Editorial

Nipah Virus Infection - A Seasonal Disaster Needs Public Health Awareness - An Editorial

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As outbreaks of Nipah virus infection are seasonal in Bangladesh, usually occurring annually between December and May, and currently no specific drugs or vaccines are available for Nipah virus infection, so prevention through public health awareness is the main way to combat against the deadly infection. Nipah virus is an RNA virus of the family Paramyxoviridae, genus Henipavirus, and is closely related to Hendra virus that causes acute respiratory infection of horses and humans. The name, Nipah, originated from the name of the village in Malaysia where pig farmers became infected. Nipah virus infection is an emerging bat-borne zoonotic disease transmitted to humans through infected animals or contaminated food[1]. It can also be transmitted directly from person to person through close contact with an infected person. Fruit bats are the natural hosts for Nipah virus. The primary pathway of transmission in Bangladesh are through ingestion of raw date palm sap contaminated with bat saliva or urine[2]. Since 2001, Bangladesh has reported seasonal outbreaks of Nipah virus infection between December and May, corresponding with the harvesting season of date palm sap (DPS) occurring in the country from November to March. Nipah virus has caused five subsequent outbreaks between 2001 and 2005 in Bangladesh. Reported cases ranged from zero (in 2002, 2006 and 2016) to 67 (in 2004). A lower number of reported cases was observed from 2016 following an extensive advocacy campaign against the consumption of raw date palm sap. Between 4 January

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to 13 February 2023, a total of 11 (ten confirmed and one probable) cases of Nipah virus infection including eight deaths (CFR 73%) were reported from seven districts across two divisions, Dhaka and Rajshahi in Bangladesh[3]. The incubation period is believed to range from 4 to 14 days. Nipah virus infection in humans causes a range of clinical presentations, from asymptomatic infection (subclinical) to acute respiratory infection and fatal encephalitis[2,3]. The case-fatality rates in outbreaks across Bangladesh, India, Malaysia, and Singapore typically range from 45% to 70%[2,4-7]. Diagnosis of a patient with a clinical history of Nipah virus infection can be made during the acute and convalescent phases of the disease by using a combination of tests - RT-PCR from throat and nasal swabs, cerebrospinal fluid, urine, and blood, and antibody detection via ELISA. Despite the first outbreaks of Nipah virus occurring 25 years ago in Malaysia and Singapore, there are currently no approved vaccines or treatments. Treatment is mainly supportive[1]. So, prevention is the only way to reduce the infection through public awareness. Extensive advocacy campaign regarding Public health education should be done to reduce risk of transmission and messages should focus on:

Reducing the risk of bat-to-human transmission:

- Efforts to prevent transmission should first focus on decreasing bat access to date palm sap and fruits.
- Freshly collected date palm juice should be boiled, and fruits should be thoroughly washed and peeled before consumption.
- Fruits with signs of bat bites should be discarded.
- Areas where bats are known to roost should be avoided.

Reducing the risk of animal-to-human transmission:

- Gloves and other protective clothing should be worn while handling sick animals or their tissues, and during slaughtering and culling procedures.
- People should avoid being in contact with infected pigs.

Reducing the risk of human-to-human transmission:

- Close unprotected physical contact with Nipah virus-infected people should be avoided.
- Regular hand washing should be carried out after caring for or visiting sick people.
- Health care workers caring for patients with suspected or confirmed infection, or handling their specimens, should implement standard infection control precautions at all times.

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