

Nipah Virus (NiV) factsheet

About Nipah Virus

Nipah virus (NiV) is a zoonotic virus (transmitted from animals to humans) and can also be transmitted through contaminated food or directly between people. It commonly affects animals like bats, pigs, dogs, horses, etc. In infected people, it causes a range of illnesses from asymptomatic (subclinical) infection to acute respiratory illness and fatal encephalitis.

Past Outbreaks

Nipah virus was first recognized in 1999 during an outbreak among pig farmers in, Malaysia. No new outbreaks have been reported in Malaysia since 1999.

It was also recognized in Bangladesh in 2001, and nearly annual outbreaks have occurred in that country since.

Other regions may be at risk for infection, as evidence of the virus has been found in the known natural reservoir (Pteropus bat species) and several other bat species in a number of countries, including Cambodia, Ghana, Indonesia, Madagascar, the Philippines, and Thailand.

India has reported two outbreaks of NiV in the past: Siliguri outbreak in 2001 with 66 reported cases and 45 deaths. Second outbreak of NiV was reported in 2007 in Nadia, West Bengal wherein 5 cases and 5 deaths were reported. Human-to-human transmission has been documented, in hospital setting in India.

Transmission

During the first recognized outbreak in Malaysia, which also affected Singapore, most human infections resulted from direct contact with sick pigs or their contaminated tissues. Transmission is thought to have occurred via unprotected exposure to secretions from the pigs, or unprotected contact with the tissue of a sick animal.

In subsequent outbreaks in Bangladesh and India, consumption of fruits or fruit products (such as raw date palm juice) contaminated with urine or saliva from infected fruit bats was the most likely source of infection.

Human-to-human transmission of Nipah virus has also been reported among family and care givers of infected patients.

Mode of Spread

- Spread of Nipah virus to humans may occur after close contact with other Nipah infected people, infected bats, or infected pigs. 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 equipments are not used.
- Handling of dead bodies, suspected of death due to Nipah virus should be done in accordance with the government advisory. During this emotional moment traditional rituals and practices may need to be modified to prevent the exposure of family members to the disease.
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Signs and symptoms

- Human infections range from asymptomatic infection to acute respiratory infection (mild, severe), and fatal encephalitis.
- Infected people initially develop influenza-like symptoms of fever, headaches, myalgia (muscle pain), vomiting and sore throat. This can be followed by dizziness, drowsiness, altered consciousness, and neurological signs that indicate acute encephalitis. Some people can also experience atypical pneumonia and severe respiratory problems, including acute respiratory distress. Encephalitis and seizures occur in severe cases, progressing to coma within 24 to 48 hours.
- The incubation period (interval from infection to the onset of symptoms) is believed to range from 4 to 14 days. However, an incubation period as long as 45 days has been reported.
- Most people who survive acute encephalitis make a full recovery, but long term neurologic conditions have been reported in survivors. Approximately 20% of patients are left with residual neurological consequences such as seizure disorder and personality changes. A small number of people who recover subsequently relapse or develop delayed onset encephalitis.
- The case fatality rate is estimated at 40% to 75%. This rate can vary by outbreak depending on local capabilities for epidemiological surveillance and clinical management.

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 precautionary measures

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

- 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

Treatment

There are currently no drugs or vaccines specific for Nipah virus infection although WHO has identified Nipah as a priority disease for the WHO Research and Development Blueprint. Intensive supportive care is recommended to treat severe respiratory and neurologic complications.

Testing in India

Nipah virus is classified internationally as a biosecurity level (BSL) 4 agent. BSL 2 facilities are sufficient if the virus can be first inactivated during specimen collection. There are a few laboratories in which the virus can be studied safely without a risk of it “escaping” and infecting more people. In India Nipah Virus is tested only in **ICMR-National Institute of Virology (NIV), Pune & Department of Virus Research, Manipal.**

For further information please visit the following links

1. <http://www.who.int/news-room/fact-sheets/detail/nipah-virus>
2. <http://www.ncdc.gov.in/index4.php?lang=1&level=0&linkid=113&lid=228>
3. http://niv.co.in/Guidelines_for_Nipah_Virus_Testing.pdf
4. <http://www.thehindu.com/news/national/kerala/anatomy-of-an-outbreak-how-kerala-handled-the-nipah-virus-outbreak/article24060538.ece>

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