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Covid patients exposed to higher pollution levels 'hospitalised for longer,' says study

Experts find that, even at low levels, air pollution steeply increases risks

for Covid-19 and other diseases

By Sarah Newey, GLOBAL HEALTH SECURITY CORRESPONDENT, IN BANGKOK

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Coronavirus patients exposed to higher levels of pollution spent an average of four extra days in hospital, researchers have found, as evidence linking poor air quality and poor health outcomes mounts.

The study, published in the *European Respiratory Journal* on Wednesday, showed that patients exposed to fine particulate matter and nitrogen dioxide in the week before they were admitted were sicker and took longer to recover.

The researchers say the effect of pollution on a patient's time in hospital was equivalent to being a decade older.

Prof Tim Nawrot, head of the environmental and molecular epidemiology research unit at Hasselt University in Belgium, who led the study, said he was surprised at just how much pollution affected the immune system's response to the virus.

“Even at a low level of air pollution, there's really a steep increase in risks – not only for Covid, but other diseases,” he told the Telegraph. “You don't need to be in the most polluted parts of the world to observe this.”

India's pollution and high mortality rates

The study included 328 people hospitalised between May 2020 and March 2021 in Sint-Niklaas, Belgium.

While age was the most significant factor linked to poor health outcomes, exposure to fine particulate matter and nitrogen dioxide in the week before admission increased the duration of a stay by between three and five days.

Fine particulate matter typically comes from car exhausts, while nitrogen dioxide forms when fossil fuels such as coal, oil, gas or diesel are burned at high temperatures.

Prof Nawrot said it is likely that pollution affected disease severity in countries such as India, which was devastated by Covid, but added it would be wrong to suggest this was the only reason that the South Asian nation was so badly hit.

“Of course in India, there was much higher exposure [than in Europe], so the risks will increase in a continuous way. Maybe after a while, there might be some plateau effect – with no additional impact for higher air pollution, which we see with some other diseases.”

Prof Paul Hunter, a professor in medicine at East Anglia who was not involved in the study, added that while “chronic air pollution in Indian cities probably pushed up mortality rates,” it may prove difficult to disentangle the impact of pollution compared to factors such as poverty.

The latest research comes after a study in four Latin American countries, published in *Plos Medicine* in January, identified that an increase in long-term exposure of fine particles was linked to a 2.7 per cent jump in the Covid-19 mortality rate.

Another paper, also published in the European Respiratory Journal on Wednesday, analysed data from 3.7 million people over 30 in Denmark and concluded that long term exposure to pollution compromises the



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author of the report from the University of Copenhagen.

“Cleaner air would make populations more resilient to respiratory infections, seasonal epidemics, and major pandemics in future.”

Prof Hunter added: “Even before Covid there was good evidence of an association between air pollution and severity of respiratory infections. So these new findings are not at all surprising and are consistent with the great bulk of evidence that pre-dates these two studies.”

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