

PARACETAMOL USE IS ASSOCIATED WITH ASTHMA IN FARMING AND NON-FARMING CHILDREN

Jeroen Douwes, *Centre for Public Health Research, Massey University, New Zealand*

Monica Nowicki, *Centre for Public Health Research, Massey University, New Zealand*

Soo Cheng, *Centre for Public Health Research, Massey University, New Zealand*

Noemie Travier, *Centre for Public Health Research, Massey University, New Zealand*

Neil Pearce, *Centre for Public Health Research, Massey University, New Zealand, London School of Tropical Hygiene and Medicine*

Background and Aims: Paracetamol use has been associated with asthma in both children and adults. This has not been assessed in farmers' children who have a lower prevalence of asthma compared to children of the general population. We assessed the associations between antibiotic use and paracetamol use, and asthma, hayfever, eczema and atopy, in a population of farming and non-farming children.

Methods: In a cross-sectional questionnaire survey of 1,370 farming children and 588 non-farming children, aged 5-17 years we assessed asthma, hayfever and eczema as well as paracetamol use and antibiotic use.

Results: After adjustment for potential confounders paracetamol use in the first 12 months was associated with wheeze ever (OR=1.77, 95% CI 1.22-2.58) and asthma ever (OR=1.82, 95% CI 1.19-2.77). Current paracetamol use (at least once a month) was also significantly associated with most asthma symptoms (wheeze in last 12 months OR=2.84, 95% CI 1.67-4.82; asthma ever OR=1.80, 95% CI 1.16-2.79; wheezing during exercise OR=2.97, 95% CI 1.76-5.02; cough at night OR=1.98, 95% CI 1.21-3.26), and rhinitis symptoms (sneezing ever OR=1.62, 95% CI 1.06-2.47; sneezing in last 12 months OR=1.61, 95% CI 1.04-2.48; hay fever ever OR=1.83, 95% CI 1.18-2.84). Current paracetamol use (at least once a month) was also weakly associated with itchy rash in the last 12 months (OR=1.81, 95% CI 1.02-3.20) and eczema ever (OR=1.55, 95% CI 1.01-2.37). Use of antibiotics in the first 12 months was also significantly (and independently) associated with asthma and rhinitis, but not with eczema. No clear associations between atopy and paracetamol or antibiotics were found. However, stratified analyses showed strongest associations for children with non-atopic symptoms. No differences were found for farming and non-farming children.

Conclusions: Paracetamol and antibiotics are associated with asthma, and rhinitis (and to a lesser extent eczema), with the strongest associations in non-atopics.