Ambient particulate matter linked to emergency asthma care
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(Katherine A. James, Ph.D., from the University of Colorado in Denver, and colleagues assessed the impact of ambient particulate matter concentrations on emergency/urgent visits and hospitalizations for asthma. Daily ambient particulate matter concentrations were obtained from the state health department for an air quality monitor in the San Luis Valley (in the state of Colorado) for 2003 to 2012. The correlation between daily counts of emergency/urgent visits for asthma and three- to five-day averaged ambient particulate matter concentrations were examined.

The researchers observed a 3.1 percent increase in hospital counts for all patients with asthma for each 15-µg/m³ increase in three-day averaged ambient particulate matter. Asthma hospital visits increased by 16.8 and 65.8 percent when the three-day average exceeded 50 µg/m³ and 100 µg/m³, respectively. In children, with each 15-µg/m³ increase in three-day averaged ambient particulate matter, the odds of one asthma event requiring an emergency/urgent care visit increased 5 percent.

"We observed associations between ambient air levels of particulate matter with a diameter less than 10 mm and emergency/urgent care visits and hospitalization counts in a rural U.S. community prone to dust storms and Environmental Protection Agency exceedances," the authors write.

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