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Ebola, a Deadly Viral Disease affecting the West African Country of Sierra Leone

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Introduction

Presently, there has been an outbreak of Ebola Virus Disease (EVD) in the West African countries of Sierra Leone, Liberia, Nigeria, Senegal and Guinea. The outbreak was first discovered in Guinea in May, 2014 and has spread to the neighboring countries. This has resulted in a lot of fatalities and is now considered a global public health concern (WHO, 2014).

Background

• Sierra Leone (SL) with a population of 6 million people recorded first case in May, 2014.

As of November 9, 2014 according to MHS-Sierra Leone...

• 4,435 confirmed cases.
• 1,133 confirmed deaths.
• 897 total survival and released patients.

According to WHO, outbreak is on the increased.

Signs & Symptoms

Ebola is a virus that causes high fever and severe headache, malaise, vomiting, diarrhea and abdominal pain. 30-50% of patients show hemorhagic symptoms. Leads to multiple organ failures. Septic shock & deaths 2-21 Days Incubation period, 8 – 10 days when signs or symptoms most visible & transmitted. Laboratory testing done by blood test and results confirmed in few days. 1 in 5 infections occur during victim burial & death (WHO, 2014).

Pathophysiology & Significance

The disease is caused by the virus family Filoviridae and five species have been identified. The species that has been causing this outbreak in Sierra Leone is the Zaire ebolavirus. Fruit bats are widely known to be the natural reservoir or host of the Ebola virus. Ebola is transmitted from human to human through direct contact through bodily fluids which include blood, semen, urine, stool, saliva, sweat or secretions or parenterally from an infected person or dead body. People also can become infected by direct contact with the virus through surfaces and contaminated clothing/bedding (Feldmann et al, 2011 & WHO, 2014). People can become infected by disease through eating infected animal.

The virus enters the host through broken skin mucosal surfaces. The virus targets monocytes, macrophages, dendritic cells, endothelial cells, fibroblasts, adrenal cortical cells, hepatocytes, and other epithelial cells which can cause them to replicate and become infectious. Then, they are transported through the lymphatic system, to the liver and the spleen via the bloodstream. It spreads the infection to different organs and parts of the body. EVD suppresses the immune system and triggers inflammatory response that inhibits vasculature coagulation which leads to multiple organ dysfunction and death (Fickler et al, 2014, CDC, 2014, & Feldmann et al, 2011).

Treatment/Prevention

There is no treatment or vaccine for EVD and supportive care is the only option.

• Providing IV fluids.
• Improve Nutrition.
• Maintaining electrolytes
• Treat other infections, pain, and anxiety.

Proper use of PPE, hand washing and use of sanitizers or decontamination is essential in controlling.

Challenges & Problems

• SL in state of emergency.
• Many districts and regions in lockdown or quarantine.
• No schooling & public gatherings.
• Non-essential government workers stay at home.
• Economic cost devastating – people depend on aid services.
• Human loss unbearable. Lost of whole families.
• Sense of helplessness.

Implications

Lose of healthcare workers in SL is tremendous.

Lost 4 doctors including Dr. Sheik Khan, specialist in Viral hemorrhagic fever & Director of Lassa Fever Center in Kenema.

Lost of 7 nurses in a single treatment center in Kenema.

Lost of half the population in a Village in Bombali. Conclusion

Speed-up response in case management, surveillance & contact tracing, facilitating laboratory service, providing safe burial rituals & optimizing social mobilization (WHO, 2014 & Ageypong, 2014).

Increase in testing centers.

Improving burial time within 24 hours.

Increase number of healthcare workers.

Financial and economic assistance.

References


Additional Sources


