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## Gut microbiome and allergic respiratory disease: Preliminary insights

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Asthma is an allergic respiratory disease affecting 334 million people worldwide, with 14% of children and 8.6% of young adults experiencing asthmatic attacks. Approximately 11.5% of cases of asthma start in early childhood. In Hong Kong, the prevalence of life-time asthma in children was 7.9%. There is growing interest in the relationships between the gastrointestinal microbiome, environmental factors and predisposition to development of allergic asthma. We plan for a large scale birth cohort study of Hong Kong Chinese infants to explore these factors. This pilot study aims to assess the feasibility of data collection and analysis and generate preliminary insight on the role of gut microbiome in 100 Chinese infants. Stool samples from all newborns will be collected from the napkin and suspended in 0.6 ml lysis buffer (Tiangen). The infant's allergy condition and environmental factors will be assessed by a culturally adapted questionnaire derived from literature. The appropriateness and acceptability of the questionnaire is confirmed by five proxy parents of children with allergic condition, taking an average of seven minutes to answer the questionnaire in full. The 100 patients/parents eligibility rate, consent rate, withdrawal rate and reason for withdrawal will be recorded. Preliminary findings of the gut microbiome diversity will be presented in conference.

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