

Zika virus epidemic: the newest international emergency

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Infection from the Zika virus is a relatively new disease with limited publications reporting cases and research on outbreaks. It was initially described before 2007 in Africa and Asia, then later in the French Polynesia in the Pacific, and finally in the Americas, in 2015. Brazil confirmed its first case of infection from the Zika virus in March 2015⁽¹⁾ and since October 2015 it has recorded an explosive growth in the number of babies born with microcephaly and also an increase in neurological conditions, including Guillain-Barré syndrome. The strong suspicion that the infection from the Zika virus is related to these manifestations is what brought the Public Health Emergency Committee of the World Health Organization to declare on February 1st of 2016 that the spread of the virus is an emergency international public health problem, meaning that it is a serious, unexpected extraordinary event that could potentially require a coordinated international action⁽²⁻³⁾. The absence of another explanation for the dramatic increase in cases of microcephaly and the Guillain-Barré syndrome, both concentrated in areas newly infected by the Zika virus, supports the

recommendation of aggressive measures to prevent and reduce infection with the Zika virus, especially among pregnant women and those of reproductive age.

In the same document, the World Health Organization recommends monitoring cases of microcephaly and the Guillain-Barré syndrome in the areas of risk and etiological studies of these events to determine whether infection by the Zika virus is causal and if there are other risk factors associated. Measures of additional precautions are as follows:

- (i) Related to the transmission of the virus: epidemiological surveillance, vector control, protection measures, information and counseling for pregnant women and to those who wish to get pregnant.

- (ii) Long-term measures: investment in research for vaccine production, accurate diagnosis and treatment, training for caring for neurological syndromes and congenital malformations.
- (iii) Measures for travelers: counseling, disinfestation of aircrafts and airports.
- (iv) Sharing of information.

Some inquiries have been made about the magnitude of this epidemic and its association with microcephaly and neurological disorders⁽⁴⁻⁵⁾. It is reasonable to consider that there is an underreporting of microcephaly in the records of the Live Births Information System in Brazil. It is also to be expected that, after the national alert, the number of suspected cases would rise. When there is an increase or the implementation of surveillance, this always results in higher sensitivity of detection of suspected/reported cases with an increase in false positives. For these reasons, it is possible to say that part of the increase in reported cases of microcephaly may be attributable to the current intense surveillance. What is inconceivable, however, is that the prevalence of microcephaly in northeastern Brazil is 10 to 20 times higher than in other countries⁽⁶⁾. At present, there are hypotheses that the Zika virus may have an etiologic and/or pathophysiological role for these events, which is usually rare.

What seems indisputable is the gravity of the situation. Health managers cannot wait for high-level scientific evidence. Care and prudence when assessing is advisable, and the same goes for avoiding premature conclusions. However, given the potential threat, we have a duty to at least protect pregnant women and their fetuses. The current situation poses many challenges that we need to face and it seems logical that Brazil take the lead in beginning the actions. We recognize in our history both the success in the fight against yellow fever early in the last century and also our recent inefficiency in the fight against the *Aedes aegypti* mosquito to control dengue and chikungunya. It is necessary to create, renew, and strengthen our control strategies for an effective protection.

What do we have that is new to envision a better outcome? An international effort, funding for research to better fight the Zika virus, and mobilization of the population and health professionals considering the severity of the disease it causes and its consequences. Difficulties? Many, no doubt. In addition to the vector control difficulties already known in fighting dengue, other mosquitos of the genus *Aedes* circulating in Brazil can act as vectors of the Zika virus⁽⁷⁻⁸⁾, which creates new possibilities for transmitting and spreading the infection. However, the need for emergency actions is clear, at least to reduce the impact and the fear of congenital malformations in future generations.

A relentless fight against the mosquito should be the main focus of our actions and this implies in reviewing our attitudes as citizens. There is no room for mere spectators. The battle has begun and it will be a long one! It is time to act! It is time for the nation to work together! It is time to call the entire country to action!

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