Air pollution linked to irregular heart beat, study finds

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A boy plays as a haze of pollution sits over the London skyline.Photograph: LUKE MACGREGOR/REUTERS

Short-term exposure to air pollution could increase a person's risk of irregular heart beat or blood clots in the lung, a new study has suggested.

But researchers found "no clear evidence" for effects of short-term pollution on a certain type of heart attack or stroke.

The authors from the London School of Hygiene and Tropical Medicine wanted to examine the biological impact of short-term air pollution on cardiovascular events.

They used data from three databases across England and Wales about heart attacks, hospital admissions and deaths for the period 2003 to 2009 and compared them to pollution events recorded by the UK Air Quality Information Archive.

The study, published in the journal Heart, looked at some 400,000 heart attacks, more than two million emergency admissions for cardiovascular problems and 600,000 deaths from cardiovascular disease.

These were linked to average levels of air pollutants over a period of five days from the monitoring station nearest to the place of residence.

They measured various types of air pollutants including carbon monoxide, nitrogen dioxide, particulate matter less than 10 micrometres in aerodynamic diameter (PM10), particulate matter less than 2.5 micrometres in aerodynamic diameter (PM2.5), sulphur dioxide, and ozone.

No clear link with any air pollutant was found for cardiovascular deaths, with the exception of PM2.5 which was linked to an increased risk of irregular heart rhythms, irregular heart beat and blood clots in the lungs.

Only nitrogen dioxide was linked to an increased risk of a hospital admission for cardiovascular problems,

including heart failure, and an increased risk of a particular type of heart attack.

Earlier this year, it estimated that outdoor air pollution was responsible for the deaths of 3.7 million people globally during 2012.

And English health officials recently called on local authorities to do more to protect people from air pollution.

Long-term exposure to air pollution led to around 25,000 deaths in England in 2010, Public Health England (PHE) said.

PHE said that air quality had improved "considerably" in the UK over recent decades due to new, cleaner technology and tighter environmental legislation. But it said local action could be taken to reduce emissions of these man-made particles and people's exposure to air pollution.