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Dengue: Prevention And Identification

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Why in News

With multiple cities recording a high number of dengue-related cases every year, it is important to know about the disease.

Key Points

- **Dengue:**
 - Dengue is a **mosquito-borne tropical disease** caused by the **dengue virus (Genus Flavivirus)**, transmitted by several species of mosquito within the **genus Aedes**, principally **Aedes aegypti**.
This mosquito also transmits **chikungunya**, **yellow fever** and **Zika infection**.
 - There are 4 distinct, but closely related, serotypes (separate groups within a species of microorganisms that all share a similar characteristic) of the virus that cause dengue (**DEN-1, DEN-2, DEN-3 and DEN-4**).
- **Symptoms:**

Sudden high fever, severe headaches, pain behind the eyes, severe bone, joint, and muscle pain, etc.
- **Diagnosis and Treatment:**
 - Diagnosis of dengue infection is done with a blood test.
 - There is no specific medicine to treat dengue infection.

- **Status of Dengue:**

- Incidence of dengue has **grown dramatically around the world** in recent decades, with a vast majority of cases under-reported, according to the **World Health Organization (WHO)**.
- WHO estimates 39 crore dengue virus infections per year, of which 9.6 crore show symptoms.
- India registered over 1 lakh dengue cases in 2018 and over 1.5 lakh cases in 2019, according to the **National Vector-Borne Disease Control Programme (NVBDCP)**.

NVBDCP is the central nodal agency for prevention and control of **six vector borne diseases** i.e. Malaria, Dengue, Lymphatic Filariasis, Kala-azar, Japanese Encephalitis and Chikungunya in India. It works under the Ministry of Health and Family Welfare.

- **Controlling Dengue Using Bacteria:**

- Recently researchers from the **World Mosquito Program** have used mosquitoes infected with **Wolbachia bacteria to successfully control dengue** in Indonesia.

- **Method:**

- The scientists infected some mosquitoes with Wolbachia and then released them in the city where they bred with local mosquitoes, until nearly all mosquitoes in the area were carrying Wolbachia bacteria. This is called the **Population Replacement Strategy**.
- At the end of 27 months, the researchers found that the incidence of dengue was 77% lower in areas where Wolbachia-infected mosquitoes had been released, as compared to areas without such deployments.

- **Dengue Vaccine:**

The dengue vaccine CYD-TDV or **Dengvaxia** was approved by the US Food & Drug Administration in 2019, the **first dengue vaccine** to get the regulatory nod in the US.

Dengvaxia is basically a **live, attenuated dengue virus** which has to be administered in people of ages 9 to 16 who have laboratory-confirmed previous dengue infection and who live in endemic areas.

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