



RESEARCH NEWS

Growing up on a farm may cut risk of allergic conditions in adulthood

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Growing up on a farm is associated with lower odds of allergic conditions in adulthood, including atopic asthma and rhinitis, than an inner city childhood, a European study has found.¹

Evidence has shown that exposure to environmental or microbial biodiversity in early life may influence the subsequent risk of allergic conditions. To investigate this, researchers studied 10 201 people aged 26-54 from 14 countries taking part in the European Community Respiratory Health Survey II. They gave the participants a “biodiversity score” according to where they had lived before age 5 and their childhood exposure to cats, dogs, day care, a shared bedroom, and older siblings.

Results, reported in *Thorax*, showed that people who grew up on a farm were half as likely to have atopic asthma in adulthood as those with an inner city childhood (adjusted odds ratio 0.47 (95% confidence interval 0.28 to 0.81)). They showed similarly reduced odds of atopic sensitisation (0.46), bronchial hyper-responsiveness (0.54), and atopic rhinitis (0.43).

In contrast, people who spent their first few years of life in a village, town, or suburb showed no reduction in allergic conditions.

Women who grew up on a farm, but not men, showed considerably higher lung capacity in adulthood than those from inner cities (adjusted difference in FEV₁ (forced expiratory volume in one second) 110 mL (64 mL to 157 mL)).

“This analysis shows that early life exposure to farm environments is protective against subsequent adult allergic

diseases,” said the researchers, led by Shyamali Dharmage, of the University of Melbourne, Australia. “The consistency of the findings across multi-country settings suggests that farming effects may be due to biological mechanisms rather than socio-cultural effects that would differ between countries.”

Further findings showed protective effects of markers of microbial diversity—including exposure to pets, siblings, and day care—in people growing up in inner cities, but these were not as strong as those associated with spending early childhood years living on a farm.



[Image: Haydn West/PA]

1 Campbell B, Raheison C, Lodge CJ, et al. The effects of growing up on a farm on adult lung function and allergic phenotypes: an international population-based study. *Thorax* 2016. doi:10.1136/thoraxjnl-2015-208154.

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