

Sibling order affects risk of asthma and other diseases

August 5 2016



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Younger siblings, single children and older siblings are at different risk of developing asthma and other common childhood diseases, according to a Swedish population study carried out by researchers at Karolinska Institutet and published in the *Journal of Allergy and Clinical*

Immunology.

Much research has been done indicating that [younger siblings](#) run a lower risk of developing asthma or allergies such as hay fever and [atopic eczema](#). Similar sibship effects has been observed for other disorders too, such as type 1 diabetes and certain neuropsychiatric conditions like ADHD. The present study is an attempt by the researchers to obtain a more synthesised understanding of the issue.

"Our study confirms a link between sibship and childhood [disease](#)," says principal investigator Catarina Almqvist Malmros, professor at Karolinska Institutet's Department of Medical Epidemiology and Biostatistics and paediatrician at Astrid Lindgren's Children's Hospital.

Sibship data

Professor Almqvist Malmros and her colleagues extracted sibship data from the Swedish Multigenerational Registry linked to the Medical Birth Registry on over 300,000 [children](#) born between 1996 and 2002. Just over 13% of the children had no siblings (single children), 43% were first-born and 44% had an older sibling. The researchers measured the prevalence of disease in the children in 2008 when they were between 6 and 12 years old. Information on specialist care and medication for asthma, type 1 diabetes, ADHD and respiratory infection was collected from the Swedish Prescribed Drug Register and the National Patient Register.

"We found that single children had a higher risk of asthma, diabetes and ADHD than first-borns who had younger siblings, but showed no difference in the risk of developing respiratory infections," says Dr Almqvist Malmros.

Lower risk

Younger siblings had a lower risk of [asthma](#) and respiratory infections than first-borns with [siblings](#). The study provides no answers as to the cause of this correlation between sibship and childhood disease, but the researchers attribute it either to differences in exposure to bacteria and viruses, to the uterine environment during gestation, or to reduced health seeking behavior in parents who are used to viral infections in their second borns, more comfortable with the disease and less likely to seek evaluation or treatment.

More information: Catarina Almqvist et al. Sibship and risk of asthma in a total population: A disease comparative approach, *Journal of Allergy and Clinical Immunology* (2016). [DOI: 10.1016/j.jaci.2016.05.004](#)

Provided by Karolinska Institutet

Citation: Sibling order affects risk of asthma and other diseases (2016, August 5) retrieved 14 February 2023 from <https://medicalxpress.com/news/2016-08-sibling-affects-asthma-diseases.html>

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