

Smog causes surge in heart deaths: study

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This picture taken on January 29, 2013 highlights the heavy smog in Jilin, northeast China's Jilin province. Exposure to higher levels of fine particulates—the airborne pollution that is an emerging problem in many Asian cities—causes a sharp rise in deaths from heart attacks, a study published on Wednesday said.

Exposure to higher levels of fine particulates—the airborne pollution that is an emerging problem in many Asian cities—causes a sharp rise in deaths from heart attacks, a study published on Wednesday said.

Research published in the [European Heart Journal](#) pointed the finger at so-called PM2.5 pollution, which comprises [tiny particles](#) measuring 2.5 micrometres across or less.

They are mainly generated by burning coal and oil for power stations, and petrol and diesel for transport.

Around 30 times smaller than a human hair, PM2.5 particles have long been identified as a respiratory problem, as their size enables them to lodge deep in the lungs. Less understood, though, is their impact on [cardiac health](#).

Cathryn Tonne at the London School of Hygiene and Tropical Medicine led a study into 154,000 patients in England and Wales who had been hospitalised for a [heart attack](#) between 2004 and 2007.

They followed the patients for more than three years after their release from hospital. During this period, nearly 40,000 of them died.

After stripping out factors that could skew the picture such as socio-economic status and smoking, the researchers found a clear link between exposure to PM2.5 and early death.

It far surpassed the risk from exposure to bigger particles called PM10, which are 10 micrometres across.

"We found that for every 10 microgrammes per M3 in PM2.5, there was a 20-percent increase in the death rate," said Tonne.

If PM2.5 levels had been reduced to their natural background rate, the total number of deaths would have fallen by 4,873, or 12 percent.

The average exposure to PM2.5 in England was 11.0 microgrammes per

m³, with the highest in London, which was 14.1 microgrammes per m³. The lowest was in northeast England, which had 8.4 particles per m³.

By comparison, the [World Health Organisation](#) (WHO) sets down guidelines of a maximum of 10 microgrammes of PM_{2.5} per cubic metre as an annual average exposure, and a maximum of 25 microgrammes per m³ over a 24-hour period.

Particulate smog is becoming a major problem in Asian cities that have built up over the past decade.

In Beijing last month, PM_{2.5} levels reached 993 microgrammes per m³, almost 40 times the WHO's recommended safe limit, triggering an outcry.

"The pollution in Beijing is a huge cause for concern," said Pier Manucci, a professor at the University of Milan and a leading European authority on thrombosis, when asked to comment on the study.

"When you think that here in Italy, in Milan, we are concerned when the concentration of PM_{2.5} is around 100 and in China it reaches values of 1,000, you can understand the magnitude of the difference in risk and effects."

He said that almost all of the research into the link between cardiac risk and pollution was conducted in rich countries, where PM_{2.5} levels were far lower.

"We know the degree of pollution in these countries, thanks to satellite data about aerosol concentrations," Manucci told AFP. "But they pay little attention, except as you notice during the (2008 Olympic) Games, when they decreased the traffic in Beijing."

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