

'Hygiene hypothesis' challenged: Day care doubles early respiratory problems

September 8 2009

New research hints that the common belief that kids who go to daycare have lower rates of asthma and allergy later in life might be nothing more than wishful thinking. While young children in daycare definitely do get more illnesses and experience more respiratory symptoms as a result, any perceived protection these exposures afford against asthma and allergy seem to disappear by the time the child hits the age of eight.

"We found no evidence for a protective or harmful effect of daycare on the development of asthma symptoms, allergic sensitization, or airway hyper-responsiveness at the age of eight years," wrote Johan C de Jongste, M.D., Ph.D., of Erasmus University in the Netherlands and principle investigator of the study. "Early daycare was associated with more airway symptoms until the age of four years, and only in [children](#) without older siblings, with a transient decrease in symptoms between four and eight years."

The results are published in the September 15 issue of the [American Journal of Respiratory and Critical Care Medicine](#), a journal of the American Thoracic Society.

The researchers prospectively followed a birth cohort of nearly 4,000 Dutch children over the course of eight years in the Prevention and Incidence of Asthma and Mite Allergy (PIAMA) Study. Parents completed questionnaires during pregnancy, at three and 12 months, and then yearly until the child reached the age of eight, and reported their children's airway symptoms annually. At the age of eight, more than

3,500 of the children were also assessed for specific allergies. Some also underwent testing for [lung function](#) and airway hyper-responsiveness.

Daycare use was assessed each year, and the children were categorized in early attendees (first attendance before two years of age), late attendees (first attendance between two and four years of age) and non-attendees.

They found that children who started daycare early were twice as likely to experience wheezing in the first year of life compared to those who didn't go to daycare. However, as the children aged, there was a shift: by age five, there was a trend for less wheezing among early attendees: they were about 80 percent as likely as non-attendees to wheeze, but this was not statistically significant. What's more, the shift reversed itself by age eight, when there was no association between early daycare attendance and wheezing at all.

Late daycare attendees had similar, but less pronounced and statistically nonsignificant effects. The effects of daycare on wheeze were not different between boys and girls, but were more marked in children with older siblings.

"Children with older siblings and early daycare had more than fourfold higher risk of frequent respiratory infections and more than twofold risk of wheezing in the first year compared to children without older siblings and daycare," said Dr. de Jongste. "Importantly, children exposed to both early daycare and older siblings experienced most infections and symptoms in early childhood, without a protective effect on wheeze, inhaled steroid prescription or asthma symptoms until the age of eight years."

Despite the widespread acceptance of the idea that these early exposures pay off in later health benefits, the data in this study do not support that belief. If anything, this study suggests that these exposures cause more

airway symptoms early in life with no counterbalancing benefit later.

"Early daycare merely seems to shift the burden of respiratory morbidity to an earlier age where it is more troublesome than at a later age," said Dr. de Jongste. "[E]arly daycare should not be promoted for reasons of preventing asthma and allergy."

Source: American Thoracic Society ([news](#) : [web](#))

Citation: 'Hygiene hypothesis' challenged: Day care doubles early respiratory problems (2009, September 8) retrieved 9 April 2024 from <https://medicalxpress.com/news/2009-09-hygiene-hypothesis-day-early-respiratory.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>
--