

Living near busy roadways ups chances of allergic asthma

January 19 2011

An international team of lung experts has new evidence from a study in shantytowns near Lima, Peru, that teens living immediately next to a busy roadway have increased risk of allergies and asthma. The odds can go up by 30 percent for developing allergies to dust mites, pet hairs and mold, and can double for having actual asthma symptoms, such as wheezing and using medications to help them breathe.

The study, to be published in the [Journal of Allergy and Clinical Immunology](#) online Jan. 18, is believed to be the first to link heightened rates of allergic disease and exposure to traffic-related pollution as a possible reason for increased rates of [asthma](#) along major transit routes. Previous studies in Europe and North America relied on self reports of [asthma symptoms](#) or produced conflicting results on possible tie-ins with high levels of [airborne pollution](#). Until now, experts say no study has looked at how busy roadways affect the allergic origins of asthma, a respiratory disease that afflicts some 17 million Americans, including some 5 million children.

Experts at Johns Hopkins who participated in the study also found that the risk of allergic disease, or atopy, and of having asthma among 725 teenagers, ages 13 through 15, was worst for those living immediately next to the busy road, where a steady stream of traffic across multiple lanes flowed unimpeded all day long. Atopy rates went up by 7 percent for every city block (approximately 300 feet) closer they lived to the road. For those who lived next to the road, the odds of having asthma were twice that of those who lived a quarter-mile (about four city

blocks) away.

“Our study clearly shows why we need to protect respiratory health and plan future major roadways here or abroad away from residential areas and schools,” says senior study investigator and pulmonologist William Checkley, M.D., Ph.D. “We can also now try preventive strategies aimed at reducing allergic exposure near roadways to see if this lowers rates of asthma,” adds Checkley, an assistant professor at the Johns Hopkins University School of Medicine and the University’s Bloomberg School of Public Health.

Checkley and lead study investigator Lauren Baumann, M.H.S., chose a poor district of Lima, called Pampas de San Juan de Miraflores, for their study because Peru has the highest rates of asthma symptoms among children in Latin America, at 26 percent. In addition, large numbers of shantytowns like San Juan de Miraflores have sprung up around the nation’s largest city within the last few decades, many with a single, congested and slow-moving main thoroughfare.

Baumann, a former Johns Hopkins graduate student in public health, says only the most-at-risk children were included in the study, pointing out that people who do not outgrow their asthma by their early teens are twice as likely to remain asthmatic through adulthood. The year-long study, begun in 2008, included home visits to measure lung function and environmental air pollutants.

“Family physicians and public health workers now know they need to more closely monitor children who live near major roadways for allergies and for the earliest signs of asthma,” says Checkley, who notes that his team next plans further studies on the underlying genetic profile of those at greater risk of atopy and asthma. “Our ultimate goal is to identify other key environmental stimuli or traffic-related pollutants that help trigger allergic disease, and then use our knowledge of how they

work biologically to stop them before asthma sets in,” he says.

Funding support for the study was provided by the Johns Hopkins Center for Global Health; the U.S. National Heart, Lung and Blood Institute, and the National Institute for Environmental Health Sciences, both members of the National Institutes of Health (NIH); and the NIH-affiliated John E. Fogarty International Center for Advanced Study in the Health Science.

More information: www.jacionline.org/

Provided by Johns Hopkins University

Citation: Living near busy roadways ups chances of allergic asthma (2011, January 19) retrieved 26 April 2024 from <https://medicalxpress.com/news/2011-01-busy-roadways-ups-chances-allergic.html>

<p>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.</p>
