

Scientists suspect virus for rise in Brazilian babies born with small heads

By Scientific American, adapted by Newsela staff on 01.12.16

Word Count **651**



Dejailson Arruda holds his daughter, Luiza, at their house in Santa Cruz do Capibaribe, Pernambuco state, Brazil, in December. Luiza was born in October with a rare condition known as microcephaly. Luiza's mother, Angelica Pereira, was infected with the Zika virus after a mosquito bite. AP/Felipe Dana

Thousands of Brazilian babies born last year have unusually small heads. Many may also have crippling brain damage.

There is no known cure for their terrible condition, which is known as microcephaly.

In 2015, Brazil reported nearly 3,000 cases of microcephaly. That is 20 times as many cases as in 2014.

Most of the cases occurred in the nation's northeast. Government officials in that region have declared a state of emergency.

Now scientists are trying hard to figure out what is going on.

No one is sure exactly what is causing the problem. Scientists do have one strong suspect, however.

Disease Spreading In Same Area As Births

They believe the cause may be a disease called Zika, which is spread by mosquitoes. Zika is now hitting the same areas in Brazil where the microcephaly cases are occurring.

Usually Zika is not a serious disease. Typically it only causes soreness and skin rashes. Zika has never been known to cause microcephaly before.

However, scientists know very little about Zika. In fact, until 2007 there were only a few cases of people infected with the disease.

Now, Zika is spreading rapidly. In May 2015, Brazil reported its first case. By December 2015, the disease had made its way into several countries in Central and South America, such as Colombia and Mexico. It even showed up on the island of Puerto Rico.

Zika is caused by the Zika virus. A virus is a germ that spreads disease. Although it is incredibly tiny, a virus is a living thing. It is able to make copies of itself and spread through the body.

Virus May Have Changed

Scientists know a virus like Zika can mutate, or change over time. Certain mutations might allow it to travel more easily from one person to another.

The fact that Zika is suddenly spreading so quickly suggests it has mutated. Scientists are trying to figure out just how it has changed.

Scott Weaver is an expert on diseases spread by mosquitoes. He believes the Zika virus has mutated over the past few years. He thinks there was some change that is allowing more of the virus to build up in any one drop of blood.

Such a mutation would allow Zika to spread more quickly. It would increase the chances of a mosquito picking up the virus after biting a person with the disease. The mosquito would then pass the disease on to another person by biting them.

Still, no one is sure Zika is causing the rise in microcephaly. To try to prove a link, scientists will look for signs of Zika within umbilical cord blood. The umbilical cord connects the mother and unborn child, or fetus. That cord is cut at birth.

Following The Antibodies

Scientists will be looking for particular antibodies within the cord blood. Human bodies produce antibodies to fight off harmful viruses and bacteria. The antibodies try to kill the viruses.

Antibodies can remain in the body long after a person has gotten over a disease. Each type is different. They are each designed to fight against a particular disease.

Scientists have a problem, however. The antibodies for Zika virus look very much like those for two other diseases, dengue and yellow fever. Both diseases are common in Brazil. For that reason, it is hard to tell if the mother of a microcephalic baby was infected with Zika or had one of those other diseases in the past.

To get around that problem, scientists will look for particular kinds of antibodies called IgM antibodies. These only remain in the body for a short time. Their presence would prove the fetus had been infected recently, and almost certainly by Zika. Fetuses are rarely infected by dengue.

If tests show Zika is causing the problem, scientists will rush to develop a Zika vaccine. A vaccine is a special medicine designed to help the body produce more antibodies.

Quiz

- 1 Read the following sentence from the article.

Now scientists are trying hard to figure out what is going on.

Which word has the SAME meaning as "figure out" in the sentence?

- (A) calculate
- (B) determine
- (C) imagine
- (D) picture

- 2 Read the sentence from the section "Disease Spreading In Same Area As Births".

Typically it only causes soreness and skin rashes.

Which word could replace "typically" WITHOUT changing the meaning of the sentence?

- (A) often
- (B) sometimes
- (C) frequently
- (D) usually

- 3 Read the paragraphs from the section "Disease Spreading In Same Area As Births".

They believe the cause may be a disease called Zika, which is spread by mosquitos. Zika is now hitting the same areas in Brazil where the microcephaly cases are occurring.

<Usually Zika is not a serious disease. Typically it only causes soreness and skin rashes. Zika has never been known to cause microcephaly before.

Which answer choice BEST describes the overall structure of the two paragraphs?

- (A) comparison
- (B) problem and solution
- (C) cause and effect
- (D) description

- 4 Which paragraph in the section "Disease Spreading In Same Area As Births" is organized by chronology?