

## EBOLA VIRUS - SYMPTOMATOLOGY AND INTERVENTION

**Dr. D. Vara Lakshmi<sup>1</sup>, Dr. T Abhinov<sup>2</sup> Dr T N Murty<sup>3</sup>**

1. Asst. Professor in Micro-Biology, Nimra Institute of Medical Sciences, Vijayawada.
2. Doctor/Tutor, Ayaan Institute of Medical Sciences, Moinabad.
3. Director, Nimra College of Business Management, Vijayawada.

### Abstract

The doctor, nurse, teacher or welfare officer gives an opportunity for hints on personal hygiene of the children , people in the society. In the present days we are hearing the dangerous and a peculiar fever EBOLA. Ebola hemorrhagic fever is a highly contagious illness that is often fatal in humans and nonhuman primates. Two of the hit countries - Liberia and Sierra Leone are facing severe problems. It starts from River. The aim is to stop the EBOLA disease's spread but the action created hardship for people. They kill so many people because such huge numbers are infected due to EBOLA Fever. Education and Research is most powerful weapon we can use to change the world. Nothing is the permanent in this world even our troubles also, we can fight with Ebola.

**Key Words:** Ebola, Hygienic, WHO.

### Introduction

The World Health Organization (WHO) has declared the outbreak in West Africa an international emergency, killing more than 900 people and spreading. USA recognizes top disease detective calls Ebola a "painful, dreadful, merciless virus." That's scary and serious. But it also cries out for context. It is well know the fact that " God does not create a lock without its key and God does not give you any problem with its solution". It is the time for the pharmacists to explore and implore the research in pharmaceutical education and training to discover the drug and to identify the novel ways to deliver the drug to the patients of EBOLA. Ebola, which is often fatal, is caused by infection with a virus. The virus was first recognized in the Democratic Republic of the Congo (formerly Zaire) in 1976. No case of this illness in humans has ever been reported in the United States. There is no cure; treatment usually consists of providing supportive care while the body fights the infection. Confirmed cases of Ebola virus infections have been reported in The Democratic Republic of the Congo, the Ivory Coast, Gabon, Sudan and Uganda. So far, the virus has infected nearly 6,000 people in Guinea, Liberia, Sierra Leone, Nigeria and Senegal.

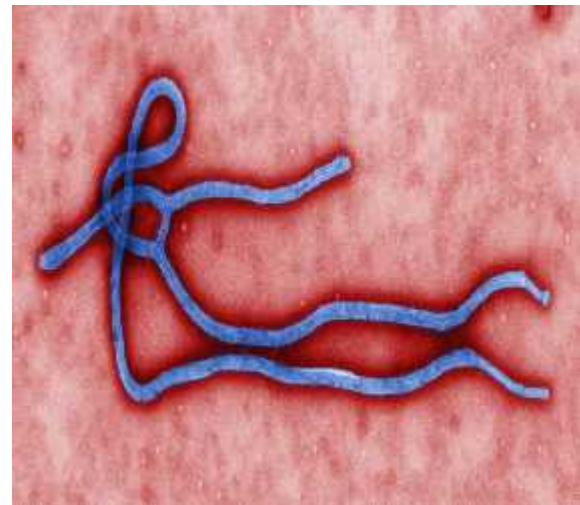
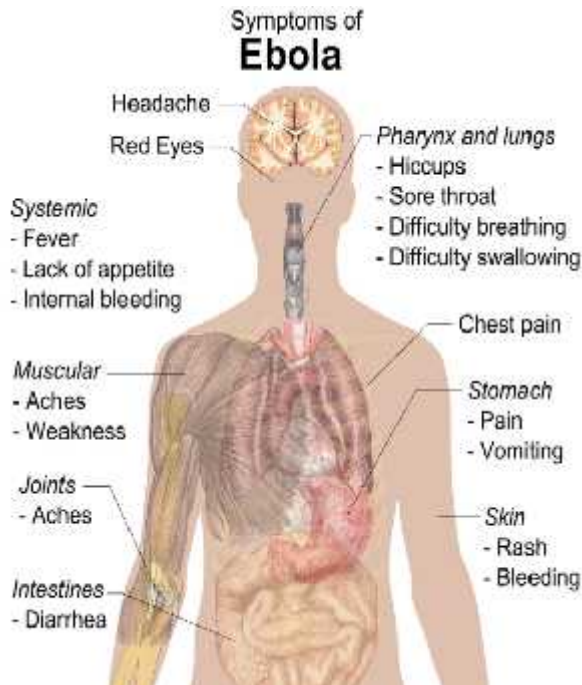
The survey/ review of the literature has been done in order to assess the extent. There have been a number of studies conducted so far in this area. Remember that your present situation is not your final destination. The best is yet to come. The Ebola virus was discovered in two African countries (Sudan and Congo, then known as Zaire) in 1976. The affected region in Congo was near the Ebola River, which is how the virus got its name. Scientists believe the virus spread to humans who had contact with the blood or bodily fluids of infected animals, including bats, monkeys, chimpanzees, gorillas, forest antelope and porcupines. There have been a number of Ebola outbreaks since 1976, but the current one is the largest. The Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia, says the current outbreak could reach 1.4 million cases by early next year. Dr APJ Abdul Kalam, the former President of India quoted that "don't read success stories you will get a message, read failure stories , you will get some ideas to get success" and he further informed to the public that "Don's fear for facing failure in the first attempt, because even the successful Maths starts with Zero only".

### Symptoms of Ebola

Symptoms include a sudden onset of fever (greater than 38.6°C or 101.5°F), muscle aches and muscle pain, weakness, sore throat and headache. These symptoms are followed by vomiting, diarrhea and a rash, abdominal (Stomach) pain and unexplained hemorrhage ( bleeding/ brushing). As the infection progresses, many people develop bleeding in the internal organs and outside openings of their body. At first, the symptoms are like a bad case of the flu: high fever, muscle aches, headache, sore throat, and weakness. They are followed quickly by vomiting, diarrhea, and internal and external bleeding, which can spread the virus. The kidneys and liver begin

to fail. Ebola spreads from person to person, but it is not as contagious as the flu or cold viruses. Influenza and colds are spread through airborne contact. This means the virus can travel from one person to another through the air. It usually occurs from a sneeze. Ebola can be spread among humans only through direct contact with the blood or bodily fluids (saliva, mucus, etc.) of an infected person. This can occur by touching the infected person or by touching objects (such as needles) the person has been in contact with. Symptoms may appear anywhere from 2 to 21 days after exposure to Ebola, but the average is 8 to 10 days. Ebola Zaire kills people quickly, typically 7 to 14 days after symptoms appear, Adalja says.

Recovery from Ebola depends on the patient's immune response. People who recover from Ebola infection develop antibodies that last for at least 10 years. A person can have the virus but not show any symptoms for as long as 3 weeks, he says. People who survive can still have the virus in their system for weeks afterward. The virus has been detected in semen up to 7 weeks after recovery, according to the WHO. But this is very rare, says Thomas Geisbert, PhD, a professor of microbiology and immunology at the University of Texas Medical Branch. Geisbert has been studying the Ebola virus since 1988. Ebola isn't as contagious as more common viruses, such as colds, influenza, or measles, Adalja says. It spreads to people by close contact with skin and bodily fluids from infected animals, such as fruit bats and monkeys. Then it spreads from person to person the same way.



**Ebola Virus under Microscope**

### **Discussions on Reasons of Ebola fever**

AIDS alone takes more than a million lives per year in Africa, Malaria and Diarrhea claim hundreds of thousands of African children each year, where heart attacks and cancer are the biggest killers in USA and India, but a thousand times the toll of this Ebola outbreak so far. The risk of contracting the Ebola virus is close to zero. Americans fretting about their own health would be better off focusing on getting a flu shot this fall. Flu is blamed for about 24,000 U.S. deaths per year. To put the Ebola threat in perspective, here are some reasons to be concerned about the outbreak, and reasons not to fear it. More than half of people infected in this outbreak have died. Death rates in some past outbreaks reached 90 percent. It's a cruel end that comes within days. Patients grow feverish and weak, suffering through body aches, vomiting, diarrhea and internal bleeding, sometimes bleeding from the nose and ears. The damage can spiral far beyond the patients themselves. EBOLA spread through direct contact with the bodily fluids of sick patients, Ebola takes an especially harsh toll on doctors and nurses, already

in short supply in areas of Africa hit by the disease. Outbreaks spark fear and panic. Health workers and clinics have come under attack from residents, who sometimes blame foreign doctors for the deaths. People with from Ebola or other illnesses may fear going to a hospital, or may be shunned by friends and neighbors with Ebola cases. The outbreak began in Guinea in March before spreading to neighboring Sierra Leone and Liberia. A traveler recently carried it farther, to Nigeria, leading to a few cases in the giant city of Lagos. Ebola emerged in 1976. It has been confirmed in 10 African nations, but never before in the region of West Africa. Lack of experience with the disease there has contributed to its spread. So has a shortage of medical personnel and supplies, widespread poverty, and political instability.

Sierra Leone still is recovering from a decade of civil war in which children were forced into fighting. Liberia, originally founded by freed American slaves, also endured civil war in the 1990s. Guinea is trying to establish a young and fragile democracy. Nigeria, Africa's most populous country, boasts great oil wealth but most of its people are poor. The government is battling Islamic militants in the north who have killed thousands of people and kidnapped more than 200 schoolgirls in April. Global health officials say it will take months to fully contain the outbreak, even if all goes as well as can be hoped. It is fact that "Necessity is the mother of hard-work where as Vision is the mother of Invention and Discovery". The people on the globe afraid that "there is no cure for Ebola", but there is a cure. How MOM (Mars Orbiter Mission) of India reach into the unknown and achieved the near impossible enters Martian Orbit successfully on 24<sup>th</sup> September 2014. Ebola is devastating for those it affects. But most people don't need to fear it.

1. Ebola doesn't spread easily, the way a cold virus or the flu does. It is only spread by direct contact with bodily fluids such as blood, saliva, sweat and urine. Family members have contracted it by caring for their relatives or handling an infected body as part of burial practices. People aren't contagious until they show symptoms, Frieden said. Symptoms may not appear until 21 days after exposure.
2. Health officials around the developed world know how to stop Ebola. Frieden described tried-and-true measures: find and isolate all possible patients, track down people they may have exposed, and ensure strict infection-control procedures while caring for patients. Every past outbreak of Ebola has been brought under control.
3. The Centers for Disease Control and Prevention (CDC) are sending staff members to West Africa to help fight the disease, and the WHO is urging nations worldwide to send money and resources to help.
4. It's true that Ebola could be carried into USA by a traveler, possibly putting family members or health care workers at risk. It's never happened before. But if the disease does show up in the U.S., Frieden said, doctors and hospitals know how to contain it quickly.
5. People should not be afraid of casual exposure on a subway or an airplane, said Dr. Robert Black, professor of international health at Johns Hopkins University.
6. Ebola's toll is minuscule compared with other diseases that killing millions of people.

### **Suggestions**

In comparison, Ebola is manageable and Controllable "the order of magnitude of the resources to control Ebola in small communities in three or four countries is very small compared to controlling malaria in all of Asia and Africa," but we need more resources to control these major killers of children and adults that we're making too little effort against to Ebola. It is quoted that "Life has no remote you have to get up and change it". To stop the spread of the disease, the World Health Organization and the CDC have been working with the governments of the affected countries to treat sick patients and contain the virus. (Ebola is more likely to spread in poor countries with limited access to clean water, proper sanitation and a well-developed health-care system.) If you travel to or are in an area affected by an Ebola outbreak, make sure to do the following:

- Practice careful hygiene. Avoid contact with blood and body fluids.
- Do not handle items that may have come in contact with an infected person's blood or body fluids.
- Avoid funeral or burial rituals that require handling the body of someone who has died from Ebola.



- Avoid contact with bats and nonhuman primates or blood, fluids, and raw meat prepared from these animals.
- Avoid hospitals where Ebola patients are being treated. The U.S. embassy or consulate is often able to provide advice on facilities.
- After you return, monitor your health for 21 days and seek medical care immediately if you develop symptoms of Ebola.

#### **Healthcare workers who may be exposed to people with Ebola should follow these steps**

- Wear protective clothing, including masks, gloves, gowns, and eye protection.
- Practice proper infection control and sterilization measures.
- Isolate patients with Ebola from other patients.
- Avoid direct contact with the bodies of people who have died from Ebola.
- Notify health officials if you have had direct contact with the blood or body fluids, such as but not limited to, feces, saliva, urine, vomit, and semen of a person who is sick with Ebola. The virus can enter the body through broken skin or unprotected mucous membranes in, for example, the eyes, nose, or mouth.

#### **What precautions should people take with someone infected with Ebola?**

- “Ebola is very hard to catch,” Adalja emphasizes. Infected people are contagious only after symptoms appear, by which time close contacts, such as health care workers and family members, would use “universal precautions.” That’s an infection control approach in which all blood and certain body fluids are treated as if they are infectious for diseases that can be borne in them, Adalja says.
- Even though the virus can be transmitted by kissing or sex, people with Ebola symptoms are so sick that they’re not typically taking part in those behaviors, he says.

#### **Is there a cure or a vaccine to protect against it?**

- The scientists are working on both. The National Institutes of Health is taking part in human testing of an experimental Ebola vaccine, which began in early September. Testing for that vaccine is also taking place in the U.K. and Mali.
- The agency expects to have results of that trial by the end of 2014. The NIH is also testing several other potential vaccines.
- There is no specific treatment for Ebola. The only treatments available are supportive kinds, such as IV fluids and medications to level out blood pressure, a breathing machine, and transfusions, Adalja says.
- Z Mapp was given to Brantly and Writebol, among others. But health officials don't know if it aided in their recovery. A trial of ZMapp in 18 Ebola-infected rhesus monkeys prompted recovery in all 18, researchers reported.
- Sacra received a different treatment, called TKM-Ebola. He also received a blood transfusion from Brantly, a friend. Health officials don't know if any of these treatments helped with his recovery.
- Duncan and Mukpo both received an experimental drug named brincidofovir. The drug is being tested for effectiveness against cytomegalovirus and adenovirus, but test-tube experiments done at the CDC and National Institutes of Health reveal it showed effectiveness against Ebola, according to its manufacturer, Chimerix Inc.

#### **Conclusions**

Patients with Ebola are isolated from other people. Doctors and other aid workers wear protective clothing to keep them from coming in contact with the bodily fluids of infected people. In some countries, schools have been closed and air travel has been stopped to prevent anyone who might be in the early stages of the disease from spreading it to other countries. As Quoted by Einstein “A Person who never made a mistake never tried anything new”. We are the Doctors, Pharmacists and Researchers may come across on a single platform for good interaction and exchange of knowledge and experience with expertise and to enhance the levels of knowledge and understandings of key aspects to invent and discovery of New Drug to cure and prevention of EBOLA Fever on the Global Village with Productive manner as quoted by the International Pharmaceutical Federation (FIP). This



study may help to the society comprises of the people of all the corners of the globe. It is believed that difficult roads often lead to beautiful destinations.

### References

1. Sarma A M (1981), Aspects of Labour Welfare & Social security, Himalaya Publishing House, Bombay.
2. T N Murty and S. Annapurna, "The Virus of Ebola Fever and Symptoms- A Gate Way to Control", IJBARR, ISSN No. 2348-0653, International Journal of Business and Administration Research Review. Vol. 2, Issue No.6, Sept. 2014. Impact Factor 0314.
3. T N Murty, T Abhinov and Md. Siddqui Ahemad Khan, " Need of Drug Discovery to Cure Ebola Fever ", Indian Journal of Research in Pharmacy & Biotechnology., ISSN 2320-3471, India.
4. Dale S. Beach (2002), Human Resource and Personnel Management, Tata McGraw Hill, New Delhi.
5. <http://www.cdc.gov>.