



Flood related diseases

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Introduction

Beginning in July 2018, severe floods affected Kerala, due to unusual high rainfall during the monsoon season. It was the worst flooding in Kerala in nearly a century. Over 483 people died, 14 were missing and at least a million people were evacuated, from Chengannur, Pandanad, Edanad, Aranmula, Kozhencherry, Ayiroor, Ranni, Pandalam, Kuttanad, Aluva, and Chalakudy. All 14 districts of the state were placed on red alert. According to the Kerala government, one-sixth of the total population of Kerala had been directly affected by the floods and related incidents. The Indian government has declared it as a Level 3 Calamity, or "calamity of a severe nature".

The most common natural disaster, flooding poses significant health risks to the population. Flooding is often associated with an increased risk of infections. The major risk factor for outbreaks associated with flooding is water contamination. There is an increased chance of water-borne and vector-borne diseases through polluted waters, such as infections, cholera, malaria, leptospirosis, dengue fever, conjunctivitis, and other ear, nose and throat infections.

Water-borne diseases

No disease outbreaks have been reported so far, public health specialists say once the flood water starts receding, the environment will be conducive for epidemics. A big threat can

come from leptospirosis.

Leptospirosis is caused by a bacterium called *Leptospira interrogans*. This organism is carried by many animals and lives in their kidneys. It ends up in soil and water through their urine. When these animals are infected, they do not have clinical signs and symptoms. Infected animals may continue to excrete this bacteria into the environment continuously or every once in a while for a few months up to several years.

Humans can become infected through:

- Contact with urine (or other body fluids, except saliva) from infected animals.
- Contact with water, soil, or food contaminated with the urine of infected animals. Outbreaks of leptospirosis are usually caused by exposure to contaminated water, such as floodwaters. Person to person transmission is rare.

Cholera: Another most common bacterial disease that spreads during floods is cholera. This is caused by contaminated food, water and also poor hygienic conditions. Common symptoms of cholera are severe diarrhea and vomiting which causes immediate water loss and muscle cramps. Cholera requires immediate treatment because the disease can cause death within hours.

Vector-borne diseases

NiV Floods may indirectly lead to an increased chance of vector-borne diseases too. Water stagnation can act as a

breeding site for mosquitoes, and therefore enhance the potential source for infections such as dengue, malaria etc. Flooding may initially flush out mosquito breeding, but it comes back when the waters recede. The lag time is usually around 6-8 weeks before the onset of a malaria epidemic.

Preventive measures

Communicable disease risks from flooding can be greatly reduced if the following recommendations are followed:

Chlorination of water - Ensuring uninterrupted provision of safe drinking water is the most important preventive measure to be implemented following flooding, in order to reduce the risk of outbreaks of water-borne diseases.

Vaccination against hepatitis A - Mass immunization is not recommended. Vaccination of high-risk groups, who has involved in relief activities can be considered.

Vector borne diseases prevention

Insecticides: flooding does not necessarily lead to an immediate major increase in mosquito numbers, but simple measures like indoor residual spraying can be done to prevent vector borne diseases .

Health education - People need to be educated about good hygienic practices , Safe food preparation , safe drinking water early diagnosis and treatment will definitely help the people to be safe

Long term measures

Disaster management Programmes , Home surveillance on a local, national, international and global level promoting tap-water quality regulation and monitoring and high standards of hygiene maintenance will help us to achieve the goals

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