



No. F.1-22/Advisory/FEDSD/2019  
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National Focal Point for International Health Regulations

24 June 2020

Subject: **Advisory for Prevention and Control of Crimean Congo Hemorrhagic Fever (CCHF)**

**Purpose:** The movement of sacrificial animals ahead of Eid-ul-Azha significantly carries the risk of CCHF disease transmission due to increased humans-animal interaction. Moreover, due to crowded places, direct contact with infectious materials and animals in the markets, the risk of COVID-19 transmission is also expected to rise. This advisory aims to alert different stakeholders including the human and animal healthcare providers to take timely steps for the prevention and control of CCHF, reduce impact of gatherings resulting in minimizing the risk of COVID-19 and avoid co-morbidities.

**Background of CCHF:** CCHF is caused by a tick-borne virus (*Nairovirus*) of the Bunyaviridae family with the case fatality rate ranging from 10-40%. Ticks, especially of the *Hyalomma* genus serve as both the reservoir and vector for the virus. Numerous wild and domestic animals, such as cattle, buffaloes, goats and sheep are silent carriers of this virus and the adult ticks get infected by feeding on these animals. CCHF has been reported from almost all geographical regions of Pakistan.

**Clinical presentation:** In humans, the onset is sudden with initial symptoms of fever, headache, back pain, joint pain and vomiting. As the illness progresses, large areas of severe bruising, bleeding from nose and gums, and injection sites may be observed beginning on about the fourth day of illness and lasting for about two weeks.

**Mode of Transmission:** Animals get virus through infected tick bite that remains in their bloodstream and continues the cycle. The CCHF virus is transmitted to humans either by tick bites or through direct contact with infested animal blood or tissues during and immediately after slaughter. CCHF can also be transmitted from patient to its contacts through infectious blood, secretions, organs or body fluids. Hospital-acquired CCHF infections can also occur due to poor infection control practices.

**High Risk Groups:** Healthcare workers along with animal herders, veterinarians, para-veterinary staff, livestock workers, agriculture workers, animal merchants, butchers and slaughterhouse workers are at higher risk of CCHF. Apart from them the close contacts caring the patients and persons involved in burial practices of CCHF patient are also at risk of getting infected.

**Incubation period:** Following infection by a tick bite, the incubation period is usually 1-3 days, with a maximum of 9 days. The incubation period following contact with infected blood tissues is usually 5-6 days, with a documented maximum of 13 days.

**Treatment:** General supportive care with treatment of symptoms is the main approach to managing CCHF. The antiviral drug Ribavirin (oral and IV) has been used to treat CCHF infection with apparent benefit.

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**Preventive Measures for Authorities:** There is currently no vaccine available for human and the only way to reduce infection is by raising awareness. Public health advice should focus on following aspects:

1. **Reducing the risk of infection transmission from animal-to-human:** Monitoring of sacrificial animal at entry points/ markets by the authorities and making sure that every animal is treated with approved acaricides at least a week before reaching animal market/ mandi. Wearing gloves and other protective clothing while handling animals or their tissues, notably during slaughtering, butchering and culling procedures in slaughterhouses or at home.
2. **Reducing the risk of human-to-human transmission:** Avoid close contact with suspected patients, wear gloves and protective equipment when taking care, wash hands frequently after caring or visiting ill people. Safe burial practices include spraying the dead body with 1:10 liquid bleach solution and then wrapping in winding sheet. The winding sheet should be sprayed with bleach solution, then the body be placed in a plastic bag, which should be sealed with adhesive tape. Disinfect the transport vehicle and burn all clothing of the deceased.
3. **Controlling infection in health-care settings:** Health-care workers caring suspected patients or handling their specimens should exercise standard plus contact infection control precautions. Suspected samples must be processed by trained staff working in suitably equipped labs.
4. **Controlling CCHF in livestock:** Always examine the animals for ticks especially on ears, arm pits, axilla, abdominal region, teats/ udder and region below the tail. Tick control with approved acaricides (chemicals intended to kill ticks) is an important option. Ticks should never be crushed with fingers. Always use gloves and forceps for the removal and collection of ticks.
5. **Prevention and Control:** Ensure SOPs for social distancing, use of masks, hand sanitizers and shoe disinfectant, public awareness messages in animal markets and community awareness regarding COVID-19.

**Preventive Measures for General Public:**

1. During visit to cattle markets, use full sleeves and light colored cloths, gloves, face mask, hand sanitizers and manage social distancing.
2. Use insect repellents to save yourself from ticks.
3. Use hand washing and hand sanitization items to disinfect and clean your hands.
4. Check clothes and skin carefully for presence of ticks while visiting the cattle market.
5. Avoid all crowded places including large family gathering during EID and sacrifice of animals.
6. Use recommended tick sprays or showers for your purchased animals.
7. Butchers should use appropriate gloves and long plastic shoes (gum boots) during slaughtering.
8. Wash hands thoroughly with soap after coming in contact with animal or its blood.
9. The water for animals should be stored properly and kept covered after use.
10. The blood, skin, intestines and other remnants of animals must be disposed off properly.
11. The sanitation should be maintained at animal keeping places/ sites. It is preferable to perform fogging/ fumigation at animal keeping sites, where animals were present before and during EID days.

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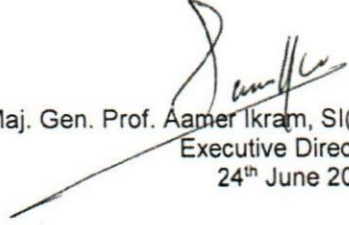
**Ticks Control:**

1. Liquid formulation should be sprayed to animal herds for prevention of tick infestation and can also be injected in cracks and crevices of the area. Use Cypermethrin spray on animals (1cc in 2-liter water) and for ground spray (1cc in 1-liter water).
2. Use Cypermethrin powder on live animals (1g in 1-liter water) and for ground spray (2g in 1-liter water).
3. Use of injectable Ivermectin 1ml/ 50kg body weight is also recommended. Whereas the spray of Ivermectins/ topical application may be applied as drops along the vertebral column of animals (10-15 ml per animal).
4. Lime powder or acaricides can be applied on farm premises to reduce the tick population.

**Laboratory Diagnosis and NIH Support:**

1. Physicians should exercise high degree of suspicion while examining patients with likely symptoms. While requesting lab testing, maximum clinical information must be provided especially dates of onset of symptoms and sample collection.
2. Lab tests for CCHF should only be recommended to those who fulfill criteria of suspected case definition available at NIH website ([www.nih.org.pk](http://www.nih.org.pk)).
3. Sample from suspected CCHF case should be collected by trained phlebotomist with full preventive measures using appropriate personal protective equipment.
4. Suspected human CCHF samples must be immediately transported as per guidelines to Department of Virology, Public Health Laboratories Division, NIH, Islamabad.
5. CCHF can be diagnosed by Reverse Transcriptase Polymerase Chain Reaction (RT-PCR) assay and Enzyme-linked immune-sorbent assay (ELISA).

*For any further assistance in this context, the Field Epidemiology & Disease Surveillance Division (FE&DSD) (051 - 9255237 and Fax No. 051-9255575) and Virology Department of Public Health Laboratories Division (051-9255082), NIH may be contacted.*

  
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24<sup>th</sup> June 2020