

'Heatwave health impacts can be life-threatening — adjust your activities to help your body cope'

Gaurab Basu is a physician and assistant professor at Harvard Medical School. Speaking to **Srijana Mitra Das** at *Times Evoke*, he discusses why heatwaves are such a threat to human health:

How does heat impact the body?

■ Almost all working systems in our bodies are affected by severe heat — this is particularly true when extreme heat comes with high humidity. Heat events can increase the risks of heart attacks, strokes and premature labour or low birth weight for expectant parents. These episodes are especially dangerous for people who already have underlying health issues like coronary artery disease, diabetes and respiratory illnesses — they, the elderly and children are very vulnerable. Also, the body must cool down at night and reset from compensating to diffuse severe heat through such days — but in this era of climate change, we're seeing the body unable to rest properly at night. This creates other issues as well like impacted cognitive functioning, depression, anxiety, etc., all correlating at higher rates during heatwaves.

Humans are warm-blooded beings — so, why aren't we able to adapt to hotter conditions?

■ The change in temperature from baseline is very concerning. At baseline, India is a warm country — so, you could argue people living in India have mostly acclimated to hot temperatures. But when you have these severe heatwaves — often with

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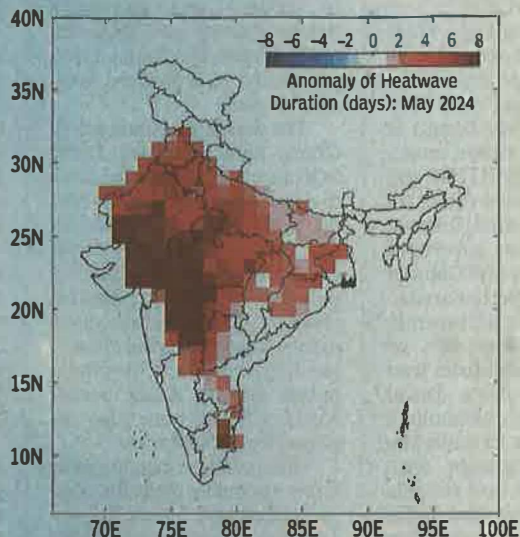


(W)HEATING UP: Farmers face risks

humidity — our body must compensate from what it is used to. That is a huge challenge. It is critical for our body's functioning that temperature remains in a very narrow spectrum — our system can't go up or down too much in temperature without facing consequences. Anyone who's suffered a fever due to infection

GLOBAL BOILING: THE HEAT IS TRULY ON

As data courtesy IMD (Ministry of Earth Sciences, GOI) shows (R), heatwave days, coming with climate change, will intensify in May 2024 over many regions



knows how bad they felt with even a one centigrade increase. Our body works very hard to maintain a stable core temperature — to dissipate heat, it changes our blood flow, moving blood away from some organs towards others. It sweats, bringing blood flow to our skin and dispenses heat thus. Our heart also works much harder to boost blood flow during heat events — increasing the oxygen within us can compensate for heat. But if the heart or kidneys don't work well, it becomes much harder to do this. Also, if it's so hot that your body can't keep up and release enough heat, it increases inside us and causes heat stress. The most severe version of this is heatstroke — when your body can't release heat, that causes inflammation within. Our blood vessels open up and enzymes can't work properly. Our organs start to get damaged and could even fail. When people come to hospital with heatstroke thus, we must treat it as life-threatening.

Is there a figure in terms of the human tolerance of heat, beyond which things get dangerous?

■ That number differs for different people — a heat condition which has a mild impact on one person could be very dangerous for an elderly person or someone with underlying health issues. While the number is

variable from person to person, the good news is, we can now accurately predict when these heatwaves are coming upon us — it's key to begin protective preparations early on, decrease heat exposure, drink enough water; rest in cool areas and have someone to call if people don't feel well. We cannot go about our day-to-day functioning during a heatwave — we must adjust our activities to take care of our body in such conditions.

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What are your recommendations to administrations to reduce the health damage heatwaves can cause?

■ This involves a systems level as it is also an issue of equity or fairness. Many people with fewer resources are most exposed — individuals labouring outdoors, those who don't have indoor cooling systems and the poorest people face the highest risk of heat exposure. We need policies established to protect them.

Awareness is central — India has a very successful community health worker model. Such people can go door-to-door or organise community gatherings to explain the impacts of heat on health. Clinics, community health centres, etc., must offer adequate information. Cities also need increased tree canopies and shade to protect people from heat. Some studies suggest painting rooftops a white shade can help deflect

some heat, which is something administrations should explore.

I also see heat evolving to become an important area of medical attention. I'm in charge of a curriculum at Harvard which teaches students the impacts of climate change on health — heat is a core part of it. We've created a heat screening tool and students are learning how to give patients good counsel and medical management to navigate heat. This is all about awareness — we need doctors, nurses and health professionals to understand the potential damage and counsel thoroughly.

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IN PEAK HEAT: Building needs policy

Heatwaves are increasing and will continue to intensify — they can cause severe health issues and losses of life. Along with other nations, India should identify climate change as a driver of these increasingly dangerous heatwaves and shun fossil fuels — these are stoking extreme temperatures on the planet.