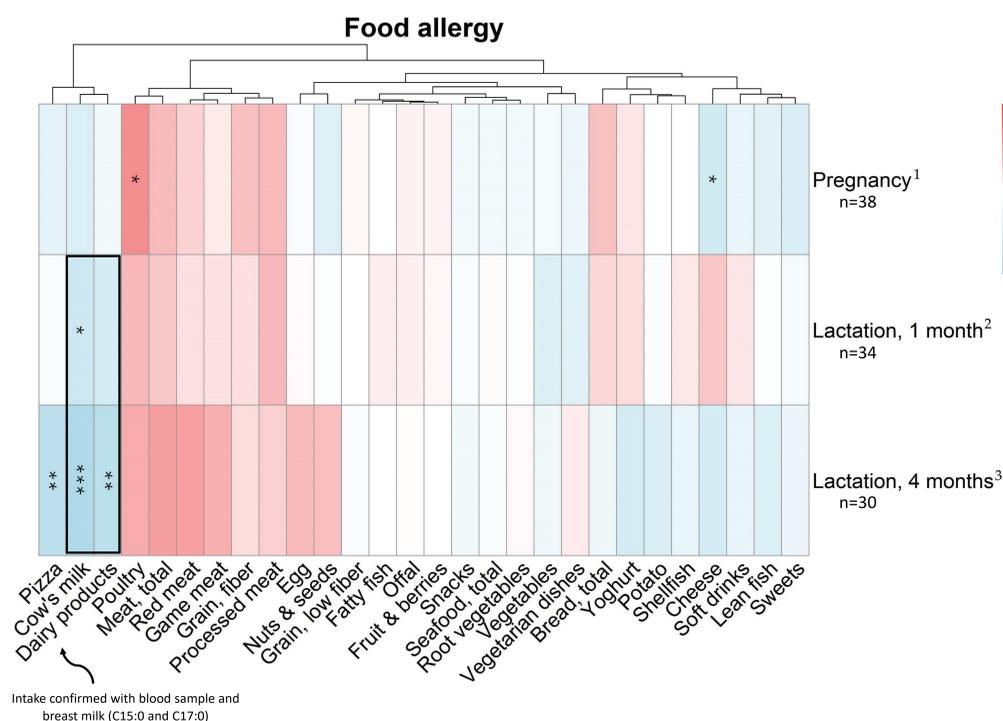
Diet during pregnancy and lactation in relation to offspring allergy

Aim

Assess and compare the dietary intake of pregnant and lactating women using questionnaires, validate it with dietary biomarkers in erythrocytes and breast milk, and relate these data to doctor diagnosed allergy in the offspring at 12 months of age.

Conclusion

- Maternal intake of cow's milk during lactation, as confirmed by measurements of dietary biomarkers in maternal blood and breast milk samples, is associated with lower prevalence of physician-diagnosed food allergy by 12 months of age.
- Our results suggest that maternal diet modulate the infant's immune system, affecting subsequent allergy development.



Results

- 508 mother-child couples included in the statistical analyses.
- The prevalence of allergy at 12 months of age were 7.7% with food allergy, 6.5% with atopic eczema and 6.5% with asthma.
- A higher maternal consumption of cow's milk during lactation was significantly associated with lower prevalence of food allergy in the offspring.
- Higher maternal consumption of fruit and berries during lactation was significantly associated with increased prevalence of atopic eczema in the offspring.
- Intake of cow's milk correlated with the proportions of pentadecanoic acid (15:0) and heptadecanoic acid (17:0) in breast milk and pentadecanoic acid in breast milk was in turn associated with lower prevalence of offspring food allergy.

Materials & methods

- Data from the Swedish birth cohort NICE
- Repeated semi-quantitative food frequency questionnaire
Gestational week 34, 1 month and 4 months postpartum
- Doctor's diagnosed allergy at 12 months
- Analysis of fatty acids in erythrocytes (GC-FID) and in breast milk (GC-MS)
- Partial Spearman correlation with diet and allergy
Adjusted for heredity, siblings, birth season and total energy intake
- Unsupervised hierarchical cluster analysis

