

## **Ebola Virus Fact Sheet**

- Ebola Virus Disease (formerly known as Ebola Hemorrhagic Fever) is a Severe, often fatal illness, with a death of up to 90%. The illness affects humans and non-human primates (monkeys, gorillas and chimpanzees).
- Genus Ebola Virus is 1 of 3 members of the Filoviridae family (filovirus), along with genus Marburgvirus and genus Cuevavirus. Genus Ebola Virus comprises 5 distinct species:
  1. Bundibugyoebolavirus (BDBV)
  2. Zaire ebolavirus(EBOV)
  3. Reston ebolavirus (RESTV)
  4. Sudan ebolavirus (SUDV)
  5. Tai Forest ebolavirus (TAFV)
- As on 18<sup>th</sup> May 2014, the Ministry of Health (MOH) of Guinea has reported a cumulative total of 253 clinical cases of Ebola Virus Disease (EVD), including 176 deaths.
- Latest figures on number of cases/deaths and countries affected can be obtained from WHO website <http://www.afro.who.int/en/clusters-a-programmes/dpc/epidemic-a-pandemic-alert-and-response/outbreak-news/4140-ebola-virus-disease-west-africa-situation-as-of-18-may-2014.html>

### **Transmission**

- Ebola is introduced into the human population through close contact with the blood, secretions, organs or other bodily fluids of infected animals, chimpanzee, gorilla, fruit bats, monkeys, forest antelopes and porcupines.
- Human-to human transmission, with infection resulting from direct contact (through broken skin or mucous membranes) with the blood, secretions, organs or other bodily fluids of infected people, and indirect contact with environments contaminated with such fluids, Health-care workers have frequently been infected while treating patients with suspected or confirmed EVD.
- The virus can be transmitted through semen of affected person upto 7 weeks after recovery from illness.
- Health-care workers have frequently been infected while treating patients with suspected or confirmed EVD. This has occurred through close contact with patients when infection control precautions are not strictly practiced.
- People are infectious as long as their blood and secretions contain the virus. Ebola virus was isolated from semen 61 days after onset of illness in a man who was infected in a laboratory.

## Signs and symptoms

- EVD is a severe acute viral illness often characterized by the sudden onset of
  - fever,
  - intense weakness,
  - muscle pain,
  - headache,
  - sore throat.
  - vomiting,
  - diarrhoea,
  - rash,
  - impaired kidney and liver function, and
  - In some cases, both internal and external bleeding.
- Laboratory findings include low white blood cell and platelet counts and elevated liver enzymes.
- **Incubation period: 2 to 21 days.**

## Case Definition EBVD

### **Suspected (clinical) case:**

- Any person ill or deceased who has or had fever with acute clinical symptoms and signs of hemorrhage, such as bleeding of the gums, nose-bleeds, conjunctival injection, red spots on the body, bloody stools and/or melena (black liquid stools), or vomiting blood (haematemesis) with the history of travel to the affected area. Documented prior contact with an EBVD case is not required.

### **Probable case (with or without bleeding):**

- Any person (living or dead) having had contact with a clinical case of EHF and with a history of acute fever.

**OR**

- Any person (living or dead) with a history of acute fever and three or more of the following Symptoms: headache/ vomiting/nausea/ loss of appetite/ diarrhea/ intense fatigue/ abdominal pain/ general muscular or articular pain/ difficulty in swallowing/ difficulty in breathing/hiccoughs

**OR**

Any unexplained death.

- The distinction between a suspected case and a probable case in practice relatively unimportant as far as outbreak control is concerned.

### *Contact:*

- A person without any symptoms having had physical contact with a case or the body fluids of a case within the last three weeks. The notion of physical contact

may be proven or highly suspected such as having shared the same room/bed, cared for patient, touched body fluids, or closely participated in a burial (e.g. physical contact with the corpse).

### **Confirmed Case:**

- A suspected or probable case with laboratory confirmation (positive IgM antibody, positive PCR or Viral isolation).

### **Diagnosis**

- Other diseases that should be ruled out before a diagnosis of EVD can be made include: malaria, typhoid fever, shigellosis, cholera, leptospirosis, plague, rickettsiosis, relapsing fever, meningitis, hepatitis and other viral haemorrhagic fevers.
- Ebola virus infections can be diagnosed definitively in a laboratory through several types of tests:
  - antibody-capture enzyme-linked immunosorbent 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.

### **Prevention and control**

#### **Risk of infection with Ebola virus and how to avoid it**

- Casual contact in public places with people that do not appear to be sick do not transmit Ebola. One cannot contract Ebola virus by handling money, groceries or swimming in a pool. Mosquitoes do not transmit the Ebola virus.
- Ebola virus is easily killed by soap, bleach, sunlight, or drying. Ebola virus survives only a short time on surfaces that have dried in the sun.

#### **Reducing the risk of Ebola infection in people**

- In the absence of effective treatment and a human vaccine, raising awareness of the risk factors for Ebola infection and the protective measures individuals can take is the only way to reduce human infection and death.
- Reducing the risk of wildlife-to-human transmission from contact with infected fruit bats or monkeys/apes and the consumption of their raw meat. Animals should be handled with gloves and other appropriate protective clothing. Animal products (blood and meat) should be thoroughly cooked before consumption.

- Reducing the risk of human-to-human transmission in the community arising from direct or close contact with infected patients, particularly with their body fluids. Close physical contact with Ebola patients should be avoided. Gloves and appropriate personal protective equipment should be worn when taking care of ill patients at home and should be disposed after use as per biosafety guidelines. Regular hand washing is required after visiting patients in hospital, as well as after taking care of patients at home.
- Dead patients to be handled for cremation/burial under biosafety precautions.

### **Controlling infection in health-care settings**

- Human-to-human transmission of the Ebola virus is primarily associated with direct or indirect contact with blood and body fluids. Transmission to health-care workers has been reported when appropriate infection control measures have not been observed.
- It is not always possible to identify patients with EBV early because initial symptoms may be non-specific. For this reason, it is important that health-care workers apply standard precautions consistently with all patients – regardless of their diagnosis – in all work practices at all times. These include basic hand hygiene, respiratory hygiene, use of personal protective equipment (according to the risk of splashes or other contact with infected materials), safe injection practices and safe handling after death of infected patient.
- Health-care workers caring for patients with suspected or confirmed Ebola virus should apply, in addition to standard precautions, other infection control measures to avoid any exposure to the patient's blood and body fluids and direct unprotected contact with the possibly contaminated environment. When in close contact (within 1 metre) of patients with EBV, health-care workers should wear face protection (a face shield or a medical mask and goggles), a clean, non-sterile long-sleeved gown, and gloves (sterile gloves for some procedures).
- Laboratory workers are also at risk. Samples taken from suspected human and animal Ebola cases for diagnosis should be handled by trained staff and processed in suitably equipped laboratories.