

Finer particulate matter (PM₁) could increase cardiovascular disease risk

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In addition to harmful gases such as carbon monoxide, air pollution contains tiny particles that have been linked to health problems, including cardiovascular disease and asthma. Most studies have analyzed the potential health effects of larger-sized particulate matter (PM), such as particles less than 2.5 μm in diameter (PM_{2.5}). Now, researchers report in *Environmental Science & Technology Letters* that particles with diameters less than 1 μm (PM₁) are even more strongly correlated with cardiovascular disease.

To better understand air pollution, a nationwide PM₁ monitoring campaign was recently performed in China.

Zhaomin Dong, Maigeng Zhou and colleagues analyzed the data, which came from 65 Chinese cities, to determine if PM₁ exposure correlated with the number of non-accidental deaths in each city during the same time period.

They found that for every 10 $\mu\text{g}/\text{m}^3$ increase in PM₁, there was a 0.29% increased risk of cardiovascular disease, which was 21% higher than the risk related to PM_{2.5} (0.24%).

The finer PM₁ could more easily deposit in the lungs and circulation than larger particles, which might explain the increased health risks, the researchers say.

More information: "Higher Risk of Cardiovascular Disease Associated with Smaller Size-Fractionated Particulate Matter"

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