WEST NILE VIRUS - DISEASE

NEWS: A severe outbreak of West Nile virus (WNV) has grappled Ukraine with high death tolls and casualties.

WHAT'S IN THE NEWS?

West Nile Virus (WNV)

About

- WNV is a virus that causes neurological disease in people.
- It was first isolated in a woman in the West Nile district of Uganda in 1937.
- They commonly affect people in Africa, Europe, the Middle East, North America and West Asia.

Family

- It is a member of the flavivirus genus.
- Flavivirus is a genus of RNA viruses in the family Flaviviridae.

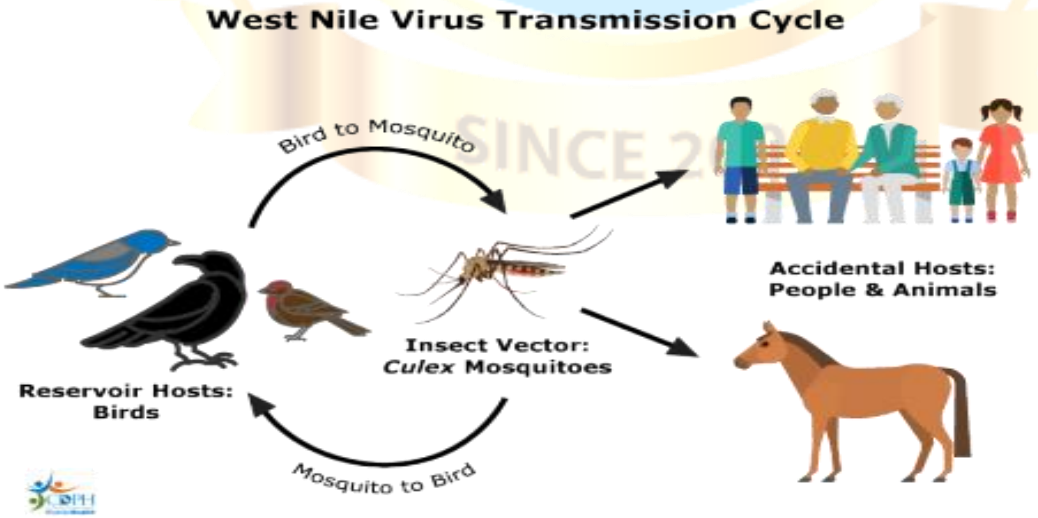
The most dangerous and common members of the Flavivirus Family are Yellow Fever virus, Dengue virus, Zika virus, West Nile virus, Japanese Encephalitis virus, Tick-Borne Encephalitis virus, Kyasanur Forest virus, Alkhurma virus and Omsk virus.

Transmissions : Vector Transmission

Human infection is most often the result of bites from infected mosquitoes. Mosquitoes become infected when they feed on infected birds and subsequently, they transmit it to humans through bites.

Alternative Transmission Routes

- It can also spread through contact with infected animals or their tissues.
- Rare cases include transmission via organ transplants and blood transfusions.
- No casual human-to-human transmission of WNV has been documented to date.



Symptoms

- Infection is either asymptomatic with no symptoms occurring in around 80% of infected people, or can lead to West Nile fever or severe West Nile disease.
- About 20% of people who become infected with WNV develop West Nile fever.
- Fever, headache, tiredness, body aches, nausea, vomiting, sometimes skin rash and swollen lymph glands are some of its symptoms.
- Approximately 1 in 150 persons infected with the West Nile virus will develop a more severe form of the disease.

Diagnosis

West Nile virus can be diagnosed by different tests such as:

Enzyme-linked immunosorbent assay (ELISA), Neutralisation assays, Viral detection by reverse transcription polymerase chain reaction (RT-PCR) assay, and Virus isolation by cell culture are some ways to

Treatment and Vaccine

- It often involves hospitalisation, intravenous fluids, respiratory support, and prevention of secondary infections.
- No vaccine is available for humans.

Vector and animal hosts

- Culex mosquitoes are the main vectors responsible for this WNV.
- Birds serve as the primary reservoirs for WNV.

WNV in India

In India, antibodies against WNV were first detected in humans in Bombay in 1952.

- Virus activity has been reported in southern, central, and western India.
- WNV has been isolated in India from Culex vishnui mosquitoes in Andhra Pradesh and Tamil Nadu.
- In Maharashtra, it was isolated from Culex quinquefasciatus mosquitoes.
- Serologically confirmed cases of WNV infections were reported in Vellore in 1977, 1978 and 1981 and in West Bengal in 2017.

Prevention

Since WNV outbreaks in animals precede human cases, the establishment of an active animal health surveillance system to detect new cases in birds and horses is essential.

There needs to be the development of comprehensive, integrated mosquito surveillance and control programmes in areas where the virus occurs.

Reporting system by the community to local authorities should be done.

In the absence of a vaccine, the only way to reduce infection in people is by raising awareness of the risk factors and educating people about the measures they can take

Source: https://www.downtoearth.org.in/health/deadly-west-nile-virus-spreads-across-ukraine-11-fatalities-since-july