

HEALTH IN OUR HANDS!

The Arkansas State University Wellness Program Newsletter
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Ebola Virus Disease

Overview

Ebola virus disease, also known as Ebola hemorrhagic fever, is an extremely deadly disease. According to the World Health Organization (WHO) fatality of this virus is 50%.

The first two outbreaks of the disease were in 1976 in Nzara, Sudan and Yambuku, Democratic Republic of Congo. A village near the Ebola River in Central Africa also was a victim of the virus and that is how the disease got its name. In March of this year Ebola returned to West Africa. This outbreak is the largest and deadliest in history. The virus has spread across many countries.

Signs and Symptoms

Symptoms will begin to develop 2 to 21 days after coming in contact with the virus. If there are no signs or symptoms after 21 days then the risk of being infected by

Ebola is enormously low. The following is a list of signs and symptoms associated with Ebola:

- Fever
- Severe headache
- Muscle pain
- Weakness
- Diarrhea
- Vomiting
- Abdominal (stomach) pain
- Rash
- Liver and Kidney dysfunction
- Unexplained bleeding or bruising externally and internally.

Risk Factors

How does one become infected with the Ebola virus? The Center for Disease Control (CDC) states an individual must come in direct contact with one of following to be infected.

- Bodily fluids from a person infected by Ebola. This would include blood, vomit, urine, feces, sweat, semen, spit, etc.

- Objects contaminated with Ebola are considered risk factors, such as needles.
- Fruit bats and primates are carriers of the Ebola virus. Any person that comes in direct contact with an infected animal is at risk of obtaining the virus.

Complications

The following is a list of complications associated with Ebola:

- Organ failure
 - Severe bleeding
 - Jaundice
 - Delirium
 - Seizures
 - Coma
 - Shock
 - Death
- Survivors of Ebola may experience the following:
- Hair loss
 - Sensory changes
 - Liver dysfunction
 - Headaches
 - Eye inflammation
 - Testicular inflammation

Tests and diagnosis

It can be challenging to differentiate Ebola from other transmissible diseases, such as malaria and meningitis. To confirm the diagnosis of Ebola several tests are performed. These are the following:

- Antibody-capture enzyme-linked immunosorbent assay (ELISA)
- Antigen-capture detection tests
- Serum neutralization test
- Reverse transcriptase polymerase chain reaction (RT-PCR) assay
- Electron microscopy
- Virus isolation by cell culture.

Whenever gathering samples from potential Ebola patients, medical staff must use extra precautions due to extreme biohazard risk.

Treatment

There is no FDA-approved vaccination or medication for Ebola at this time, but WHO states two possible vaccines are undergoing human safety testing. The patient's medical team can improve chances of survival by treating the symptoms he or she presents with, such as providing intravenous fluids and treating infections.

Prevention

If one is traveling to areas affected by Ebola then he or

she should follow a set of safety measures to avoid becoming infected with the virus. The following is a list of precautions:

- Wash hands
- Avoid direct contact of infected blood and body fluids.
- Avoid funeral and burial rituals that require handling the body of an Ebola victim.
- Avoid direct contact with infected species, such as bats.
- Avoid hospitals where Ebola is being treated. Healthcare workers exposed to the virus need to follow strict precautions. The following is a list of precautions associated with healthcare employees:

- Wear appropriate personal protective equipment (PPE). PPE must be put on and off appropriately. When donning gloves it may be beneficial to wear two layers of gloves.
- Perform correct infection control and disinfection measurements.
- Quarantine Ebola patients from other patients.
- Report to a health official if one has come into direct contact with body fluids or blood of an infected patient.

Seminar

The "Latest and Ever Changing News on Ebola" is an upcoming seminar in the

College of Nursing and Health Professions. The seminar will be November 7 from noon to one in Reynolds room 222. Dr. Rebecca Matthews, nursing, Bill Payne, Clinical Lab Sciences (CLS), and a Disaster Preparedness and Emergency Management (DPEM) faculty member will be the speakers. All are welcome to attend.

References

- <http://www.cdc.gov/vhf/ebola/>
- <http://www.who.int/mediacentre/factsheets/fs103/en/>
- <http://www.mayoclinic.org/diseases-conditions/ebola-virus/basics/complications/con-20031241>

Other News:

**If you have any suggestions for newsletter topics, please contact Dean Susan Hanrahan at hanrahan@astate.edu.

The Arkansas State University Employee Wellness Newsletter is published monthly during the academic year by the College of Nursing and Health Professions. Health questions can be addressed to Dean Susan Hanrahan, Ph.D., ext. 3112 or hanrahan@astate.edu. Produced by Kayla James, graduate student in the College of Nursing and Health Professions, Physical Therapy Program.