



Forecasting Dengue

Why in news?

\n\n

Recent Indian study finds that it is possible to forecast the outbreak of the dengue.

\n\n

What is the study about?

\n\n

\n

- Study focuses on changes in a factor called extrinsic incubation period (EIP) of the dengue virus, by taking into account daily and monthly mean temperatures different climatic zones.

\n

- The EIP is the time taken for incubation of the virus in the mosquito.

\n

- During this period, after the mosquito draws blood that is rich in viruses, it escapes the gut and passes through the mosquito's body and reaches its salivary glands.

\n

- Once this happens, the mosquito is infectious and capable of transmitting the virus to a human host.

\n

\n\n

What are the outcomes of the study?

\n\n

\n

- Climatic conditions play an important role in EIP.

\n

- Lower temperatures (17-18°C) result in longer EIPs thereby leading to

decreased virus transmission.

\n

- From 17 to 30°C, dengue transmission increases fourfold, feeding increases because of the enhanced metabolism of the mosquito, leading to shorter EIPs.

\n

- A further increase in temperature beyond 35°C is detrimental to the mosquito's survival.

\n

- There is a strong correlation between rainfall and dengue numbers, they propose an increase in breeding grounds for mosquitoes.

\n

- Given its close link with both temperature and rainfall, it is possible to forecast the outbreak of dengue.

\n

\n\n

How it helps in Disease control?

\n\n

\n

- This climate-based dengue forecasting model could help health authorities assess the disease intensity in a geographic region.

\n

- Based on this authorities can plan disease-control operations well in advance and optimise the use of resources meticulously.

\n

- Factors such as population density and migration also need to be included for future risk assessment studies.

\n

- This will help in mitigating the disease and strategic disease control.

\n

\n\n

\n\n

Source: The Hindu

\n



IAS PARLIAMENT

Information is Empowering

A Shankar IAS Academy Initiative