

Zika: A Real Health Emergency?

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As the 2016 Summer Olympics in Rio de Janeiro approached, two major health scares threatened to undercut the Games. The first concerned the fact that the waters around the city—on which several Olympic competitions would be held—were notorious as dumping grounds for both untreated human waste and the trash of the city's twelve million residents. After testing the waters, scientists found contamination levels to be far higher than previously thought. Their samples included pathogens like diarrhea- and vomit-inducing rotaviruses and worse, sometimes deadly drug-resistant super-bacteria.

The second health scare also involved a pathogen, a virus spread by two species of mosquito, *Aedes aegypti* and *Aedes albopictus*, aggressive daytime biters. The virus is known as Zika, named after a Ugandan forest where, in 1947, it was first identified in the blood of a rhesus monkey. In early May 2015, Brazil's National Reference Laboratory confirmed that Zika was spreading within the country, the first time the disease had been locally acquired and transmitted in the Western Hemisphere. By October, cases of neurological disorders—particularly Guillain-Barré syndrome—and microcephaly were rising at an unusual rate. Because of the microcephaly in particular, Brazil declared a national public health emergency on November 11, 2015. Even so, in May 2016 the World Health Organization determined that changing the location or cancelling the Rio Games would not significantly alter Zika's spread.

Zika's history is heavily weighted toward the present. Though identified in 1947, it was not until 1952 that the first human cases were detected in Uganda and Tanzania. Twelve years later, while working on the virus, a researcher in Uganda confirmed that Zika causes human disease by contracting it himself, reporting that he suffered only mild symptoms. Over the next two decades, scientists learned that people had been exposed to the virus over a wide area of Africa and Asia, but no deaths—or even hospitalizations—were reported.

In fact, until 2007, only fourteen cases of Zika in humans had been documented worldwide. The first large Zika outbreak took place that year on Yap Island in Micronesia in the Pacific Ocean, infecting 73% of the population. Again, those infected displayed mild symptoms: fever, rash, joint pain, red eyes (conjunctivitis), headache, and muscle pain over several days to a week. The large outbreak is thought to have occurred because the islanders lacked immunity to the virus, unlike the long-exposed populations of Africa and Asia.

In 2013 and 2014, after four more outbreaks in other Pacific islands, scientists began to perceive possible links between Zika and congenital defects like microcephaly, as well as autoimmune and neurological complications. The most common of the latter was the aforementioned Guillain-Barré syndrome, a rare disorder in which the body's immune system attacks the nerves, causing loss of sensation, muscle weakness, and if left untreated, paralysis. In rare instances, it can be fatal if the muscles that control breathing or the heart are affected. The link to Zika seems to be through the dengue and chikungunya viruses, that is, those who have consecutive dengue or chikungunya and Zika infections may be predisposed to develop Guillain-Barré syndrome.

Over the last decade, researchers have also discovered that Zika can be passed to others by both sexual congress and blood transfusion. Though these findings have raised fears about the virus, the

fact remains that, on its own in otherwise healthy people, Zika is a mild illness that lingers for about a week. A person is infectious during that time, yet in about two weeks, no live virus remains in bodily fluids. He or she is then immune to subsequent infections.

The most at-risk group is pregnant women. Zika has been linked to a broad set of complications in pregnancy, including miscarriage, stillbirth, premature birth, microcephaly, and eye problems. Microcephaly (abnormally small head- and thus brain-size in newborns) has received the most attention. Due to the recent hubbub over Zika, many people believe that it alone causes microcephaly, but infections such as rubella, substance abuse during pregnancy, or genetic anomalies can also cause it. Zika causes microcephaly in a low percentage of cases and only in babies already in the womb when the mother contracts the virus (that is, it has no effect on future pregnancies).

What can be done to avoid a Zika infection? The U.S. Centers for Disease Control has advised those in affected areas to apply insect repellent, wear long-sleeved shirts, and keep doors and windows closed. It recommends that infected men not have sexual relations for a month, just in case, and practice safe sex for six months. Pregnant women should avoid travel to affected areas.

Does this sound like a disease on the same level as Ebola, also labeled “a public health emergency of international concern”? Especially in America and Canada, where only a relative handful of infections have been documented, the cautions seem a mite overwrought. Zika appears to be this year’s version of West Nile Virus, swine flu (H1N1), or avian flu (H5N1): a real illness, harmful to a thin slice of the population, hyped into a pandemic by the media. It brings to mind Jesus’ warning in Matthew 24:4: “Take heed that no one deceives you.”