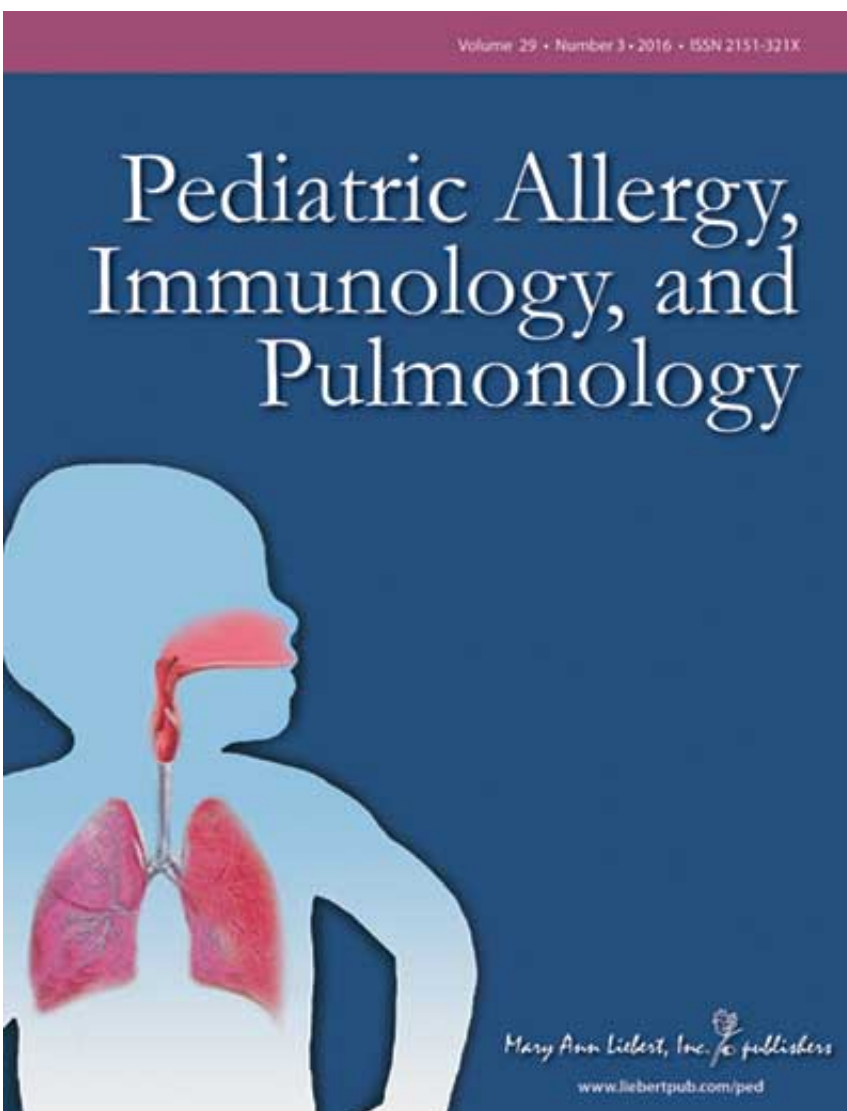


Does traffic-related air pollution increase asthma risk by stimulating immune mediated inflammation?

November 17 2016



Credit: Mary Ann Liebert, Inc., publishers

A recent study of 577 children living in Puerto Rico shows that residential distance to a major road (a marker of exposure to traffic-related air pollution, or TRAP) is associated with increased plasma levels of interleukin 31 (IL-31), a cytokine that promotes allergic inflammation. This study was published in *Pediatric Allergy, Immunology, and Pulmonology*.

In the article "Proximity to a Major Road and Plasma Cytokines in School-Aged Children," Franziska Rosser, MD, MPH, Juan Celedón, MD, DrPH, and coauthors from Children's Hospital of Pittsburgh of UPMC (PA), University of Puerto Rico (San Juan, PR), and Carnegie Mellon University (Pittsburgh, PA), compared the blood levels of cytokines - signaling chemicals produced by the immune system that can stimulate inflammation - in [children](#) with and without asthma. Children living in closer proximity to a major road had higher levels of some cytokines that regulate immune responses and inflammation known to have a role in asthma.

"Exposure to traffic-related air pollution has been associated with increased prevalence of new onset asthma in children and exacerbations in children with pre-existing asthma," says *Pediatric Allergy, Immunology, and Pulmonology* Editor-in-Chief Mary Cataletto, MD, Professor of Clinical Pediatrics, State University of New York at Stony Brook. "Studies focusing on [immune response](#) to TRAP may help to explain the mechanisms responsible for higher prevalence rates in genetically susceptible children."

More information: Franziska Rosser et al, Proximity to a Major Road and Plasma Cytokines in School-Aged Children, *Pediatric Allergy, Immunology, and Pulmonology* (2016). [DOI: 10.1089/ped.2016.0649](https://doi.org/10.1089/ped.2016.0649)

Provided by Mary Ann Liebert, Inc

Citation: Does traffic-related air pollution increase asthma risk by stimulating immune mediated inflammation? (2016, November 17) retrieved 18 April 2024 from <https://medicalxpress.com/news/2016-11-traffic-related-air-pollution-asthma-immune.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.