

PM_{2.5} contributes to burden of diabetes mellitus globally

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(HealthDay)—Particulate matter (PM) with a diameter of less than 2.5

micrometers (PM_{2.5}) makes a substantial contribution to the burden of diabetes, according to a study published in the July issue of *The Lancet Planetary Health*.

Benjamin Bowe, M.P.H., from the VA St. Louis Health Care System, and colleagues examined the correlation of PM_{2.5} with [diabetes](#) in a cohort of U.S. veterans with no previous history of diabetes. A total of 1,729,108 participants were followed for a median of 8.5 years. The risk of all-cause mortality was tested as a positive outcome control, and risk of lower limb fracture was tested as a negative outcome control.

The researchers found that a 10 µg/m³ increase in PM_{2.5} was correlated with increased risk of diabetes in adjusted models (hazard ratio, 1.15). PM_{2.5} was correlated with increased risk of death but not with lower limb fracture. No significant correlation with the risk of diabetes was seen for an increase in ambient air sodium concentration (interquartile range increase, 0.045 µg/m³) as the negative exposure control. The risk of diabetes increased considerably above 2.4 µg/m³, with a more moderate increase at concentrations above 10 µg/m³. About 3.2 million incident cases of diabetes were contributed by ambient PM_{2.5} globally, as well as about 8.2 million disability-adjusted life years and 26,105 deaths from diabetes.

"Reduction in exposure will yield substantial health benefits," the authors write.

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