



BACKGROUND
SERIES

ZIKA VIRUS



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Introduction

[Zika](#) virus is an emerging mosquito-borne virus that was first identified in Uganda in 1947 in rhesus monkeys. It was subsequently identified in humans in 1952 in Uganda and the United Republic of Tanzania. Outbreaks of Zika have been recorded in Africa, the Americas, Asia and the Pacific. It is transmitted to people through the bite of infected *Aedes* mosquitoes, from the tropical regions. This is the same mosquito that transmits dengue and yellow fever.

Newer studies show that there is possibility of the virus being transmitted through sexual means however this has not been confirmed. Studies claim that Zika can be transmitted among people through bodily exchange of fluids including semen. Hence, unprotected sex needs to be discouraged. Infection with the virus may be suspected based on symptoms and recent history, for e.g. residential area or recent travel to an area where Zika virus is known to be present. Diagnosis of the virus can only be confirmed by laboratory testing for the presence of Zika virus in the blood or other body fluids, such as urine or saliva.

Mosquitoes and their breeding sites pose a massive threat on Zika virus infection. Prevention and control relies on reducing mosquitoes through source reduction and reducing contact between mosquitoes and people. This can be done by using insect repellent; wearing clothes that cover as much of the body as possible; using physical barriers such as screens, closed doors and windows; and sleeping under mosquito nets. It is also important to empty, clean or cover containers that can hold water such as buckets and flower pots so that places where mosquitoes can breed are removed.

Zika virus is usually relatively mild and requires no specific treatment. People affected with the virus should get plenty of rest, drink enough fluids, and treat pain and fever with common medicines. If symptoms worsen, they should seek medical care and advice. There is currently no vaccine available for Zika, hence prevention is vital.

Global Status

The Zika virus, transmitted by the aggressive *Aedes* mosquitoes, has spread to at least 29 countries. WHO estimates 3 million to 4 million people across the Americas will be infected with the virus in the next year. The [Centers for Disease Control](#) (CDC) and Prevention is warning pregnant women against travel to those areas; health officials in several of those countries are telling women to avoid pregnancy in some cases for up to two years as Zika is known to possess threats of birth defect.

Zika is drawing attention because of an alarming connection between the virus and [microcephaly](#), a neurological disorder that results in babies being born with abnormally small heads. It causes severe developmental issues and sometimes death.

In Florida, the number of travel-related Zika cases stands at 12. No pregnant women are among those infected. The agency advises health care providers offer testing for the virus to pregnant women who have traveled to those areas within two to 12 weeks after returning home.

Providers should screen pregnant women with symptoms of the virus while they are experiencing illness and should test pregnant women without symptoms at the start of their prenatal care and run a subsequent test in the middle of the second

trimester, the CDC said. Providers may want to consider an additional ultrasound to supervise the pregnant mother and her child.

In most people, symptoms of the virus are mild, including fever, headache, rash and possible pink eye. In fact, 80% of those infected never know they have the disease. That's especially concerning for pregnant women, as this virus has now been shown to pass through amniotic fluid to the growing baby causing defects in the infants.

Zika has severe effect on pregnant women with devastating impacts on the fetus. Children are born with microcephaly, a condition where their head is too small. According to the Pan American Health Organization, Brazil has reported 4,000 suspected cases of microcephaly since October. Experts say it is relatively easier to fight Zika virus as the government has been conducting programmes to contain dengue. Since humans are infected with Zika and dengue by the same mosquito, strengthening programme against dengue would also help avert the Zika menace. The American Centre for Disease Control and Prevention states that people contracting Zika exhibit symptoms of fever, rash, joint pain or conjunctivitis while patients also complain of muscle pain and headache.

Zika in Latin American Countries

The Zika virus has now spread to 20 countries in [Latin America](#) and the Caribbean, including some popular tourist destinations, and it's likely to spread farther, international health officials said. Some studies also suggest that the virus may cause a serious birth defect called microcephaly.

The virus can be expected to spread more, as the mosquitoes that carry it can be found across the region. It's now spreading locally in Barbados, Bolivia, Brazil, Colombia, Ecuador, El Salvador, French Guiana, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Martinique, Mexico, Panama, Paraguay, Puerto Rico, Saint Martin, Suriname, Venezuela, Samoa and in the south Pacific region.

Since November, Brazil has seen 404 confirmed cases of microcephaly in newborns. Seventeen of those cases have a confirmed link to the Zika virus. There were only 146 cases in 2014. So far, 15 babies have died from the condition, with five linked to Zika. An additional 56 deaths are under investigation, and authorities are investigating 3,670 suspected cases.

Latin American countries are seeing many cases in the newborns as well. Colombia reported more than 2,000 pregnant women have tested positive for the virus, while in the United States one [Hawaiian baby](#) was born with microcephaly linked to the Zika virus after his mother returned from Brazil. Several states have confirmed the virus in individuals who travelled to areas where the virus is circulating, including Illinois, where health officials are monitoring [two infected pregnant women](#).

Brazilian researchers published early results of a study of 35 babies affected in Brazil last year that strengthen the evidence. The babies were born in August through October and all had confirmed microcephaly, which causes underdeveloped heads and brains. Further studies are needed to confirm the association of microcephaly with Zika virus infection during pregnancy and to understand any other adverse pregnancy outcomes associated with Zika virus infection.

Status in Nepal

Epidemiology and Disease Control Division (EDCD) of the Department of Health Services (DoHS) said that there is no immediate threat of Zika virus in the country as the possibility of its spreading during cold weather condition is quite low. Officials, however, cautioned that the risk of an outbreak after the change of season persists as the carrier of the virus exists in the country.

With Zika virus spreading rapidly in the Americas, there is a danger of it travelling to Nepal, particularly in the post-monsoon season, given the presence of the mosquito that carries the virus in Nepal's major cities including Kathmandu. Even though no specific risk exists at the moment in Nepal, an outbreak in India can be a serious threat specially in the Terai region of the country. According to EDCD, the mosquito linked to the spread of Zika in the Americas, *Aedes aegypti* is already present in Kathmandu and other major cities. Once the temperatures rise above 15 degrees Celsius, the mosquito would have a favourable environment for breeding.

An EDCD study in 2014 had found a high concentration of *Aedes aegypti* mosquitoes, the causative agent of Zika and dengue, in places like Thankot, Satungal, Naikap, Kalanki and Gongabu in the Valley. Most of these locations fall on the route connecting the Capital with the districts outside. Chitwan, Birgunj, Nepalgunj, Dhangadhi, Nawalparasi and Butwal are also at risk. EDCD claims that their preparations they have begun training doctors on treating patients infected with the virus. According to EDCD, hospitals with a separate infectious disease unit are needed to treat it.

However, despite the preparations, the National Public Health Laboratory has no kit to diagnose the disease in case it spreads to the country. EDCD have begun the process to import the equipment. Most importantly, in light of scientific reports suggesting health risks to newborn children, health authorities in the country should focus on ensuring that pregnant women are provided safety measures such as nets, and a mosquito-free environment. Condom promotion might have to be reinforced in the Terai region where risks of infection and transmission are high. Mechanisms to control sexually transmitted diseases already in place should be strengthened for prevention of sexual transmission of the diseases.

Efforts towards control and prevention

UNICEF is making several attempts to limit the spread of Zika virus and its effect on children and their families, especially in the most disadvantaged communities. They are working with governments to mobilize communities to protect themselves from infection and are appealing for 14 million USD to meet the immediate humanitarian needs of affected communities. These funds will be used to help reach affected communities and about 200 million people with the information they need to stay safe

Likewise, World Health Organization (WHO) has been supporting countries to control Zika's spread. WHO has urged countries to focus on the following **guidelines** to combat Zika:

- Prioritise research into Zika virus disease by convening experts and partners

- Enhance surveillance of Zika virus and potential complications
- Strengthen capacity in risk communication to help countries meet their commitments under the International Health Regulations
- Provide training on clinical management, diagnosis and vector control including through a number of WHO Collaborating Centers
- Strengthen the capacity of laboratories to detect the virus
- Support health authorities to implement vector control strategies aimed at reducing Aedes mosquito populations such as providing pesticides/insecticide to treat standing water sites that cannot be treated in other ways, such as cleaning, emptying, and covering them
- Prepare recommendations for clinical care and follow-up of people with Zika virus, in collaboration with experts and other health agencies
- Provide nets to pregnant women and promote mosquito free environment
- Discourage unprotected sex
- Wear long-sleeved shirts and long pants.
- Stay in places with air conditioning or that use window and door screens to keep mosquitoes outside.
- Sleep under a mosquito bed net if you are overseas or outside and are not able to protect yourself from mosquito bites
- Use [Environmental Protection Agency \(EPA\)](#) registered insect repellents. When used as directed, EPA-registered insect repellents are proven safe and effective, even for pregnant and breast-feeding women.
- Always follow the product label instructions
- Reapply insect repellent as directed
- Do not spray repellent on the skin under clothing
- If you are also using sunscreen, apply sunscreen before applying insect repellent

If you have a baby or child:

- Do not use insect repellent on babies younger than 2 months of age
- Dress your child in clothing that covers arms and legs, or
- Cover crib, stroller, and baby carrier with mosquito netting
- Do not apply insect repellent onto a child's hands, eyes, mouth, and cut or irritated skin
- Adults need to spray insect repellent onto their hands and then apply to a child's face

Way Forward

Since no vaccine exists to cure the Zika virus, prevention is the key here. Zika can be prevented by avoiding mosquito bites. Mosquitoes that spread Zika virus bite mostly during the daytime so people need to be careful regarding any exposure to mosquitoes. Mosquitoes that spread Zika virus also spread dengue and chikungunya viruses.

When [travelling](#) to countries where Zika virus or other viruses spread by mosquitoes are found, people need to take the following **control measures**:

During the first week of infection, Zika virus can be found in the blood and passed from an m virus to other people. To help prevent others from infection, avoiding mosquito bites during the first week of illness is an immediate control measure.