Nipah Virus Case in Kerala

Why in news?

A youth from Ernakulam district in Kerala has tested positive for the Nipah virus infection (a year after a similar outbreak in Kerala had claimed 17 lives).

What is the Nipah virus infection?

- **Cause** - The natural host of the Nipah virus are fruit bats of the Pteropodidae family and Pteropous genus, widely found in South and South East Asia.
- However, the actual source of the current infection is not yet known.
- Scientists are currently working on finding the epidemiological link of the outbreak.
- **Transmission** - The infection is generally transmitted from animals to human beings, mainly from bats and pigs.
- Human-to-human transmission is also possible, and so is transmission from contaminated food.
- **Effect** - Nipah virus causes a so far incurable infection in human beings, which can sometimes be fatal.
- Patients either show no symptoms of the infection (asymptomatic infections), thereby making it difficult to detect.
- Otherwise, patients develop acute respiratory problems, or encephalitis that often becomes fatal.
- The World Health Organization (WHO) says the infection has been found to be fatal in 40% to 75% of the infected patients.
- There is **no treatment** available as of now, either for humans or animals, nor any vaccine.

What are the previous incidents of infection?

- Nipah virus infections were first identified in 1999 in Malaysia.
- From then on infections have been detected quite frequently in Bangladesh.
- **Kerala** - There have been a few incidents of infection in India earlier, apart from the 2018 outbreak in Kerala.
- The 2018 outbreak was confined to two districts of Kerala, Kozhikode and

Malappuram.

- Studies have revealed that a particular kind of fruit bat, Pteropus spp, was most likely the source of human infection in 2018.
- Research suggested that this particular strain might have been circulating in the local bat population.
- The newly detected case in Kerala is believed to have actually been a result of intensified preventive and containment efforts after last year's outbreak.
- The increased awareness and vigilance in the community has helped in early detection this time.
- **Elsewhere in India** - The first outbreak was in 2001 in Siliguri, West Bengal.
- More than 30 people were hospitalised with suspected infection then.
- Another outbreak happened in 2007 in Nadia of West Bengal, with over 30 cases of fever with acute respiratory distress and/or neurological symptoms.
- Notably, five of them turned out to be fatal.

Who are potentially at risk?

- Transmission to 18 contacts last year and the two health-care workers this year has been only through the human-to-human route.
- As of now, the current outbreak is likely localised, like last year's.
- More people showing symptoms are being screened and so are people in physical contact with them.
- Those with exposure to body fluids (saliva, urine, sputum) of infected patients had higher risk for asymptomatic infections, than those who only had physical contact with the infected patients.

What are the measures taken?

- The National Institute of Virology (NIV) advised extreme care for healthcare workers and caregivers.
- These include providing double gloves, fluid-resistant gown, goggles, face shields, closed shoes and similar other protective gear.
- Currently, steps are being taken to prevent the spread of the disease by tracing the contacts, setting up isolation wards and public engagement.

What is the way forward?

- Containing the spread of the Nipah virus is important as the mortality rate was 89% last year.
- The recurrence of the infection possibly suggests that the virus is in circulation in fruit bats.
- Analysing the evolutionary relationships, a study found 99.7-100% similarity

between the virus in humans and bats.

- The confirmation of the source and the recurrence mean that Kerala must be alert to the possibility of frequent outbreaks.
- It is high time that the state takes continuous monitoring and surveillance for the virus in fruit bats.
- One reason for the failure in not doing so till now could be the absence of a public health protection agency.
- The government has been in the process of formulating it for over 5 years now, to track such infective agents before they strike.
- The state should also equip the Institute of Advanced Virology in Thiruvananthapuram to undertake testing of dangerous pathogens.

Source: Indian Express, The Hindu

Quick Fact

National Institute of Virology

- The National Institute of Virology is one of the major Institutes of the Indian Council of Medical Research (ICMR).
- It was established at Pune, Maharashtra in 1952 as Virus Research Centre (VRC) under the auspices of the ICMR and the Rockefeller Foundation (RF), USA.
- It was an outcome of the global programme of the RF for investigating the Arthropod Borne viruses.
- The RF withdrew its support in 1967 and since then the Institute is entirely funded by the ICMR, taking up intensive training and research in virology.

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