

Gateway to allergy prevention

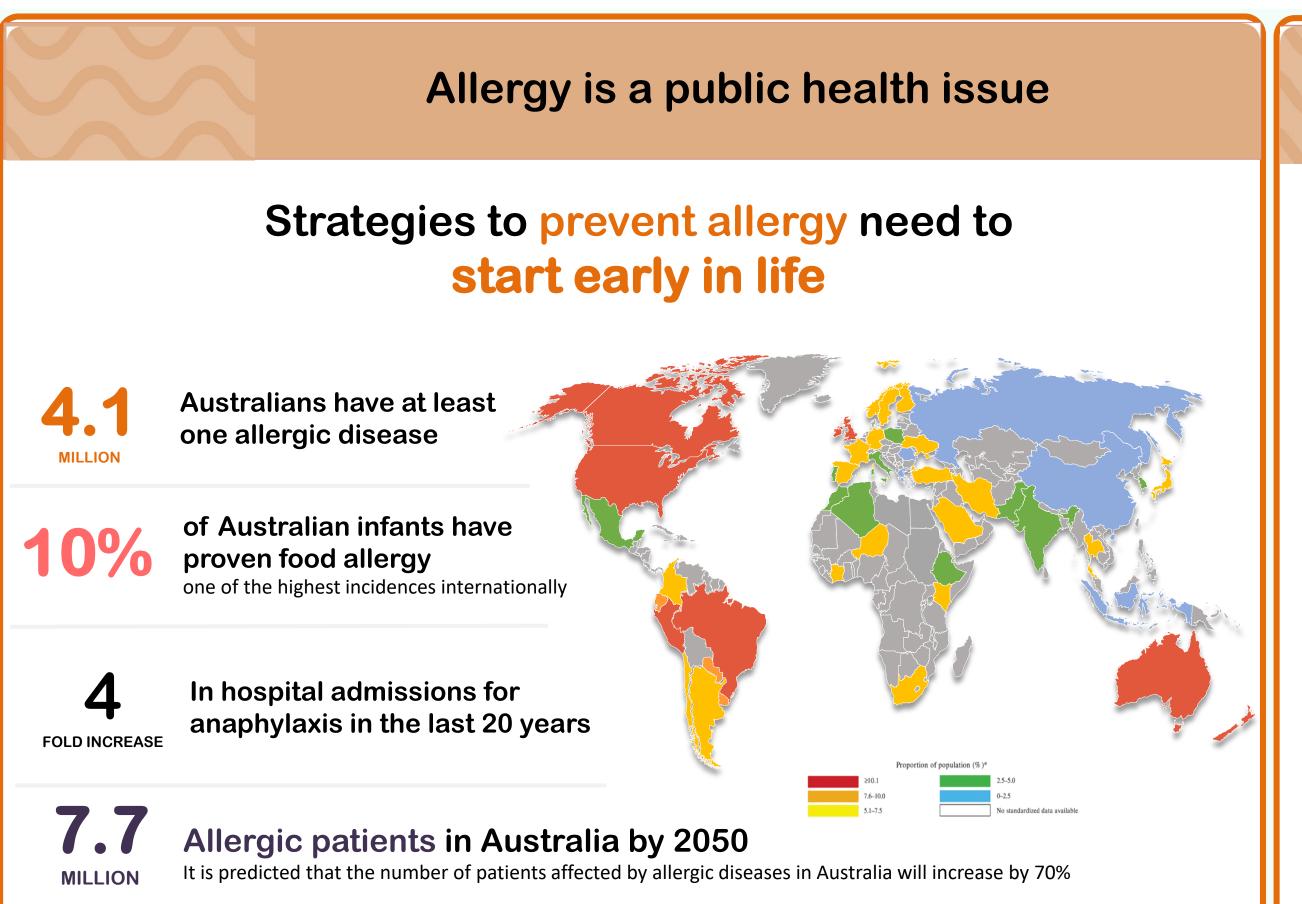
Promoting an immunomodulatory breastmilk profile with maternal prebiotic supplementation

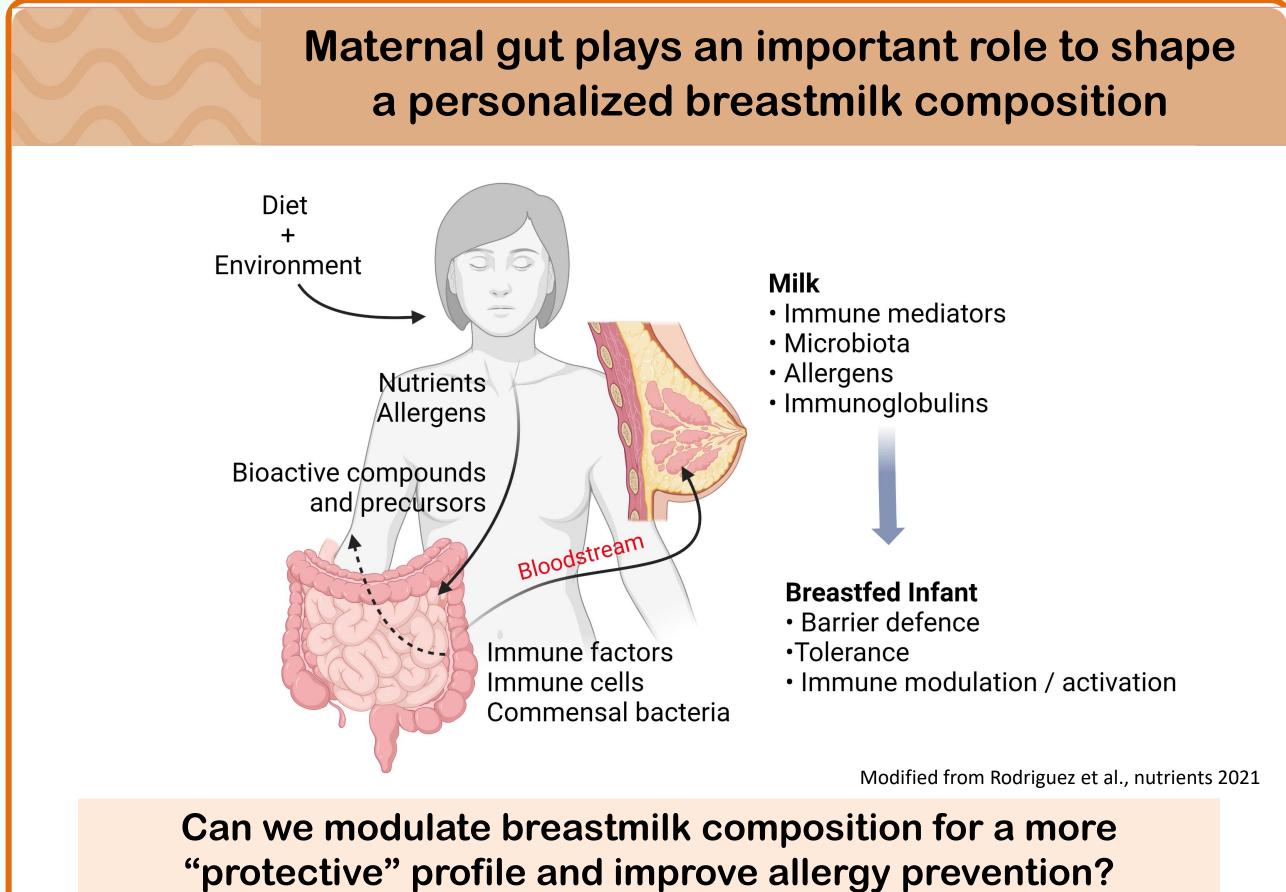
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Investigate if maternal prebiotic fibre supplementation changes breastmilk profile and reduce food allergy in children Methodology Hypothesis Primary outcome Secondary outcome Beneficial gut microbiota SYMBA randomised control trial and immune modulators in (The ORIGINS Project) breastmilk Create tolerogenic conditions in the infant gut prebiotics (n= 46) when allergens are first encountered Risk for eczema; allergen Allergens Milk samples sensitisation, food allergies and collected at 2, 4, 6mo recurrent wheeze at 1 year Total = 300 Decrease allergy risk Protease activity placebo (n= 54)

Our preliminary findings (primary outcome) PC1 (30.76%) Intermediate variability (>100x) Detected in most samples (51-99%) Detected in few samples (<25%)

Conclusion

Legend: Data shows the analytes quantification in breastmilk of 100 mothers, collected at 2 (A) 4 (B) and 6 (C) months. Figure 1(A-C) shows percentage of milk samples with detectable analyte; Figure 2(A-C)

- Although there is a common "core" breastmilk composition with some factors detected at all stages of lactation in 100% of women (Figure 1A-C), we observed a substantial variation in some compounds (Figure 2A-C).
- We identified 3 different types of milk profiles at 2 months of lactation and 2 different types of milk profiles at 4, 6 months (Figure 3A-C).

shows the levels and variability of bioactive compounds in human milk; Figure 3(A-C) shows cluster analysis of 26 milk bioactive factors.

Future analysis and the unblinding of the samples will reveal the effect of prebiotic supplementation on breastmilk profiles and child allergic outcomes.

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