Disaster Medicine and Public Health Preparedness

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Letter to the Editor

Cite this article: Tariq S, Niaz F, Safi Vahidy A, *et al*. Crimean-Congo Hemorrhagic Fever (CCHF) in Pakistan: The daunting threat of an outbreak as Eid-ul-Azha approaches. *Disaster Med Public Health Prep*. **17**(e404), 1–2. doi: https://doi.org/10.1017/dmp.2023.19.

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Crimean-Congo Hemorrhagic Fever (CCHF) in Pakistan: The Daunting Threat of an Outbreak as Eid-ul-Azha Approaches

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Abstract

The Crimean-Congo hemorrhagic fever (CCHF) virus is a tick-borne virus that can spread from infected people and other animals, including cattle and ticks of the Hyalomma genus. People who are infected describe symptoms that range from flu-like manifestations to severe multi-organ failure. With a death rate between 10% and 30%, the virus is undoubtedly a disease of high concern. With 10,000-15,000 cases/y, it is endemic in parts of Asia, Africa, and South-Eastern Europe. There has been a recent CCHF outbreak in Iraq, with 212 cases documented, 80% of which were reported between April and May and led to 27 fatalities.

There have been 356 verified cases of CCHF reported in Pakistan on a regular basis between January 2014 and May 2020. Since the beginning of June 2022, there has been a dramatic rise in cases; 6 and 1 new instances, respectively, have been recorded in the provinces of Khyber Pakhtunkhwa and Balochistan, outpacing the total number of cases in the previous 5 mo, which were estimated to be 4 countrywide. Given that Eid-ul-Adha is when the majority of CCHF cases are known to appear, the approaching season will pose no less of a threat to Pakistan from this terrible virus due to the dry, warm environment and direct contact with cattle that serve as a breeding ground for it. Precautionary measures, such as early and thorough disease screening and stringent hygiene protocol compliance, are essential to avert the threat of a hazardous outbreak.

Methods

The Orthonairovirus genus includes the Crimean-Congo Hemorrhagic Fever (CCHF) virus, a zoonotic virus spread by ticks. While the primary reservoir and vector for the virus are ticks, especially those of the Hyalomma genus, human infection usually comes through infected animals. When infected, these animals, commonly cows and goats, might be asymptomatic or subclinical, and contact with their blood and ingesting meat and milk are typical ways for the virus to spread to humans. Patients may experience a variety of symptoms after an incubation period of up to 14 d, from asymptomatic or flu-like signs to multi-organ hemorrhage and ultimate failure.[1] The reported mortality rate for CCHF is 10% to 30%. As a result, the Centers for Disease Control and Prevention (CDC) has classified it as a biosafety level 4 pathogen, alongside other pathogens like the Ebola virus, monkeypox, and smallpox.

In 1944, the first known case of CCHF was discovered. Since then, it has spread throughout the world, and as of 2022, the CCHF virus is endemic in parts of Asia, Africa, and Southeastern Europe. It is predicted that 3 billion people are at risk of infection globally, and 10,000 to 15,000 infections take place each year.[1,2] The Republic of Iraq informed the World Health Organization (WHO) of 212 cases of CCHF from January 1 to May 22, with 115 (54%) being suspected and 97 (46%) being confirmed. Although Asia is the region most frequently affected by CCHF outbreaks, the current epidemic being experienced in Iraq is extremely concerning; 116 (or 80%) of these cases were reported in just 2 months, April and May. There have been 27 deaths reported thus far. Fourteen of these cases were confirmed, while 13 were suspected.[3] The incidence of CCHF is rising as the year goes on, and the WHO has categorized the additional cases as an outbreak.[3]

The majority of verified cases from Iraq were discovered in those who had frequent interaction with cattle, such as breeders and butchers.[3] Over Eid-ul-Adha, this fact becomes even more worrisome. Animal sacrifices, mainly cattle, take place during this Muslim holiday.

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Because of this, there is excessive animal contact before and after the festival in every part of the nation, exposing populations that would not normally be at risk for the disease. Additionally, this disease can continue to spread for a while even after an animal has died, through carcasses, feces, and meat. A total of 90% of CCHF cases in Kabul, according to a 22-mo Afghan study, occurred between June and September, when Eid-ul-Adha is observed.[4]

Pakistan reported only 4 confirmed cases of CCHF nationwide in the first 5 mo of 2022, specifically 2 in Sindh and 2 in Punjab.[5] But there has been a significant increase in instances since the beginning of June, with 6 new cases appearing in Khyber Pakhtunkhwa[6] and 1 new case appearing in Balochistan.[7] The severity of some situations necessitates hospitalization to treat the symptoms.[6,7] The National Institutes of Health (NIH) has released advice for the forthcoming season in light of this.[5]

In Pakistan, CCHF was first noted in 1976.[8] After 2-yearly peaks from March to October, it has since spread over the entire nation, with 356 confirmed cases between January 2014 and May 2020.[9] Although the virus has had the greatest impact in the province of Balochistan, the provincial mortality rates have fluctuated and do not appear to follow a pattern.[10]

Estimates for Pakistan's livestock in 2020 include 49.6 million cattle, 41.2 million buffalo, 78.2 million goats, and 31.2 million sheep. The 4 most significant livestock types in Pakistan comprise the majority of the nation's agricultural subsector.[11] This feature, coupled with the country of Pakistan's arid climate and warmth, makes it the ideal setting for the CCHFV to grow and spread.[10] The ongoing coronavirus disease 2019 (COVID-19) outbreak has acted as a sobering warning about the value of personal cleanliness and care. It is obvious that prevention must receive more attention before an endemic may become an epidemic. The National Institute of Health in Pakistan has released a warning about the CCHFV and its potential transmission.[5] However, both the general population and the government need to take additional action. The necessity of stricter screening with a focus on cattle-borne diseases and early patient diagnosis cannot be overstated. Additionally, the general public's personal hygiene and attention to detail, including actions like donning more protective clothing and taking a shower after coming into contact with cattle, might lessen the spread.[1,3] In Pakistan, there is also a major shortage of information on the CCHFV. Although cases have been described, in-depth research on the genotype, its susceptibility to drug therapy, as well as epidemiological aspects, is few. In Iraq, CCHF has advanced from endemic to epidemic status. Pakistan must take precautions to make sure it does not experience the same destiny because it is at great risk.

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https://doi.org/10.1017/dmp.2023.19 Published online by Cambridge University Press