

How climate change is linked to virus response

WHO: Some factors in Covid-19 equation may be affected with extra stress on health systems

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Climate change may have some bearing on the way the world responds to the Covid-19 pandemic, even though it may not have directly caused it, the World Health Organisation (WHO) said on Wednesday.

Climate change may affect some of the factors in the Covid-19 equation while placing additional stress on health systems, it said.

Water, for example, is used for personal hygiene, medical care, drinking and food production. But its availability could be affected by climate change, which can cause erratic rainfall and drought.

Communities need sufficient and safe water to practise basic hygiene and reduce Covid-19 transmission, but one in four healthcare facilities around the world lacks basic water services, the WHO said. This directly impacts over two billion people.

"Around 80 per cent of the world's population is already experiencing some level of water scarcity. Climate change further threatens the availability of water," it said.

While global efforts to reduce the spread of Covid-19 have led to reduced economic activity and a respite in air pollution in some areas, these are short-term benefits that are "no substitute for planned and sustained action on air quality and climate", said the global health body. It cautioned that a rapid expan-

WATER

1 in 4

Healthcare facilities around the world lacking basic water services, affecting over two billion people.

AIR

7 million

Number of people killed by air pollution every year. Global efforts to reduce the spread of Covid-19 have led to reduced economic activity and a respite in air pollution in some areas.

sion of polluting economic activities once the measures have ended may reverse any environmental improvement, unless there is a clear focus on transitioning to a green economy.

Air pollution is a serious health risk which kills about seven million people every year and is responsible for a third of all deaths from stroke, lung cancer and heart disease, said the WHO.

Separately, research is ongoing at Singapore's Nanyang Technological University (NTU) to investigate the link between air quality and health outcomes for patients with Covid-19, a respiratory disease.

Professor Stephan Schuster, research director at NTU's Singapore Centre for Environmental Life Sciences Engineering, is working with Assistant Professor Sanjay Chotirmall, from NTU's Lee Kong Chian School of Medicine, to understand the role of the air microbiome (which includes organisms such as

bacteria and fungi) in relation to the lung.

Typically, a healthy person would be able to clear these organisms through the body's defence system. But problems arise when the individual has a lung disease, such as asthma, where these defences are compromised and the patients become more susceptible to infection and inhaled pollutants.

Prof Chotirmall said scientists are still in the early stages of trying to understand the true role of the air microbiome in relation to the lung.

He added: "We are actively researching this specific question by prospectively assessing the air microbiomes in the homes of patients with chronic respiratory illness and following their disease course."

The WHO also said there is evidence that increasing human pressure on the natural environment may cause diseases to emerge.

"More generally, most emerging infectious diseases, and almost all recent pandemics, originate in wildlife, and there is evidence that increasing human pressure on the natural environment may drive disease emergence," said the WHO.

Health systems need to be strengthened and infectious diseases in wildlife, livestock and humans need to be put under improved surveillance. Protecting biodiversity and the natural environment should also reduce the risks of future outbreaks, the WHO added.

The link between disease and cli-

mate change has been highlighted before. In 2009, a study published in the Nepal Health Research Council's journal found the dengue-spreading *Aedes aegypti* mosquito in Kathmandu for the first time. Its authors pinpointed climate change as the major culprit.

The WHO said the Covid-19 pandemic and climate change were two different threats.

"The Covid-19 pandemic is a public health emergency of international concern, which has claimed lives and severely disrupted communities. Climate change is a gradually increasing stress that may be the defining public health threat of the 21st century," it said.

But they offer similar learning points for the global community.

This includes ensuring access to the "environmental determinants of health" such as clean air, water and sanitation as well as safe and nutritious food.

Other lessons include taking early action to save lives, to reduce the toll on lives and economies, and tackling social and economic inequality, which often manifests in unequal health risks.

Said the WHO: "When faced with public health threats of a global scale, such as Covid-19 or climate change, we are only as strong as our weakest health system."

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