

Babies' brains damaged by pollution, Unicef says



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Seventeen million babies under the age of one are breathing toxic air, putting their brain development at risk, the UN children's agency has warned.

Babies in South Asia were worst affected, with more than 12 million living in areas with pollution six times higher than safe levels.

A further four million were at risk in East Asia and the Pacific.

Unicef said breathing particulate air pollution could damage brain tissue and undermine cognitive development.

Its report said there was a link to "verbal and non-verbal IQ and memory, reduced test scores, grade point averages among schoolchildren, as well as other neurological behavioural problems".

The effects lasted a lifetime, it said.

Delhi's air pollution is triggering a health crisis

"As more and more of the world urbanises, and without adequate protection and pollution reduction measures, more children will be at risk in the years to come," Unicef said.

It called for wider use of face masks and air filtering systems, and for children not to travel during spikes in pollution.



Media caption

Smog reduced visibility in Delhi to a few metres

Last month hazardous smog began blanketing the Indian capital Delhi, prompting the Indian capital's chief minister Arvind Kejriwal to say the city had become a "gas chamber".

Some schools in the city were closed but there was criticism when they re-opened, with parents accusing the authorities of disregarding their children's health.

Indian and Sri Lankan cricketers playing in Delhi vomited on the pitch during high levels of pollution.



Media caption

China's Shijiazhuang "can be completely dark", one man said

In northern China, air pollution is estimated to cut life expectancy by about three years and the government has imposed tougher emissions rules on companies, although **state media have reported that these are routinely flouted.**

'Young and old' hit by China smog

Satellite imagery used to compile the data also revealed that the issue was growing in African cities, Unicef said.

Meanwhile **a separate study by scientists at hospitals in London found that the British city's polluted air was leading to lower birth weights**, linked to higher infant mortality and disease later in life.

Delhi's air pollution is triggering a health crisis

Soutik Biswas

India correspondent

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REUTERS

image caption

Doctors are asking people to wear anti-pollution masks outdoors and many have improvised

Last week, a six-year-old boy returned home from school in Delhi, fidgety and complaining of breathlessness.

"I thought he was joking and trying to avoid school as he's never had a history of respiratory problems," his father told me. Within hours, however, the boy was coughing violently and gasping for breath. The parents put the family in a taxi and drove through the smog to the nearest hospital.

At the hospital, doctors diagnosed the boy as suffering from an attack of acute bronchitis.

During the next four hours, they gave him steroid injections and nebuliser treatment to clear his inflamed airway, and pumped him with antibiotics and allergy medication to prevent further infection. "It was a bad attack," Dr Prashant Saxena, chief pulmonologist at the Max Smart Super Speciality Hospital, told me. "So we had to treat him pretty aggressively."

'Poison air'

The boy took three days, two of them spent in hospital, to get better. Now he's confined indoors, getting nebuliser and steam inhalation treatment twice a day, and taking steroids and an anti-allergy syrup. "This has come as a complete shock for us. He has been such a healthy boy," the father said.

That was possibly before the deadly pea-souper returned with a vengeance. This week, the concentration of the most dangerous particulates in the air - the microscopic PM2.5 particles that can travel deep into your lungs and damage them - has climbed to more than 700 micrograms per cubic metre in parts of Delhi.

Air Quality Index (AQI) recordings have consistently hit the maximum of 999. Exposure to such toxic air is akin to smoking more than two packs of cigarettes a day, say doctors. Delhi chief minister Arvind Kejriwal says the city has turned into a "gas chamber".



Media caption

A BBC reporter's drive through smog-choked Delhi

Outpatient departments and clinics are clogged with coughing, wheezing and breathless men, women and children. Hospitals like Dr Saxena's and the massive state-run All India Institute of Medical Sciences (AIIMS) are reporting a near 20% spike in such patients. **Doctors have declared a "public health emergency"** - although it is not clear how it will be enforced - and have asked people to stay indoors.

"The chilly weather along with smoke and smog poses one of the biggest threats," says Dr Saxena, "especially to those individuals who are prone to develop or show flare-ups of respiratory problems like asthma and chronic bronchitis."

Earlier this year, four major hospitals in the city jointly began an investigation - the first of its kind - to investigate links between changes in air quality and the worsening of respiratory problems in patients.

Can Delhi ever clean up its foul air? Why isn't Delhi on pollution red alert?

The hospitals have deployed nurses who are keeping a record of such patients turning up in emergency rooms. Researchers are looking at treatment and admissions and examining whether there's any marked increase on days when the air quality declines perceptibly.

It is early days yet, and the study is limited to emergency room treatment and admissions. It also doesn't take into account the vast number of patients being treated for respiratory issues in the outpatient and smaller clinics. Still, doctors reckon that it will offer some clues on whether the city is in the throes of a serious pollution-related health crisis, as many believe.



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Image caption

Children are among the worst affected by air pollution

Researchers involved in the investigation told me that the early data is showing a spike in the number of children being wheeled into emergency rooms on days when the air quality worsens. Much like the six-year-old boy who was hospitalised, they come with a cough, choked airways, prolonged colds, breathlessness, and irritation in the eyes and nose.

This is not, in itself, surprising. Delhi's poisonous air is hurting children. They and the elderly are, of course, among the worst hit.

Children's lungs are usually weak and can easily suffer damage. **A 2015 study suggested that four out of every 10 children in the capital suffered from "severe lung problems"**. Doctors say they should mostly stay indoors - schools have already been shut.

Others are not better off. The pollution often exacerbates the condition of a lot of the city's "stable" asthma patients, says pulmonologist Karan Madan of AIIMS.

It sends them back to outpatient clinics or emergency rooms, and leaves them requiring nebulisation treatment, steroid injections, oxygen and even ventilator support. "The symptoms just get a lot worse, and every such episode can lead to a long-term decline in lung function," says Dr Madan.

There's not much Delhi's residents can do.



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"One is to stop breathing. That is not possible. Second is to quit Delhi. That is also not possible. Third is to make the right to breathe fresh air a people's movement," **a chest surgeon told The New York Times**.

For the moment, doctors are recommending that people wear anti-pollution masks outdoors and when travelling on public transport.

People with existing respiratory problems should carry inhalers, take flu and pneumonia jabs, and use air purifiers at home. Smokers should stop lighting up at home and outside. People should not burn waste.

A new study on the impact of air pollution on life expectancy by Michael Greenstone, a professor of economics at the University of Chicago, has found people in Delhi could live six years longer if India just met its national PM2.5 standards of 40 micrograms per cubic metre. They could live nine years longer if the country met the World Health Organization standard, which is 10 micrograms per cubic metre.

That is a most damning indictment of India's efforts to tackle air pollution.

Northern China smog cuts life

expectancy by 3 years versus south: study

David Stanway
4 MIN READ

SHANGHAI (Reuters) - Air pollution caused by coal-fired winter heating has slashed life expectancy in northern China by more than three years compared with the south, according to a new study, underlining the urgency of Beijing's efforts to tackle smog.



FILE PHOTO: A man wearing a respiratory protection mask walks toward an office building during the smog after a red alert was issued for heavy air pollution in Beijing's central business district, China, December 21, 2016. REUTERS/Jason Lee/File Photo

Researchers with the Energy Policy Institute at the University of Chicago (EPIC) said average lifespans north of the Huai river, where China supplies mostly coal-fired winter heat, were 3.1 years lower than in the south, which is not covered by the state heating policy. EPIC's study cites long-term smog exposure as a primary cause of the difference.

In a statement, EPIC said its study examined pollution and mortality data in 154 cities from 2004 to 2012, and found higher death rates were due entirely to

increases in cardiorespiratory illnesses. EPIC didn't give an absolute number for average life expectancy, but said its study was the first to focus on differences in air quality north and south of the Huai river.

“We know on highly polluted days more people die and more people are sick, but what this study helps to isolate are the consequences of long-run sustained exposure,” said Michael Greenstone, EPIC director and one of the report's authors.

China is in the fourth year of a “war on pollution” designed to reverse the damage done by decades of untrammelled economic growth and allay concerns that hazardous smog and widespread water and soil contamination are causing hundreds of thousands of early deaths every year.

According to EPIC, if China were to comply with World Health Organization air quality standards, its people could live 3.5 years longer on average.



FILE PHOTO: People make their way through heavy smog on an extremely polluted day with red alert issued, in Shengfang, Hebei province, China December 19, 2016. REUTERS/Damir Sagolj/File Photo

EPIC said its study was able to isolate the impact of air pollution on health in northern China versus the south.

Every 10 micrograms per cubic meter of additional long-term exposure to smog

particles cuts life expectancy by 0.6 years, the study found.

Average readings of PM2.5 pollution - breathable airborne particles of less than 2.5 micrometers in diameter - stood at 45 micrograms per cubic meter in China from January to July, with the northern Beijing-Tianjin-Hebei region reaching 69 micrograms. The national standard is 35 micrograms.

Beijing has promised to impose tough industrial and traffic curbs this winter and is also in the process of shutting thousands of coal-fired boilers.

The government has acknowledged pollution is a health hazard but researchers have said more data was needed to understand its full effects, especially when it comes to the specific role it plays in diseases like lung cancer.

“We have enough evidence for the short-term effects of air pollution, but for long-term health, it is far from sufficient,” said Kan Haidong, professor at the School of Public Health at Fudan University in Shanghai, adding that the government has recently commissioned new studies. Kan wasn’t involved in the EPIC work but has worked on his own pollution studies.

“In the next five years, there is going to be more and more evidence linking air pollution with health in China,” he said.

Reporting by David Stanway; Editing by Kenneth Maxwell