

### **What is the Nipah virus?**

The Nipah virus is a newly emerging disease that can be transmitted from its natural host, the fruit bat, to animals and humans alike. It takes its name from Sungai Nipah, the Malaysian village where it was first identified in 1998. An outbreak there among pigs left approximately 300 people infected and more than 100 people dead within a year.

In India, during 2001 and 2007 two outbreaks in human were reported from West Bengal. In 2018, 2 districts of Kerala namely Kozhikode and Malappuram were affected. Out of 18 positive cases 16 had succumbed to the infection (excluding one index case). Large fruit bats of *Pteropus* genus are the natural reservoir of NiV. There is circumstantial evidence of human-to-human transmission in India in 2001. During the outbreak in Siliguri, 33 health workers and hospital visitors became ill after exposure to patients hospitalized with Nipah virus illness, suggesting nosocomial infection.

### **Where is the disease found?**

There has been Nipah Virus infection outbreaks in pigs and bats in Malaysia, India and Singapore etc. and human disease in Malaysia, Singapore, India, and Bangladesh. Evidence of the virus without clinical disease has also been found in fruit bats in Cambodia, Thailand and Madagascar. There is evidence of Nipah infection among several species of domestic animals including dogs, cats, goats, and horses. Sheep may also be affected.

### **How is the Nipah virus transmitted?**

- Spread of Nipah virus to humans may occur after close contact with other Nipah infected people, infected bats, or infected animals like pigs, dogs, cats, goats, and horses, etc. Bat secretions laden with virus can infect people during fruit tree climbing, eating/handling contaminated fallen fruits or consuming raw date palm sap/juice or toddy.
- Human to Human infection can occur from close contact with persons affected with Nipah at home while providing care or close contact and in hospital setting if appropriate personal protective equipment are not used.

### **What are the symptoms?**

Initial symptoms include fever, vomiting and severe headaches, and some patients experience acute respiratory syndrome. These initial symptoms are followed by disorientation, drowsiness and mental confusion. Within one to two days the disease can result in coma and death. The Nipah virus has a mortality rate of 40-70 percent.

**After exposure to the virus, how long it takes for the symptoms to appear?**

Incubation period ranges from 6-21 days.

**Who are at high risk of developing Nipah virus infection?**

- People who are exposed to areas inhabited by fruit bats/ articles contaminated by secretions such as, unused wells, caves, fruit orchards, etc are likely to be at higher risk of infection
- Persons with direct contact with sick pigs or their contaminated tissues
- Persons in close contact with a Nipah virus affected deceased during burial or cremation rituals
- Health care workers having direct contact with probable or confirmed cases without using standard infection control measures

**Are there tests for diagnosis of Nipah available in India/Kerala?**

Yes tests are available in ICMR labs i.e. NIV Pune and NIV Allepy.

**Is it an airborne infection?**

Experts say that Nipah Virus is not an airborne infection. Refer to Q 2(How does it spread?). However, infection can spread through droplets and objects contaminated by secretions (urine, saliva etc.) of infected animals or humans.

**When and for how long is a person able to spread the disease?**

At this time, it is not known how long a person is able to transmit Nipah virus.

**What are the treatment options available for Nipah virus?**

To date, there is no vaccine against the Nipah virus, neither for humans nor animals. The treatment requires supportive and intensive care. However, health care providers may offer supportive therapy (i.e., rest, fluid intake) to help manage symptoms. Affected persons are isolated in separate units to prevent the spread of the disease. As the disease can be passed on from person to person, regular infection control protocols are put in place.

Studies have shown that early treatment with the antiviral drug, ribavirin, can reduce the duration of fever and the severity of disease.

**Does past infection make a person immune?**

This is unknown at this time.

**Should children or others be excluded from child care, school, work or other activities if they have Nipah virus?**

Yes. Person-to-person transmission of Nipah has been reported. Because it is unknown how long an infected person can spread Nipah, you should consult the health facility/ doctor / Department of Health before people are allowed to return to work, school or child care.

**I am currently on travel to Kerala, what should I do if I feel unwell?**

If you feel unwell when in and around an infected region, consult the nearest public health facility.

**What can be done to prevent the spread of Nipah virus?**

This disease can be prevented by avoiding animals that are known to be infected and using appropriate personal protective equipment devices when it is necessary to come into contact with potentially infected animals in areas where the virus circulates.

**What measures of prevention should be taken in high risk areas?**

- To prevent infection, people in affected areas should avoid exposure and contact with sick people and animals.
- Wash hands with soap and water after coming in contact with a sick person or animal
- Avoid consuming raw date palm sap or toddy
- Consume only washed fruits
- Avoid consuming half eaten fruits from the ground
- Avoid entering into abandoned wells
- Handling of dead bodies should be done in accordance with the government advisory

**Can it spread to the neighbouring states?** There are chances of spread to neighbouring/ other states if the infected person moves out to other state during the incubation period. People should not panic and start leaving the area but avoid high risk behaviour which can lead to getting infected like venturing into abandoned wells, climbing trees inhabited by fruit bats, eating partially eaten fruits by bats/ animals, etc. *Refer to Q. Who are at risk of getting the infection?*

**Should we restrict our travel to Kerala?** There is no advisory regarding travel restriction to Kerala. Precautions must be taken to avoid high risk behaviour which can lead to getting infected like venturing into abandoned wells, climbing trees inhabited by fruit bats, eating partially eaten fruits by bats/ animals, etc. *Refer to Q. Who are at risk of getting the infection?*

**Is Nipah virus reportable to the govt.?**Yes

**Is there a vaccine for the disease?** No.

**How can I protect myself from Nipah virus infection?**

Humans should desist from venturing into habitats of bats. It should be ensured that people and domestic animals do not consume fruits bitten or partially eaten by bats. We can keep diseases at bay by ensuring cleanliness in our surroundings as well as overall hygiene.

**Is there a possibility of acquiring infection from animals other than bat? Are animals other than bats involved in causing the disease?**

Nipah Virus (NiV) is an emerging infectious disease, which first appeared in domestic pigs in Malaysia and Singapore in 1998 and 1999.

There is evidence of Nipah infection among several species of domestic animals including dogs, cats, goats, pigs and horses. Sheep may also be affected. However, since the initial outbreak it has primarily affected humans in different parts of the world.

**Is the govt. taking measures to control the increase in bat population?**

It is not practicable to kill the bats because of the risk of Nipah infection as they are an important part of our ecosystem.