

- ✓ Application of early warning system prediction models to prevent outbreaks
- ✓ Coordinated sharing of information between animal health and public health services for joint interventions
- ✓ Controlling mosquito vector through spraying
- ✓ Vaccination is the primary option available for prevention of RVF infections in animals in endemic areas



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One Health (OH) approach in managing Rift Valley Fever (RVF)



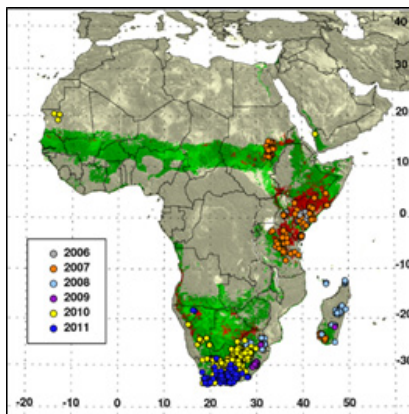
Introduction

The burden of zoonotic diseases (affecting both livestock and humans) have increased globally. The control of zoonotic diseases require one health approach which involves multisectoral approach of human, animal and environment sectors.

Rift Valley Fever (RVF) is a viral zoonotic disease most commonly seen in cattle, buffalo, sheep in sub-Saharan Africa, such as goats, and camels. It is transmitted by mosquitoes and blood feeding flies. RVF causes significant economic losses due to high mortality rates and abortions in pregnant females. People can get RVF through contact with blood, body fluids, or tissues of infected animals, or through bites from infected mosquitoes. Humans may also become infected by ingesting unpasteurized or uncooked milk of infected animals.

What causes RVF?

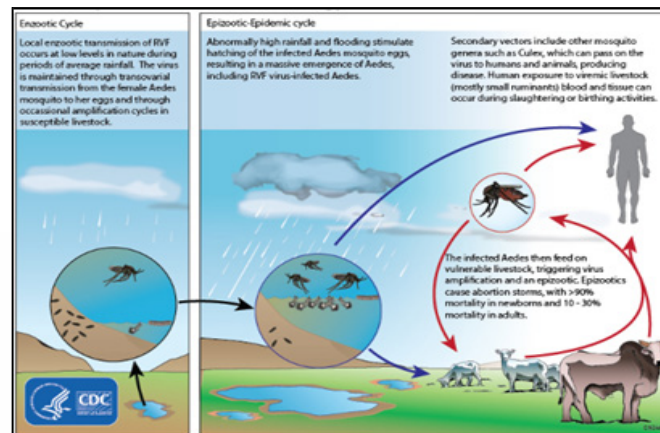
RVF is caused by an arbovirus belonging to the Phlebovirus genus (Bunyaviridae family). RVF was first identified in 1931 in a sheep epidemic on a farm



RVF outbreaks from 2006-2011. Source: FAO

How is RVF transmitted?

RVF virus is transmitted by mosquitoes whose population increases after periods of heavy rainfall. Competent mosquito vectors transmit the virus from infected animals to other animals (and to humans). The majority of human infections result from direct or indirect contact with the blood or organs of infected animals. The virus can be transmitted to humans through a cut while handling animal tissue during slaughtering or butchering, assisting with animal births, conducting veterinary procedures, or from the disposal of carcasses or fetuses. Certain occupational groups such as herders, farmers, slaughterhouse workers, and veterinarians are therefore at higher risk of infection.



RVF transmission model. Source: CDC

How can you tell if an animal and humans have RVF?

Clinical symptoms of RVF include high fever, enlarged lymph nodes, nose and eye secretions in adult animals, haemorrhagic diarrhoea, vomiting, abdominal colic, lasting prostration, dysgalactia, jaundice, increased abortion frequency ("abortion storms") and a high mortality rate in young animals



Ewe aborting due to RVF infection. Source: FAO

Infection in humans primarily causes a self-limiting febrile illness. Approximately 50% of infected humans have no clinical signs, while others may experience flu-like symptoms. A small percentage may develop severe clinical forms, involving hemorrhagic fever with liver disease, brain inflammation or eye complications.

Diagnosis of RVF

RVF may be suspected based on clinical signs, insect activity, concurrent disease in animals and humans, rapid spread of the disease and concurrent contributing environmental factors. Laboratory tests are required to confirm Rift Valley fever infections

- Chemical manifestation
 - (i) increased population of biting flies.
 - (ii) Disease in animals and humans.
 - (iii) Rapid spread of infections
- Laboratory diagnosis

How can you prevent RVF in animals and humans?

- ✓ Systematic surveillance to detect RVF in susceptible herds