

Ebola Virus disease (EVD) - The Global Health Emergency

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Introduction:

World Health Organization (WHO) declared Ebola Virus Disease (EVD) outbreak in West Africa, a **Global Public Health Emergency**. As the world's most deadly Ebola virus outbreak continues to spread throughout Western Africa. Emergency Departments in many hospitals are on heightened alert for any patients who report travel histories and symptoms that indicate the risk of carrying the disease.

If a patient has traveled to Guinea, Sierra Leone, Liberia or Nigeria and also has symptoms such as a fever, headache, joint and muscle aches, diarrhea or vomiting. The public health experts are recommending that the triage nurses shall move forward towards isolating the patient

Although the mortality rate for the disease can be as high as 90%, data from the CDC suggests that, the overall rate for this outbreak is about 55%, though it varies by country. The death rate in Guinea is the highest at about 74%. Death typically occurs about nine to 10 days after the onset of symptoms, but for patients who survive for two weeks after the onset, the chances of survival increases for them.

In August-2014, Deaths from the Ebola virus stand at 932 in four West African countries. This is the largest outbreak of the disease ever recorded.

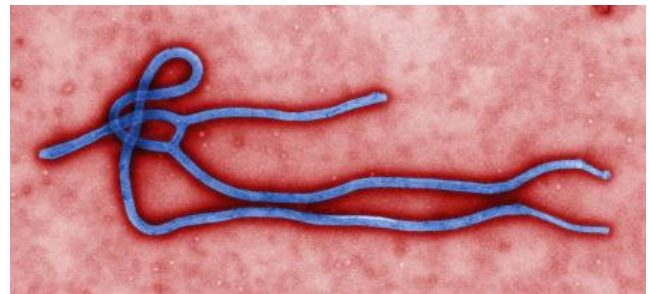
Ebola virus disease

Ebola virus disease (formerly known as Ebola hemorrhagic fever) is a severe, often fatal

illness, with a death rate of up to 90%. The illness affects humans and nonhuman primates (Monkeys, Gorillas, and Chimpanzees). There are five types of Ebola virus. It gets its name from Ebola River in Congo, where the disease first appeared and near villages in central & western Africa near tropical forest.

Electron micrographs show long filaments, characteristic of the Filoviridae viral family. The virus interferes with the endothelial cells lining the interior surface of blood vessels and the process of coagulation. As the blood vessel walls become damaged and the platelets are unable to coagulate, patients go in for hypovolemic shock.

Ebola Virus



Mode of transmission

- In the current outbreak in West Africa, the majority of cases in humans have occurred as a result of human-to-human transmission.
- Direct contact through broken skin or mucous membranes with the blood, or other bodily fluids or secretions (stool, urine, saliva, semen) of infected people.
- Infection can also occur if broken skin or

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into contact with environments that have become contaminated with an Ebola patient's infectious fluids such as soiled clothing, bed linen, or used needles.

People at Risk:

- Health Care Professionals & workers.
- Family members or others in close contact with infected people.
- Members who have direct contact with the bodies of the deceased as part of burial ceremonies.
- Families or communities who care for individuals present with symptoms of Ebola virus disease in their homes.

Incubation Period:

The incubation period, or the time interval from infection to onset of symptoms, is from 2 to 21 days. The patients become contagious once they begin to show symptoms. They are not contagious during the incubation period.

Laboratory Investigation:

- Antibody-capture Enzyme-Linked Immuno Sorbent Assay (ELISA)
- Antigen detection tests
- Serum neutralization test
- Reverse Transcriptase Polymerase Chain Reaction (RT-PCR) assay
- Electron microscopy
- Virus isolation by cell culture.

Samples from patients are an extreme biohazard risk; testing should be conducted under maximum biological containment conditions. Laboratory findings include low white blood cell and platelet counts, and elevated liver enzymes.

TREATMENT:

- Isolation and Intensive supportive care
- No specific Treatment, only symptomatic Management is possible.
- Oxygen administration
- Intravenous Fluids for dehydration.
- Strict infection control measures.

WAYS TO PREVENT INFECTION AND TRANSMISSION

- Understand the nature of the disease, how it is transmitted, and how to prevent it from spreading further.
- Listen to and follow directives issued by Ministry of Health.
- If you suspect someone close to you or in your community of having Ebola virus disease, encourage and support them in seeking appropriate medical treatment in a health-care facility.
- If you find ill person in your place, notify public health officials. Health Care professionals should use appropriate gloves and personal protective equipment (PPE)

SIGNS & SYMPTOMS

- **Sudden onset of fever, intense weakness, muscle pain, headache and sore throat.**
- **This is followed by vomiting, diarrhoea, rash, impaired kidney and liver function, and in some cases, both internal and external bleeding.**

(gloves, impermeable gown, boots/closed shoes with overshoes, mask and eye protection for splashes),

- When visiting patients in the hospital or caring for someone at home, hand washing with soap and water is recommended after touching a patient, being in contact with their bodily fluids, or touching his/her surroundings.
- People who have died from Ebola should only be handled using appropriate protective equipment and should be buried immediately by public health professionals who are trained in safe burial procedures.

Hand Hygiene

- Hand hygiene is essential and should be performed.
- Before donning gloves and wearing PPE on entry to the isolation room/area.
- Before any clean or aseptic procedures is being performed on a patient.
- After any exposure risk or actual exposure with a patient's blood or body fluids.
- After touching (even potentially) contaminated surfaces, items, or equipment in the patient's surroundings.
- After removal of PPE, upon leaving the isolation area.
- It is important to note that neglecting to perform hand hygiene after removing PPE will reduce or negate any benefits of the PPE.

WHO's general travel advice

- Travelers should avoid all contact with infected patients.
- Health workers traveling to affected areas should strictly follow WHO-recommended infection control guidelines.
- Anyone who has stayed in areas where cases were recently reported should be aware of the symptoms of infection and seek medical attention at the first sign of illness.
- Clinicians caring for travelers returning from affected areas with compatible symptoms are advised to consider the possibility of Ebola virus disease.

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