

MOST AVIAN FLU OUTBREAKS IN INDIA REPORTED FROM POST-MONSOON TO PRE-SUMMER SEASON: STUDY

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Highly pathogenic avian influenza (HPAI) viruses, H5N1 and H5N8, have been one of the leading causes of avian diseases worldwide, resulting in severe economic losses and posing potential zoonotic risk. | Photo Credit: Reuters

Highly pathogenic avian influenza (HPAI) viruses, H5N1 and H5N8, have been one of the leading causes of avian diseases worldwide, resulting in severe economic losses and posing potential zoonotic risk. The viruses are known to cause infections in humans with a history of close contact with infected poultry, resulting in mild-to-severe respiratory disease and even fatality. Now, a study has shed more light on outbreaks of HPAI in India.

According to the latest research paper “Spatio-temporal distribution and seasonality of highly pathogenic avian influenza H5N1 and H5N8 outbreaks in India, 2006-2021”, published in the Indian Journal of Medical Research, a total of 284 H5N1 outbreaks were reported since 2006 with a surge in 2021. The initial outbreaks of H5N1 were predominantly in poultry. Similarly, since 2016, 57 outbreaks of H5N8 were also reported, predominantly in wild birds.

It further noted that most of the outbreaks of HPAI were reported between post-monsoon and pre-summer season (i.e. between October and March), with their peak in January, during winter.

Apart from poultry, bird species such as owl, Indian peafowl, lesser adjutant, crows, and wild migratory birds such as demoiselle crane, northern pintail, and bar-headed goose tested positive for HPAI.

“Studies on the seasonality of HPAI outbreaks would help in the development of prevention and control strategies. Recent human infections of H5N1 and H9N2 viruses highlight the need to strengthen surveillance in wild, resident, migratory birds and in poultry,” noted the paper.

For the paper, data on the occurrence and locations of outbreaks in India and affected bird species were collated from the Food and Agriculture Organization (FAO) of the United Nations database and grouped by month and year. The distribution and seasonality of HPAI H5N1 and H5N8 viruses were analysed.

As of December 2021, H5N1 virus outbreaks were documented on a large scale among poultry and wild birds in more than 77 countries. And as of March 2022, 863 human cases of avian influenza (AI) H5N1 were reported worldwide with an average case fatality ratio of 53%.

According to the paper a significant rise in HPAI outbreaks in domestic and wild birds had been reported in October 2021, signalling expanded virus circulation. The first human case of H5N1 virus infection in India was reported in June 2021, coinciding with the monsoon season in the country.

“The HPAI H5N1 viruses are constantly evolving globally through complex genetic changes, which have infected poultry, wild birds as well as humans,” noted the study.

As per the paper, the first HPAI H5N1 outbreak in India was reported in 2006 from Navapur, Maharashtra, followed by a series of outbreaks annually. Later, from 2007 to 2010, most of the outbreaks were reported from the eastern and northeastern States but predominantly from West Bengal. Odisha reported outbreaks from 2011 to 2020, with the highest in 2018. The H5N8 virus was first reported in India in November 2016, with mortality in wild birds from five States, and Kerala reported most number of events (25). There were no reports of H5N8 from India in the years 2018 and 2019.

A sudden rise in the number of H5N8 outbreaks was reported from 2020 onwards, indicating a probable reintroduction of the virus.

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