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EBOLA

Fact Sheet

Ebola disease

Ebola disease is a severe and often fatal illness in humans. The average case fatality rate is around 50%, though it has ranged from 25% to 90% in past outbreaks. The first recorded outbreaks occurred in 1976 in two locations: Nzara (present-day South Sudan) for SVD and Yambuku (in the Democratic Republic of the Congo) for EVD, the latter giving the disease its name from the nearby Ebola River.

Transmission

Ebola disease (EBOD) is caused by viruses belonging to the Orthoebolavirus genus of the Filoviridae family. To date, six species of Orthoebolaviruses have been identified, with three—Ebola virus (EBOV), Sudan virus (SUDV), and Bundibugyo virus (BDBV)—known to cause large outbreaks, leading to Ebola virus disease (EVD), Sudan virus disease (SVD), and Bundibugyo virus disease (BVD), respectively. Fruit bats are believed to be the natural hosts of these viruses. Transmission to humans occurs through direct contact with infected animals' bodily fluids or with fluids from infected humans, particularly blood, vomit, or faeces. Human-to-human spread happens when there is direct contact with an infected person or contaminated surfaces. Health workers and traditional burial practices are at high risk of facilitating the disease's spread.

Symptoms

Ebola symptoms typically appear 2 to 21 days after infection, starting with fever, fatigue, muscle pain, headache, and sore throat. These are followed by vomiting, diarrhoea, abdominal pain, rash, and signs of kidney and liver dysfunction. Bleeding, while commonly associated with Ebola, usually occurs in the later stages and can include internal and external bleeding, such as blood in vomit or faeces, or from the nose, gums, and other sites. In some cases, neurological symptoms like confusion, irritability, and aggression may arise. Early detection and intervention by health workers are critical for effective treatment.

Diagnosis

Diagnosing Ebola disease can be challenging, especially in the early stages, as its symptoms are similar to those of other infectious diseases such as malaria, typhoid fever, shigellosis, meningitis, and other viral haemorrhagic fevers. Confirmation of an *Orthoebolavirus* infection requires specific laboratory tests, including reverse transcriptase polymerase chain reaction (RT-PCR) assays, antibody-capture enzyme-linked immunosorbent assays (ELISA), antigen-capture detection tests, and virus isolation by cell culture. Because patient samples pose an extreme biohazard risk, testing of non-inactivated specimens must be carried out under maximum biological containment conditions. Additionally, when transporting non-inactivated biological samples nationally or internationally, they must be packaged using the triple packaging system to ensure safety and containment.

Treatment

Over the years, the WHO and its partners have developed guidance and training to optimise the care and survival of Ebola virus disease patients. This includes administering relevant tests, managing pain, nutrition, co-infections like malaria, and providing other supportive care. For Ebola virus disease, WHO recommends monoclonal antibodies mAb114 (AnsuvimabTM) and REGN-EB3 (InmazebTM). However, no approved treatments exist for Sudan or Bundibugyo virus diseases, though candidate therapies are being tested. Two vaccines—Ervebo (Merck) and Zabdeno/Mvabea (Janssen)—are approved for Ebola virus, with Ervebo recommended for outbreak response. Candidate vaccines for Sudan virus disease are under development.

Prevention and control

Effective outbreak control of Ebola virus disease requires a multi-faceted approach involving clinical care, surveillance, contact tracing, laboratory services, infection prevention and control in health facilities, safe burials, vaccination, and social mobilisation. Raising public awareness about risk factors and preventive measures is essential in reducing human transmission. Key strategies include minimising contact with infected wildlife, avoiding the consumption of raw meat, and reducing human-to-human transmission by avoiding direct contact with infected individuals and their body fluids. Early isolation of patients in designated treatment centres is crucial to prevent household transmission. Community involvement, open dialogue, and education are vital to

successful outbreak management. Infection prevention and control in healthcare settings are critical, with healthcare workers adhering to strict precautions, including hand hygiene, personal protective equipment, and safe injection and burial practices. When caring for patients with suspected or confirmed Ebola disease, additional infection control measures must be taken to prevent contact with blood, body fluids, and contaminated surfaces such as clothing and bedding, following specific guidelines for Ebola. Laboratory staff must also follow safety protocols when handling samples to prevent exposure during investigations of potential outbreaks.