

Chikungunya

A continuing problem

Key facts

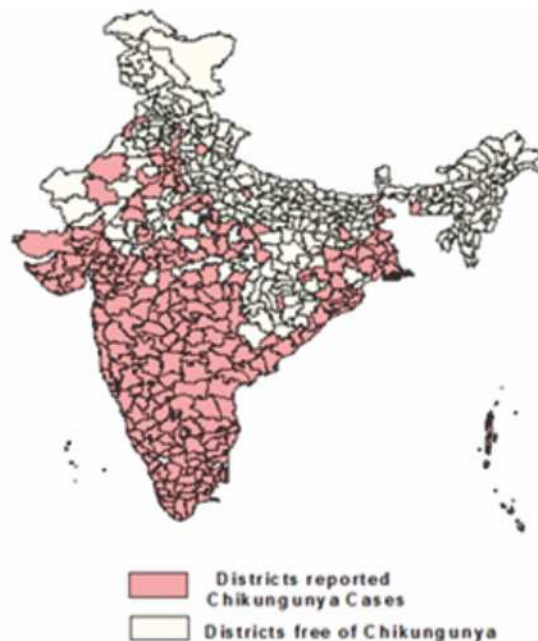
- Chikungunya is a viral disease transmitted to humans by infected mosquitoes. It causes fever and severe joint pain. Other symptoms include muscle pain, headache, nausea, fatigue and rash.
- The disease shares some clinical signs with dengue, and can be misdiagnosed in areas where dengue is common.
- There is no cure for the disease. Treatment is focused on relieving the symptoms.
- The proximity of mosquito breeding sites to human habitation is a significant risk factor for chikungunya.
- Since 2004, chikungunya fever has reached epidemic proportions, with considerable morbidity and suffering.
- The disease occurs in Africa, Asia and the Indian subcontinent. In recent decades, mosquito vectors of chikungunya have spread to Europe and the Americas. In 2007, disease transmission was reported for the first time in a localized outbreak in north-eastern Italy.
- In India, it re-emerged in 2006 after a quiescence of three decades as an epidemic.

Global burden

- Chikungunya is a mosquito-borne viral disease first described during an outbreak in southern Tanzania in 1952. It is an RNA virus that belongs to the alpha virus genus of the family Togaviridae. The name 'chikungunya' derives from a word in the Kimakonde language, meaning "to become contorted" and describes the stooped appearance of sufferers with joint pain (arthralgia).
- The disease occurs in Africa, Asia and the Indian subcontinent. In recent decades, mosquito vectors of chikungunya have spread to Europe and the Americas.
- A large chikungunya outbreak emerged in the Indian Ocean Islands during 2005-2006 including Comoros, Mayotte, Mauritius, Seychelles and particularly Reunion Island where 35% of 770 000 inhabitants were infected in six months.
- In 2007, disease transmission was reported for the first time in a localized outbreak in north-eastern Italy.

Burden in India

- India experienced massive outbreaks of chikungunya in 1960s and early 1970s mainly in cities. After a gap of 32 years (in 2006), an explosive outbreak of chikungunya devastated the country affecting more than 1.4 million people in 13 states.



Source: NVBDCP

Risk factors and transmission

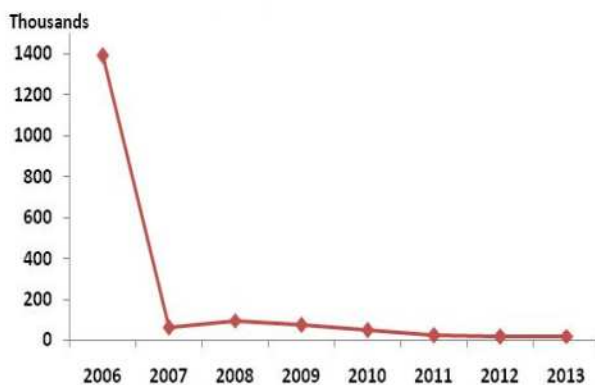
- The virus is transmitted from human to human by the bites of infected female mosquitoes. Most commonly, the mosquitoes involved are *Aedes aegypti* and *Aedes albopictus*, two species, which can also transmit other mosquito-borne viruses, including dengue. These mosquitoes can be found biting throughout daylight hours, though there may be peaks of activity in the early morning and late afternoon. Both species are found biting outdoors, but *Ae. aegypti* will also readily feed indoors.

- *Ae. aegypti* is more closely associated with human habitation and uses indoor breeding sites, including flower vases, water storage vessels and concrete water tanks in bathrooms, as well as the same artificial outdoor habitats as *Ae. albopictus*.
- After the bite of an infected mosquito, onset of illness occurs usually between four and eight days but can range from two to 12 days.

Clinical presentations

- Chikungunya is characterized by an abrupt onset of fever frequently accompanied by joint pain. Other common signs and symptoms include muscle pain, headache, nausea, fatigue and rash. The joint pain is often very debilitating, but usually lasts for a few days or may be prolonged to weeks.
- Most patients recover fully, but in some cases joint pain may persist for several months, or even years. Occasional cases of eye, neurological and heart complications have been reported, as well as gastrointestinal complaints.
- Serious complications are not common and chikungunya rarely causes death. But in older people, the disease can contribute to the cause of death. Often symptoms in infected individuals are mild and the infection may go unrecognized, or be misdiagnosed in areas where dengue occurs.

Chikungunya cases in india



Source: NVBDCP

Treatment

There is no specific antiviral drug treatment for chikungunya. Treatment is directed primarily at relieving the symptoms, including the joint pain using anti-pyretics, optimal analgesics and fluids.

There is no commercial chikungunya vaccine.

Prevention and control

- The proximity of mosquito vector breeding sites to human habitation is a significant risk factor for chikungunya as well as for other diseases that these species transmit.
- Prevention and control of chikungunya relies heavily on reducing the number of natural and artificial water-filled container habitats that support breeding of mosquitoes. This requires mobilization of affected communities.
- For protection during outbreaks of chikungunya, clothing, which minimizes skin exposure to the day-biting vectors is advised. Repellents can be applied to exposed skin or to clothing in strict accordance with product label instructions.
- For those who sleep during the daytime, particularly young children, or sick or older people, insecticide treated mosquito nets afford good protection. Mosquito coils or other insecticide vaporizers may also reduce indoor biting.
- Basic precautions should be taken by people travelling to risk areas and these include use of repellents, wearing long sleeves and pants and ensuring rooms are fitted with screens to prevent mosquitoes from entering.

National programme strategies

The current strategic plan for chikungunya and dengue under the National Vector Borne Disease Control Programme (NVBDCP) has eight key elements, called as 'Octalogue', which includes both disease and entomological surveillance, epidemic preparedness, behaviour change communications etc.

Diagnostic facilities (secondary and tertiary level hospitals) have been identified as sentinel laboratories under the programme, which are linked to 14 Apex Referral Laboratories.

WHO recommends

- India continues to strengthen effective management of cases and outbreaks of chikungunya in the country.
- Improve disease surveillance and reporting systems, including effective reporting of key findings of the outbreak locally as well as the state, regional and national levels.
- Invest in strengthening vector surveillance and diagnosis and vector control at sub-national level.
- Developing capacity at the medical colleges (Diagnostic Virology Network Laboratories) to identify early signs of impending outbreaks.