

Scientists warn of new health threat caused by global warming

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Monash University researchers are warning that global warming is likely to increase illnesses caused by undernutrition, due to the effects of heat exposure.

While it's well-documented that global warming will indirectly result in more undernourished people through threatened [crop production](#) and

increased [food insecurity](#), this world-first study analysed the link between [heat](#) exposure and increased undernourishment illness.

The researchers, led by Yuming Guo, Associate Professor of Environmental Epidemiology and Biostatistics in the School of Public Health and Preventive Medicine, analysed daily hospitalisation data covering almost 80 per cent of Brazil between 2000 and 2015.

They studied the link between daily mean temperatures and hospitalisation for undernourishment according to the International Classification of Diseases.

The researchers found that for every 1°C increase in daily mean temperature during the hot season, there was a 2.5 per cent increase in the number of hospitalisations for undernutrition.

"The association between increased heat and hospitalisation for undernutrition was greatest for individuals aged over 80, and those 5 to 19 years," the researchers found.

"We estimated that 15.6 per cent of undernutrition hospitalisations could be attributed to heat exposure during the study period."

The study says increased heat may cause illness through undernourishment in a number of ways:

- Reducing appetites
- Provoking more alcohol consumption
- Reducing motivation or ability to shop and cook
- Exacerbate any undernutrition, resulting in [hospitalisation](#)
- Worsen a person's already impaired digestion and absorption by increasing gastrointestinal morbidity

Impair thermoregulation.

The study, published in *PLOS Medicine* (30 October AEDT), highlights the growing problem of undernutrition as a result of [global warming](#).

"Climate change is one of the biggest threats to the reduction of hunger and undernutrition, especially in low and middle-income countries. It has been estimated that climate change will reduce global food availability by 3.2 per cent and thus cause about 30,000 underweight-related deaths by 2050," the report says.

"However, this may actually underestimate the real effect of climate change on future undernutrition-related morbidity and mortality, because it overlooks the direct and short-term effects of temperature rise.

"We estimated that over 15 per cent of undernutrition hospitalisations could have been attributable to heat exposure in Brazil during the study period.

"It is plausible to speculate that climate changes could not only increase the rate of undernutrition in the most affected areas of the globe, but at the same time, impair individuals' capacity to adapt to projected rises in temperature.

"Global strategies addressing the syndemic of [climate change](#) and [undernutrition](#) should focus on food systems, but also on the prevention of heat exposure."

More information: Rongbin Xu et al, The association between heat exposure and hospitalization for undernutrition in Brazil during 2000–2015: A nationwide case-crossover study, *PLOS Medicine* (2019). [DOI: 10.1371/journal.pmed.1002950](https://doi.org/10.1371/journal.pmed.1002950)

Provided by Monash University

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