

Zika virus: causality, open science and risks of emerging infectious diseases

Lead

Zika virus, carried by mosquitoes, was newly recognised as an infectious cause of congenital abnormalities during large outbreaks in the South Pacific Islands and South America from 2013-16. It is now clear that Zika virus can also be transmitted through sexual intercourse. Scientists have published nearly 3000 research papers about Zika virus infection and complications since 2015 and made important progress. However, substantial questions remain about Zika complications, the risk of sexual transmission and about how common the infection is in different populations. This project aims to answer these questions and make the results publicly available.

Content and objectives

We have three objectives. First, we will produce a web platform that uses computer technologies to search and select relevant studies. We can then continually update the evidence as 'living systematic reviews' about the risks of Zika complications. Second, we will investigate important features that will help us to understand the risk of sexual transmission in more detail. Third, we will improve our knowledge of the worldwide distribution of Zika virus infection by measuring prevalence of Zika virus antibodies in blood samples taken from different groups of people, countries and years. We will use statistical methods to estimate for how long after infection people remain immune.

Scientific and social context

This project has considerable importance for research on Zika virus infection and transmission. The objectives of this project are aligned with the research agenda of the World Health Organization and other international studies. By working within a culture of open science, our research outputs, will be publicly available. Our study methods will be able to be used for emerging infections other than Zika. We will therefore contribute to global capacity for preparing to respond to new infectious disease outbreaks.

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