

## Zika Pandemic - Recent threat to mankind

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### Abstract

Recently more than 13 countries in the Americas have reported sporadic Zika virus infections indicating rapid geographic expansion of Zika virus.

Key words: Zika virus, public health emergency, *Aedes* mosquito, Flaviviridae

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### Introduction

Recently, the World Health Organization (WHO) declared the Zika virus an international public health emergency. "The level of concern is high, as is the level of uncertainty, We need to get some answers quickly"- recent statement of Dr. Margaret Chan, WHO's director-general, its self indicator of serious nature of new viral disease "Zika". Head of the World Health Organization said on 28.01.2016 that the Zika virus is "now spreading explosively" in the Americas. WHO official estimating between 3 million to 4 million infections in the region over a 12-month period. Just over a year ago, we faced a similar challenge when Ebola was spiraling out of control.

The virus was isolated for the first time in 1947 in the Zika forest in Uganda [1]. Zika name was given in 1952. Since then until 2007, it has remained mainly in Africa, with small and sporadic outbreaks in Asia. In 2007, Zika virus caused an outbreak on the island of Yap in the Pacific. This was the first documented transmission outside of its traditional endemic areas in Africa and Asia, and Zika virus is considered an emerging infectious disease with the potential to spread to new areas where the *Aedes* mosquito vector is present. Recently more than 13 countries in the Americas have reported sporadic Zika virus infections indicating rapid geographic expansion of Zika virus.

Zika virus is a member of the Flaviviridae family and is transmitted to humans by mosquitoes. Mosquitoes that spread Zika virus bite both indoors and outdoors, mostly during the daytime. It is related to other

pathogenic vector borne flaviviruses including dengue, chikungunya, West-Nile and Japanese encephalitis viruses but produces a comparatively mild disease in humans [2].

The ongoing pandemic confirms that Zika is predominantly a mild or asymptomatic dengue like disease. Incubation period is typically 3-12 days. Nearly 80% of those infected with the Zika virus don't even feel sick, and most who do have relatively mild symptoms such as a fever, rash, joint pain or pink eye, but there are major worries about the dangers pregnant women and their babies brain development. Pregnant women can be infected with Zika virus in any trimester. The incidence of Zika virus infection in pregnant women is not currently known, and data on pregnant women infected with Zika virus are limited. The number of reported cases of brain deformity (microcephaly) in Brazil jumped from 147 in 2014 to nearly 4,000 in 2015, leaving health officials with little doubt — although no firm scientific proof — that Zika was responsible. Because there is neither a vaccine nor prophylactic medications available to prevent Zika virus infection, CDC recommends that all pregnant women consider postponing travel to areas where Zika virus transmission is ongoing. If a pregnant woman travels to an area with Zika virus transmission, she should be advised to strictly follow steps to avoid mosquito bites [5]. Scientists have also identified a possible link between the virus and the neurological disorder known as the Guillain-Barré syndrome. In French Polynesia, after a local Zika virus outbreak in 2013-14, an increase

in autoimmune and neurological diseases has been observed, mostly Guillain-Barre syndrome. Infection with Zika virus may be suspected based on symptoms and recent history (e.g. residence or travel to an area where Zika virus is known to be present). Zika virus diagnosis can only be confirmed by laboratory testing for the presence of Zika virus RNA in the blood or other body fluids, such as urine or saliva.

There is no vaccine to prevent or medicine to treat Zika. People sick with Zika 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. Zika vaccines would, however, face the same problem as vaccines for chikungunya, West Nile, St. Louis encephalitis, and other arboviruses [4]. Travelers can protect themselves by preventing mosquito bites. Cover exposed skin by wearing long-sleeved shirts and long pants. Use EPA-registered insect repellents containing DEET, picaridin, oil of lemon eucalyptus (OLE), or IR3535. Use permethrin-treated clothing and gear (such as boots, pants, socks, and tents). Stay and sleep in screened-in or air-conditioned rooms [3].

Brazil, which is hosting the Olympic Games this summer, has begun an extensive campaign to eradicate mosquitoes, including the deployment of 220,000 soldiers to search for breeding sites, and has urged women to avoid getting pregnant until the outbreak is brought under control.

In both the Ebola and Zika outbreaks, political and economic factors like state incapacity and uneven development created conditions conducive to the spread of infectious disease. Zika is still a pandemic in progress, and many important questions about it, such as that of teratogenicity, remain to be answered. It has already reinforced one important lesson: in our human-

dominated world, urban crowding, constant international travel, and other human behaviors combined with human-caused microperturbations in ecologic balance can cause innumerable slumbering infectious agents to emerge unexpectedly [6].

**Funding:** Nil, **Conflict of interest:** Nil

**Permission from IRB:** Yes

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## How to cite this article?

Patel U, Gedam DS, Patel VK. Zika Pandemic - Recent threat to mankind. *J Path Micro* 2015;1(1):1-2. doi: 10.17511/jopm.2015.i01.01