



## Japanese Encephalitis

**For Prelims:** Japanese Encephalitis, Acute Encephalitis Syndrome, Universal Immunisation Programme, NPPCJA.

**For Mains:** Health, Human Resource, Government Policies & Interventions, Japanese Encephalitis, transmission and prevention.

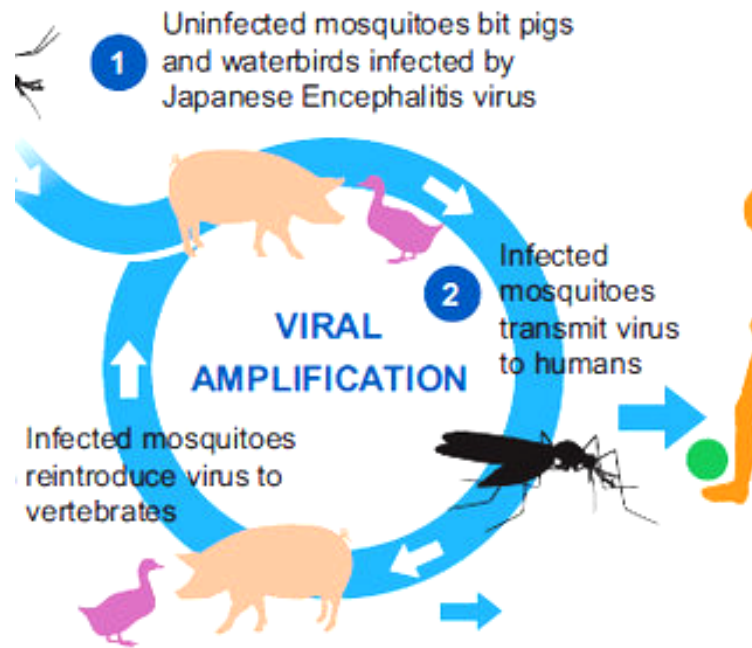
### Why in News?

Recently, the **National Institute of Animal Biotechnology (NIAB)**, Hyderabad has developed an immunosensor to detect Non-Structural 1 (NS1) secretory protein which is a suitable biomarker for **Japanese Encephalitis Virus (JEV)** found circulating in the blood.

- Detection of the NS1 instead of antibody has an added advantage since the **antigen is present from day 1 of the infection and hence facilitates early detection**. On the other hand, antibodies appear only after Day 4/5 of the infection.
- **NIAB** is an Indian autonomous research establishment of the Department of Biotechnology, Ministry of Science and Technology.

### What is Japanese Encephalitis?

- **About:**
  - It is a disease caused by a **flavivirus that affects the membranes around the brain**.
  - Japanese encephalitis virus (JEV) is also a major cause of **Acute Encephalitis Syndrome (AES) in India**.
- **Transmission:** [//](#)



- The disease is **transmitted to humans through bites from infected mosquitoes** of the Culex species.
- These mosquitoes **breed mainly in rice fields and large water bodies** rich in aquatic vegetation.
- Migratory birds **along with pigs in the community also play an important role in the transmission** of JE from one area to other areas.

#### ▪ **Symptoms:**

- Most people infected with JE **do not have symptoms or have only mild symptoms**.
- However, a small percentage of infected people develop **inflammation of the brain** (encephalitis), with symptoms including sudden onset of headache, high fever, disorientation, coma, tremors and convulsions.

#### ▪ **Treatment:**

- There is **no antiviral treatment for patients** with JE. Treatment, available, is **supportive to relieve symptoms** and stabilise the patient.

#### ▪ **Prevention:**

- Safe and effective **JE vaccines are available** to prevent the disease.
- In India, **mass vaccination with JE vaccine was started** in a phased manner subsequent to the major outbreak in 2005.
- JE vaccination is **also included under the [Universal Immunisation Program](#)** of the Government of India.

## What are the Government Initiatives Related to Japanese Encephalitis?

- In order to **reduce morbidity, mortality, and disability** in children due to JE/AES, Government of India under **National Programme for Prevention and Control of Japanese Encephalitis(JE)/ Acute Encephalitis Syndrome (NPPCJA)** has developed a multi-pronged strategy with the convergence of the concerned Ministries.
  - **Ministry of Health and Family Welfare:** Strengthening and expanding JE vaccination, Strengthening of public health activities, better clinical management of JE/AES Cases etc.
  - **Ministry of Jal Shakti** for the provision of safe water supply.
  - **Women and Child development** for providing high-quality nutrition to vulnerable children.
  - **Ministry of Social Justice and Empowerment** for establishing District Disability Rehabilitation Centres for disability management and rehabilitation.
  - **Ministry of Housing and Urban Affairs** for ensuring the supply of safe water in slums

- and towns.
- **Ministry of Education** to provide special facilities for disabled children for their education.

**Source: PIB**

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