Nipah virus is closely related to Hendra virus. Both are fruit-bat viruses that cause severe respiratory and neurological disease in humans. They are the causative agents of Nipah encephalitis and Hendra encephalitis, respectively. Nipah virus infection has a high case fatality rate and is characterized by encephalitis, atypical pneumonia, and extensive respiratory symptoms. Some people can also experience cardiovascular manifestations and organ failure.

In Bangladesh, the only known source of Nipah virus infection is the fruit bat, a species belonging to the Pteropus genus. Nipah virus infects a wide range of animals, including pigs, and is transmitted to humans through contact with infected fluids, including saliva, urine, and blood. Nipah virus can also be transmitted by aerosols, from human respiratory secretions, saliva, and urine. In Bangladesh, the only significant exposure significantly associated with human Nipah virus cases is close contact with pigs and their products. Nipah virus can survive for days on sugar-rich solutions such as fruit juices, honey, and molasses, but some is enjoyed as a beverage.

In Bangladesh, the disease has been spread through contact with infected pigs. Nipah virus can survive and persist in a pig until it is slaughtered or sold. There have been several outbreaks of the disease in Bangladesh, and it is estimated that 40–75% of infected pigs will die. In the absence of a vaccine, the only way to reduce the spread of the virus is through strict control and preventive measures.

Nipah virus is classified internationally as a bio-security level 4 virus, and there are adequate facilities for diagnosing the virus. However, there is no effective vaccine, and no drugs are available to treat Nipah virus infection. Therefore, it is essential to develop effective preventive techniques for Nipah virus transmission.

Reducing the risk of bat-to-human transmission is essential in providing early warning for veterinary and public health authorities. Educational messages should focus on the importance of safe handling and consumption of potential intermediate hosts, such as pigs and date palm sap. Bat guano and saliva should be avoided, and fruits should be thoroughly washed and peeled before consumption.
Prevention and control of Nipah virus infection are reviewed in this paper. Transmission, clinical features, treatment, and control measures are discussed. Nipah virus (NiV) is a paramyxovirus that causes encephalitis and respiratory illness in humans. It is zoonotic, with fruit bats identified as its natural host. The virus is transmitted to humans through contact with bat excretions or contaminated food. A recent outbreak in Bangladesh highlighted the importance of understanding the virus's transmission dynamics.

Key words: Nipha virus; Public health; Fruit bat; Outbreak

NiV was first identified in Malaysia in 1999, and since then, multiple outbreaks have been reported in Southeast and South Asian countries. The virus is highly contagious, with a case fatality rate estimated at 40–75%. The incubation period varies from 2 to 10 days, with symptoms including fever, respiratory distress, and neurological signs.

Treatment is mostly symptomatic and supportive, as the effect of antiviral drugs is not yet established. Ribavirin may alleviate symptoms in some cases. Prevention focuses on reducing the risk of infection in people and animals. Fruit bats, the natural host, are a vector for NiV. Human infection is primarily caused by contact with NiV-contaminated fruits, especially date palm sap.

In the 2005 outbreak in Tangail district, Bangladesh, 17 cases were reported, with six deaths. The virus was isolated from fruit bats and date palm sap. In the 2012 outbreak in Faridpur district, 12 cases were reported, with atypical pneumonia and severe respiratory disease observed. The virus was transmitted to humans through contact with NiV-infected bats or date palm sap.

The next outbreak of NiV in Bangladesh was in 2014, with 36 cases and 29 deaths. The virus was transmitted from pigs to humans, highlighting the role of pigs as a reservoir. Prevention strategies include reducing the risk of infection in people and animals, supervising burial or incineration of carcasses, and educating the public.

Reducing the risk of bat-to-human transmission involves avoiding contact with fruit bats and their excretions. Fruit bats frequently visit date palm trees, and date palm sap is a main mode of transmission. Sanitizing hands after handling date palm sap and wearing gloves when working with bats can help prevent infection.

In summary, prevention and control of NiV infection require a multifaceted approach that includes public health education, surveillance, and early detection. The role of pigs in the transmission cycle needs further study, as they may act as a bridge host. Further research is needed to develop an effective vaccine and antiviral drugs to prevent NiV outbreaks.

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Nipah virus, a member of the genus Henipavirus, a new class of virus in the Paramyxoviridae family, was first identified in pigs in Bangladesh in 1999. It is closely related to Hendra virus. Both are zoonotic viruses with a wide host range, which can cause severe encephalitis and respiratory disease in humans.

### Outbreaks in Bangladesh

In 2001, the first outbreak of Nipah virus encephalitis occurred in Bangladesh, affecting 10 people and resulting in 5 deaths. Since then, there have been several outbreaks in different districts of Bangladesh, with the most recent reported in 2014.

### Person-to-Person Transmission

In 2004, four cases of Nipah virus encephalitis were reported in Faridpur district, Bangladesh. Two of the patients had no known history of contact with infected animals, suggesting person-to-person transmission. This raised concern for the potential for Nipah virus to spread within communities.

### Controlling Nipah Virus in Domestic Animals

Efforts to prevent transmission should first focus on controlling Nipah virus in domestic animals. Fruit bats are the primary natural host of NiV, but pigs are the main amplifying host. Fruit bats feed on date palm sap, which is harvested in Bangladesh between December and March. Most date palm sap is processed at high temperatures to produce palm wine, which can transmit the virus to domestic animals.

### Treatment

Treatment is mostly symptomatic and supportive as the effect of antiviral drugs is not known. Some people can also experience atypical pneumonia and severe respiratory failure. A small percentage of survivors may be left with residual neurological consequences such as chronic dizziness, drowsiness, altered consciousness, and personality changes. This can be due to the virus infecting the brainstem and cranial nerves, or due to secondary bacterial infections from the altered mental status.

### Prevention

Controlling Nipah virus in domestic animals involves reducing the risk of exposure to infected fruit bats, monitoring domestic animals for signs of illness, and implementing strict biosecurity measures to prevent the spread of the virus.
Nipah virus is closely related to Hendra virus. Both are members of the Paramyxoviridae family. It was first isolated from bats in northern Bangladesh in 2015. Human infections range from asymptomatic infection to fatal encephalitis with mortality rates of up to 100% in some outbreaks. Many of the outbreaks were attributed to pigs consuming fruits, partially eaten by bats under the trees before domestic animals in Bangladesh forage for such food.

From 2001 to 2013, 14 outbreaks of human Nipah virus infection were reported in Bangladesh, of which 9 cases died. These outbreaks have been detected and managed proportionately. Establishing appropriate surveillance. Outbreaks were different in terms of geographical distribution, clinical presentation, and virus strains. As of February 2014, 18 cases of Nipah virus infection have been reported in Bangladesh, with 24 cases and 21 deaths.

Signs and symptoms of NiV infection include fever, headache, vomiting, dizziness, and altered mental status. Severe illness may progress to respiratory distress and acute respiratory distress syndrome. Person-to-person transmission has been identified, and a team from IEDCR and icddr,b (formerly the International Centre for Diarrhoeal Disease Research, Bangladesh) diagnosed two cousins living in Kurigram as having Nipah virus encephalitis in January 2010. They had no history of contact with sick pigs.

Reducing the risk of animal-to-human transmission is necessary to reduce the risk of transmission to people. Fruit bats of the family Pteropodidae, particularly species belonging to the Pteropus genus, are the natural host species for NiV. The virus is transmitted from bats to humans through ingestion of fresh date palm sap. Date palm sap is a popular beverage in Bangladesh, and bats are known to feed on the sap. The virus can also be transmitted to other animals, including pigs, when they eat parts of date palms that have been contaminated by bat saliva.

Reducing the risk of bat-to-human transmission involves avoiding direct contact with fruit bats and their excreta. Wear protective clothing and gloves when handling fruit bats or their excreta. Fruits should be thoroughly washed and peeled before consumption. Any fruit that appears to be damaged or contaminated should not be eaten or handled.

Prevention and control measures include monitoring animal movement and health status. Domestic animals should be vaccinated against Hendra virus. Domestic animals that are exposed to NiV should be isolated and monitored for signs of illness. Any animal that dies or is euthanized due to NiV should be tested for the virus.

There are no drugs available to treat Nipah virus infection. Treatment is supportive, and care is focused on managing symptoms and preventing complications. Severe illness may require mechanical ventilation and intensive care.

Conclusion

Efforts in development of an effective vaccine are ongoing. A vaccine is being developed. A recombinant subunit vaccine formulation protects against lethal Nipah virus infection in ferrets. The vaccine is being tested in a phase III trial in humans. If the vaccine is effective, it could be used to prevent NiV outbreaks in humans and animals.

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by inflammation of the brain or respiratory diseases. It
can cause severe illness and disease and death in people, making it a public health
nuisance.

Although Nipah virus has caused only a few outbreaks,
outbreaks continue to occur in Bangladesh. In 2010,
residual neurological problems. The outbreak was
detected by ELISA, PCR, immunofluorescence assay and isolation by cell
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