



# Microbes and Infectious Diseases

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## Letter to the Editor

# COVID-19 pandemic and Crimean-Congo hemorrhagic fever: A dangerous combination for healthcare system

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### To the Editor

We have recently studied published articles related to co-epidemics of COVID-19 and other contagious diseases which highlight the effect of coinfections on health care system. Almost 6,286,897 precious lives have been lost so far due to this novel COVID-19 pandemic caused by SARS-CoV-2 while, it has infected above 520,482,362 individuals globally. In Pakistan, a highest surge has been observed in the number of COVID-19 infected people with 1,529,165 infected cases and 30,376 deaths [1]. Pakistan being a Muslim nation also face a serious threat of Crimean-Congo Hemorrhagic Fever (CCHF) occurrence while celebrating its Islamic festival of Eid-UI-Adha [2]. Since 1976, each year the virus appears at the time of Eid-UI-Adha with most infected cases reported in Baluchistan

however, cases have also been recorded from every region of the country.

Crimean-Congo Haemorrhagic-Fever (CCHF) is a deadly tick-borne zoonotic sickness having a death ratio of 10-50% hallmarked by haemorrhage. It is caused by a virus of the same name known as Crimean-Congo Haemorrhagic-Fever Virus (CCHFV) which is a Bunyaviridae family member, and its genus is Nairovirus. It is also known as world's most prevalent tick-borne virus. The tick responsible for the virus transmission belongs to the genus Hyalomma. Every year the climatic conditions of Pakistan are well suitable for the tick's replication which further promotes the virus dissemination and the chances of infection. The most common transmission mode is tick bites although, the virus is also transmitted through the body fluid, blood and tissues of sensitive animals to humans. The virus poses greater threat to the individuals in a given population mainly because the infection is asymptomatic. As for instance, the healthcare workers who are dealing with CCHFV infected individuals are at high risk of acquiring the infection due to the lack of adequate biosafety practices management methods.

People of Pakistan are more exposed to CCHF disease as many endemic infectious agents are

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found in agricultural lands of the country. In Pakistan, agriculture is the only main source of income for around three quarter of the total country population, specifically those living in rural areas. Their livelihood includes extensive livestock farming and stockbreeding management. People whose lives depending on such livestock are at higher risk of acquiring the zoonotic infections because of their continuous direct contact with the animals. Furthermore, the continual shifting of nomads and their herds play an important role in the recurrent epidemics of CCHFV in Baluchistan and in the neighbor areas of Afghanistan.

Reports have been published internationally stated the epidemiological profile of CCHFV in livestock and wild animals, but no data is available on current topic for Pakistan. In Pakistan, the National Institute of Health (NIH) in collaboration with the WHO regularly monitors the CCHFV cases and provides the response to the related health sectors [3].

Trend of CCHF infected cases has compared, and it was observed that in Eid-UI-Adha festival in 2013, around 58% cases have been reported. This trend showed an increase in 2014 with 62% confirmed cases. Up to August 2016, the virus caused 20 deaths in Pakistan [4]. In the coming near future, an exaggerated trend is expected to observe as the healthcare workers are busy in treating patients suffering from the COVID-19 and other infectious diseases [2].

Increases in cases of different human diseases like CCHF, orf, a self-limiting skin disease, and Rift Valley Fever, have been linked to slaughter of cows, goat, and sheep among the Muslims globally during Eid-al-Adha [5-7]. Similarly, an increase of nearly 20% in diarrhea among children in a many developing countries celebrating Eid-al-Adha has been attributed to breaches in food safety in slaughterhouses that have exceeded capacity and the extensive slaughter of sheep at home [8]. Following basic-food-hygiene standards can help to limit the risk of disease transmission and ensure a healthy and safe Eid-al-Adha holiday celebration. The disease is already emerged in Pakistan. WHO has identified various risk factors which play a role in the occurrence of zoonotic illnesses in the background of Coronavirus pandemic. These factors contain adverse environmental situations, medical crises, poor surveillance, worst health department, improper laboratory setups and butchering of animals during Islamic festivities [2].

In Pakistan there is no proper procedures for supervising the distribution of CCHF disease due to inadequacy of mortality pattern of the disease. The monitoring process is highly reactive and entirely dependent on assessing the cases individually in relation to location, prevalence and deadliness. Thus, the main aim of this explorative report is to determine the reasons due to which Pakistan is at High risk of CCHFV outbreak each year [3].

Pakistan is struggling with all its efforts to defeat the COVID-19 pandemic despite of its poor economic condition and limited skilled healthcare professionals. Nevertheless, many infected cases are unaware of the fact that they have acquired virus due to the asymptomatic nature of the disease and continue to infect others. Moreover, in Pakistan limiting testing capacity also results in a pool of infections. Therefore, considering all these points strict measures must be taken by the authorities to control the epidemic of CCHFV in the country. Governments should invest a huge amount in epidemiological, screening and vaccine development research to handle the epidemics effectively. Effective surveillance programs, viral detecting assays and disinfection of infected areas must be performed to identify and restrain the transmission of virus. If these measures are used in combination, it may provide an insight into the actual number of infected patients thus helps in separating the infected cases from the rest of population and limited the transmission of virus [1].

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