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Antibiotic use in relation with long term morbidities

Global increasing rates in prevalence of childhood asthma and allergy suggest a substantial role of environmental factors. Evidence showed that modifiable factors such as gut microbiome have a key role in the maturation of the neonatal immune system. Factors influencing the immune system such as antibiotics might have an effect on asthma and allergy susceptibilities later in life. Therefore, we aimed to study the association between use of antibiotics during the first two years of life and the risk of developing childhood asthma and allergic symptoms including eczema and hay fever. Data from two large childhood cohorts were used. Generation R (n=7,393, the Netherlands) and SEATON (n=924, Scotland, UK) and a systematic review and meta-analysis (34 published studies). Odds ratios (ORs) were derived from logistic regression analysis within each database followed by pooling the results using a fixed or random-effect model. Antibiotic use in early life was statistically significantly associated with an increased risk of asthma (OR: 2.18, 95% CI: 1.04-4.60; I2: 76.3%) and increased risk of allergic symptoms; OR: 1.23, 95% CI: 1.13-1.34; I2: 77.0% for hay fever and OR: 1.26, 95% CI: 1.15-1.37; I2: 74.2% for eczema later in life. Our findings in this study revealed that children treated with antibiotics in the first two years of life are more likely to develop asthma and allergy later in life.

Biography

Fariba Ahmadizar is pursuing her PharmD degree and has completed her MSc and PhD in Pharmacoepidemiology from Utrecht University in 2016. She is now a Post-doctoral Researcher at Erasmus University Medical Center. She has published more than 20 papers in peer-reviewed journals and has been serving as an Editorial Board Member in international journals.

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