

# The Effect of Viral Hemorrhagic Fever and Other Risk Factors for Severe Disease

Daniel Cadar\*

Department of Arbovirology, Bernhard Nocht Institute for Tropical Medicine, Hamburg, Germany

## DESCRIPTION

Few spectres in the world of infectious diseases are as terrifying as Viral Hemorrhagic Fever (VHF). These diseases, characterized by their swift onset, high fever, and propensity to induce bleeding, have captured the imagination of the public and scientific community alike. Emerging from a cluster of viruses, VHFs pose a unique challenge to medical professionals and public health systems due to their potential for rapid spread, high mortality rates, and enigmatic origins.

At the heart of VHFs lies a diverse group of viruses, including Ebola, Marburg, Lassa, and Crimean-Congo Hemorrhagic Fever. Though distinct in their origins and specific symptoms, they share a common *modus operandi* - evoking a cascade of symptoms ranging from fever, fatigue, and muscle pain to organ failure, internal bleeding, and shock. This signature hemorrhaging, often apparent in the later stages of infection, has given rise to the "Bleeding Fever" moniker.

One of the most effected VHFs, the Ebola virus, thrust itself into the global spotlight during the West African outbreak of 2014-2016. With a case fatality rate reaching as high as 90%, the outbreak underscored the necessity for robust public health systems capable of swift response and containment.

## Applications of various Viral Hemorrhagic Fevers (VHFs)

**Viral Hemorrhagic Fevers (VHFs):** It encompasses a diverse group of infectious diseases caused by various viruses. These viruses belong to different families and have distinct characteristics, but they share the common feature of causing fever and bleeding disorders. Here are some of the notable types of VHFs:

**Ebola Virus Disease (EVD):** The Ebola virus is perhaps the most widely recognized VHF. It causes severe and often fatal illness in humans and nonhuman primates. The virus is transmitted to people from wild animals and then spreads in the human population through direct human-to-human contact.

EVD is characterized by high fever, weakness, muscle pain, and internal and external bleeding.

**Marburg Virus Disease (MVD):** Similar to Ebola, Marburg virus belongs to the same family (Filoviridae) and causes a similar disease, but with some differences in symptoms and transmission. MVD was first identified during an outbreak in 1967 in Marburg, Germany. The virus is also associated with high fever, bleeding, and multiorgan dysfunction.

**Lassa fever:** Lassa fever is caused by the Lassa virus, a member of the Arenaviridae family. It is endemic in West African countries, particularly Nigeria. Lassa fever can range from mild to severe and can lead to internal bleeding, organ failure, and shock. The primary mode of transmission is through exposure to infected rodents, specifically the multimammate rat.

**Crimean Congo Hemorrhagic Fever (CCHF):** The Crimean-Congo hemorrhagic fever virus belongs to the Nairovirus genus and is transmitted by ticks, especially *Hyalomma* spp. The virus is found in many countries in Africa, Europe, and Asia, and it can cause a wide range of symptoms, including fever, muscle aches, and bleeding. It is considered one of the VHFs with the highest mortality rates.

**Yellow fever:** While primarily known for its characteristic yellowing of the skin (jaundice), yellow fever can also cause hemorrhagic symptoms in severe cases. Yellow fever is caused by the yellow fever virus and is transmitted by mosquitoes. It is found in tropical and subtropical regions of Africa and South America.

## CONCLUSION

International collaboration is paramount in combating VHFs. Organizations such as the World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC) and various national public health agencies play vital roles in coordinating responses and providing technical assistance during outbreaks. Viral Hemorrhagic Fevers present a formidable challenge at the crossroads of biology, public health, and society. Their ability to sow panic and devastate communities is a stark

**Correspondence to:** Daniel Cadar, Department of Arbovirology, Bernhard Nocht Institute for Tropical Medicine, Hamburg, Germany, E-mail: danielcadar45@gmail.com

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reminder of the delicate balance between humanity and the natural world. Addressing VHF requires a comprehensive approach that encompasses prevention, response, research, and international cooperation. As our world continues to evolve,

with ecological, demographic, and climatic shifts, vigilance against these insidious foes remains paramount. The bleeding fevers remind us of the interconnectedness of global health and the urgent need for preparedness in the face of the unseen.