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## Towards reducing allergy prevalence from an early age

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IgE-mediated allergy such as eczema, food allergy, Hay-fever and asthma may affect 50% of the pediatric population. Diet may have a role in the primary prevention of allergy as the pre-natal period and the first few months of life are a critical period when there can be modulation of growth and development of the respiratory, immune and gastrointestinal systems. It has been hypothesized that maternal diet during pregnancy modulates the development of allergy and asthma by influencing fetal airway and/or immune development. Reducing or delaying allergic disease onset in early life could have a significant public health impact. Our program of work to date includes an extensive systematic review and meta-analysis examining the strength of the scientific evidence for associations between dietary intake of foods and nutrients by pregnant women and children and the risk of children developing allergy and asthma. Results found a potentially protective role for candidates including the Mediterranean Diet (MD) and we hypothesize that adherence to a MD might represent an effective primary prevention strategy. Although observational studies have reported potentially beneficial associations with a MD, it remains to be seen whether an intervention to promote the MD reduces the likelihood of childhood allergy and asthma. This needs to be investigated through formal experimental studies, as there are currently no Randomized Controlled Trials (RCT's) testing the hypothesis that enhancing MD adherence in the mother will decrease the risk of allergic disease in children. We have engaged in a program of work to design an adequately powered RCT to investigate the potential protective effects of the MD on the risk of developing allergy and asthma. Our pilot RCT investigated maternal recruitment and retention to a MD intervention and we have published the protocol and results and shortly, a follow-up of the infants born to women who participated in the pilot RCT. Infant follow-up included allergic outcomes at six months determined through birth and environment data and at 12 months of age determined through clinical history, allergen Skin Prick Testing (SPT) and clinical examination. We will soon begin a well-designed and adequately powered RCT to investigate the potential protective effects of the MD on the risk of developing allergy and asthma, following a framework for developing and evaluating complex interventions.

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