

Experts warn of health issues from climate change

Problems such as mosquito-borne diseases and heat stress bound to worsen, says report

Shabana Begum

Health problems caused by climate change, such as heat stress and mosquito-borne diseases, will continue to worsen unless countries do more to slash planet-warming emissions, a global group of researchers has warned.

According to top journal *Lancet's* sixth report on the links between health and climate, key health trends are getting worse and exacerbating existing health and social inequities, especially in poorer nations.

Involving over 90 researchers, including two from Singapore, the *Lancet Countdown* report tracked 44 indicators of health impacts that are directly linked to climate change.

One of the Singapore scientists, Associate Professor Jason Lee from the National University of Singapore's Yong Loo Lin School of Medicine, contributed to a new indicator that assessed the links between heat and exercise.

He and his team found that the number of hours and days of scorching temperatures – making it unsafe to exercise – has risen over the past few decades globally.

Dr Samuel H. Gunther, Prof Lee's research fellow from the same school who also worked on the report, said: "By analysing the past three decades' worth of global climate and population records, Prof (Lee) and I found that tropical countries lost nearly five hours of daily physical activity per person in 2020."

The report's researchers and other healthcare professionals are pinning their hopes on the United Nations' climate change conference starting in Glasgow on Oct 31.

The conference aims to finalise details that will help nations implement the 2015 Paris Agreement, under which nations pledge to limit global warming to well below 2 deg C, preferably 1.5 deg C, compared with pre-industrial levels. This threshold will limit the worst impacts on the planet and people.

The report said countries ranking high or very high on the human development index, like Singapore, are most vulnerable to increased dengue outbreaks. Warmer weather allows the *Aedes* mosquito to breed faster.

The number of dengue cases in Singapore has exceeded 4,400 this year, with more than 100 cases per week since Sept 19, said the National Environment Agency (NEA) in a Facebook post last week.

Singapore is expected to become hotter in the coming decades as the planet continues to heat up.

Local temperatures are 1.8 deg

C higher than in 1948, data from NEA's Meteorological Service Singapore showed. Global temperatures have warmed by about 1.1 deg C from pre-industrial times.

Coupled with the urban heat island effect of urban structures trapping heat in the day and releasing it at night, more heatwaves could be on the cards.

Prof Lee, who is deputy director of the human potential translational research programme at NUS Medicine, is particularly concerned about how rising temperatures will affect more vulnerable groups, such as the elderly, construction workers and hawkers.

Seniors with cardiovascular disease can collapse from heat stress due to oxygen deprivation to internal organs. Exposure to scorching heat makes the body try to cool off by shifting blood flow from the organs to the skin, said Prof Lee. As skin and organs compete for blood, those with heart disease may not cope with the increased demands.

By mid-2022, Prof Lee hopes to track the heat-stress risk of construction workers here and come up with solutions to keep them cool – and productive. The fieldwork at some worksites will include measuring their core body temperature, their hydration and their living conditions.

One way people can "heat-proof" themselves is to do more aerobic fitness exercises, to train the heart to pump blood more efficiently and raise their thermal tolerance, said Prof Lee.

"Aerobic conditioning is one of the most potent ways to prepare you for the impending heat."

nshab@sph.com.sg

CLIMATE IMPACT ON HEALTH

By analysing the past three decades' worth of global climate and population records, Prof (Jason Lee) and I found that tropical countries lost nearly five hours of daily physical activity per person in 2020.



DR SAMUEL H. GUNTHER, a research fellow from the National University of Singapore's Yong Loo Lin School of Medicine. Associate Professor Jason Lee was one of the scientists involved in the *Lancet Countdown* report. He and his team, including Dr Gunther, found that the number of hours and days of scorching temperatures – making it unsafe to exercise – has risen over the past few decades globally.