

Microbiota in home indoor air may protect children from asthma

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Large amounts of a certain type of bacteria, most likely from outdoors,

may reduce the child's risk of developing asthma. This was shown by a new study by the Finnish Institute for Health and Welfare (THL) that analyzed the microbiota of over 400 Finnish homes.

However, the study was unable to identify individual bacterial taxa that provide protection against asthma. It remains unclear why exposure to microbes protects against asthma. Earlier studies have found that high diversity of microbes is of particular importance in protecting against asthma.

[THL's study, published in June](#), also showed that farm-like [microbiota](#) of the child's home protected children from asthma also in urban homes.

Finns spend 90 percent of the time indoors—contact with natural microbiota has decreased

On average, Finns spend 90 percent of the time indoors, and increasingly often in an urban environment. This means less contact with [natural](#) microbiota. The diversity of [bacteria](#) protects against asthma but certain soil microbes protect even more effectively.

"In this study, we identified certain groups of bacteria found in soil that protect against asthma. These groups of bacteria provided more effective protection against asthma than the previously observed diversity of microbiota," says Anne Karvonen, senior researcher at THL.

"If we want to develop products that protect against asthma, such as microbes that you can bring home or place on the skin, it would have been helpful to identify individual [asthma](#)-protective bacteria. However, our results help to restrict the bacteria that should be studied more."

Increased contact with nature is beneficial. "We could explore nature

with children more often and play in the nature instead of urban playgrounds covered with rubber. With regard to microbial exposure, it is important to have contact with nature in our [everyday lives](#)," says Karvonen.

More information: Anne M. Karvonen et al, Indoor Bacterial Microbiota and the Development of Asthma by 10.5 years of age, *Journal of Allergy and Clinical Immunology* (2019). [DOI: 10.1016/j.jaci.2019.07.035](#)

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