

Kids on farms have lower allergy risks, stronger lungs as adults

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Credit: University of Melbourne

Living on a farm in early childhood is linked to a lower risk of allergies

in adulthood and stronger lung function in women, according to researchers at the University of Melbourne.

The findings, published today in the journal *Thorax*, support the view that biological factors are likely to explain the sharp rise in prevalence of asthma and allergies in recent decades.

Previous studies have proposed the so-called "hygiene hypothesis", linking exposure to microbes with protection against allergies and asthma in children.

However, senior author Professor Shyamali Dharmage said few studies to date have explored what happens when children grow up.

"We found that early-life exposure to farm environments protects against adult allergic diseases," Professor Dharmage said.

"The novel finding is that women growing up on farms had stronger lungs than those who had lived in inner city areas, but at this stage we don't know why."

Lead author Britt Campbell said the research team set out to get a clearer picture on whether the critical factor was biodiversity or living in a specific location.

"As any parent with a small child knows, childcare centres are hotbeds of viruses and bacteria, but it turns out that's nothing compared to a farm" Ms Campbell said.

"We found that for kids in villages, towns, suburbs and cities, not even daycare or living with cats, dogs and older siblings came close to endowing the protective effects that appear to come with life on a farm."

The researchers, led by the Allergy & Lung Health Unit at the University of Melbourne's Centre for Epidemiology & Biostatistics, in collaboration with the Murdoch Children's Research Institute and several European universities, looked at the early life experiences of 10,000 adults in 14 countries in Europe, Scandinavia and Australia.

Children who had lived on a farm between birth and age five were 54 per cent less likely to have asthma or hay fever as adults than children who had grown up inner city areas, while 57 per cent were less likely to have allergic nasal symptoms.

Those living in a village, town or city suburb were less likely to have asthma or hay fever as an adult, and no less likely to have allergic nasal symptoms than inner city kids.

While the study was observational, and no firm conclusions can be drawn about cause and effect, the findings were consistent across all 14 countries.

"Some researchers have raised the possibility of socioeconomic status playing a role, but the uniformity of our findings suggest this is about biology—specifically, a big childhood hit of bacteria, viruses and parasites," Professor Dharmage said.

Provided by University of Melbourne

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