

Rising Concern Regarding Pregnant Women and Zika Virus

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OVER THE PAST YEAR, Zika has changed from a virus known and recognized by a few to a rapidly spreading disease that is engulfing people in worry, fear, and confusion. This recent health epidemic is quickly becoming a hot topic even at our dinner tables. With Zika quickly taking center stage, many of us are left to wonder, what else do we know? And, perhaps more importantly, what *don't* we know?

What Do We Know?

The virus is spread directly through the bite of an infected mosquito or it is sexually transmitted from an infected male. Zika virus was first discovered in Uganda in 1947. The first case of the virus infecting a human was reported in 1952.¹ Many cases of the virus have since been documented, but far more have been unrecognized due to Zika's asymptomatic nature. Since 2015, there has been a rise in Zika infection in Brazil and Central America.² As Zika virus spreads, birth defects and conditions such as Guillain–Barre syndrome have noticeably increased in frequency in the corresponding regions.

The biggest cause for concern with Zika virus is in regard to pregnant women. Contracting Zika virus during pregnancy can cause birth defects such as microcephaly, a condition characterized by decreased head and brain size and frequently causes developmental delays.³ Zika virus and the possible travesties it harbors are rapidly becoming a prominent worry in the minds of pregnant women all across the globe. Due to the increase in concern across the globe and the lack of reliable diagnostic methods, the World Health Organization officially designated Zika virus a Public Health Emergency of International Concern on February 1, 2016.⁴

The symptoms of Zika virus are mild and often not conspicuously present. That being said, those who do showcase symptoms commonly experience fever, rashes, joint and muscle pain, headaches, and conjunctivitis.⁵ These symptoms are only present for a few days and are strikingly similar to those of other mosquito-borne illnesses such as dengue fever. These similarities are creating massive challenges as scientists are trying to diagnose, treat, and contain the virus.

What Don't We Know?

There is no vaccine or cure for Zika virus.⁵ The diagnostic tools available are shockingly simplistic and often unreliable.

Diagnosis currently depends solely on travel history, symptoms that are present, and virus-specific blood tests. These methods are highly problematic and can result in a false diagnosis.⁶ Zika virus can either be asymptomatic to those it infects or it can present itself with symptoms remarkably parallel to dengue fever. The current diagnostic methods are too elementary to consistently distinguish between these two conditions.

The uncertainty of these tests is causing pregnant women who fear having a baby with severe birth defects to make critical and possibly life-changing decisions based on incomplete information.⁶ This is because there is a high likelihood that the child will contract microcephaly, or other birth defects, if the mother has Zika. Dengue fever, however, does not cause these problems. Certain diagnostic blood tests have been found to provide reliable results, but only within a week of infection. This is of limited value to pregnant woman (and many other individuals seeking diagnosis) because more often than not, the 1-week period has passed before the realization that they have contracted the virus.

For pregnant women and their families, the question is a simple one: Do I have the Zika virus? Yes or no? Unfortunately, this is not as simple as it seems. Without a diagnostic tool that can produce reliable information quickly, efficiently, and in a cost-effective manner, the medical researchers and communities are in a quandary.

The Power of Collaboration in Breaking Through This Challenge

Researchers are working every day to answer all of the remaining questions regarding Zika virus. To advance understanding, the CDC quickly established the U.S. Zika Pregnancy Registry. This registry is “used to update recommendations for clinical care, to plan services for pregnant women and families affected by Zika virus, and to improve prevention of Zika virus infection during pregnancy.”⁷ The CDC has also developed Zika Active Pregnancy Surveillance System,⁸ which is used by woman living in Puerto Rico. Both of these developments are reliant on pregnant women, their families, and their caregivers being engaged. This collaboration is going to be the key to unlocking the tools we need to advance our understanding of the Zika virus.

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Community engagement and increased participation are of critical importance and integral to advances in the healthcare field. However, it is also imperative for researchers to be working together. Currently, the biotechnology firm Oxitec⁹ is working toward genetically modifying Zika-carrying mosquitoes. If this is successful, it has the potential to completely wipe out the *Aedes* species of mosquito and further protect people from Zika. The federal government is also working to help researchers and other public health officials in the battle against Zika. On May 17, 2016, Senators voted 68–29 to advance an amendment that provides \$1.1 billion in emergency funding.¹⁰ With the approaching mosquito season in mind and the fact that more than 500 cases of Zika have been reported in the continental United States, health experts must act quickly.

The fear and stress that are impacting the lives of women who are currently pregnant, of child-bearing age, or hope to become pregnant in the future are a problem that needs to be approached with tenacity and unwavering persistence until a solution is found. At the core of this pursuit is education. Community members must educate themselves on the virus, its capacities, and what can be done to increase prevention and decrease infection. Communities and individuals across the globe affected and not need to come together and speak up.

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