

A better understanding of exotic viruses thanks to Belgian travellers

Ralph Huits (ITM) investigated chikungunya and Zika for his PhD thesis at KU Leuven

19-02-19



Dit is de omschrijving

Exotic viruses such as chikungunya and Zika can cause fever and a general malaise but may also have long-term health effects. However, much is still unknown about the spread and treatment of these diseases that also affect tropical travellers. Dr Ralph Huits from the Institute of Tropical Medicine (ITM) carried out research for years on chikungunya and Zika. Belgian travellers, particularly to Asia and Latin America, may fall prey to these viral infections, transmitted by mosquitoes. Huits'™ research shows, among other things, that the Zika virus can be detected in semen for quite a long time. On Friday 1 February he earned a doctorate from KU Leuven for his research.

The chikungunya and Zika virus are transmitted by *Aedes* mosquitoes, which are now spreading across all continents and causing major epidemics. Zika became world news in 2016, because millions of people in Latin America became infected. The virus was found to be dangerous for unborn children.

"The *Aedes* mosquito is progressing and causing outbreaks worldwide, even in southern Europe. Yet there are still many gaps in the knowledge of the behaviour of these exotic viruses, and of the symptoms associated with infection," said Dr Ralph Huits.

The widespread Latin American Zika epidemic of 2016 also showed that the virus was sexually transmitted, more particularly from man to woman. Huits and his colleagues looked for an answer to the question of how long the virus can survive in semen. With the help of molecular diagnostics, they traced the virus in the semen of 60% of male Belgian travellers with a Zika infection. They showed that it persisted in the sperm for an average three months after the first symptoms.

Long-term health problems after chikungunya

In most cases, a chikungunya infection is characterised by flu-like symptoms, a skin rash, joint pain and red eyes. These symptoms disappear after about a week. In some cases, the joint pain can persist long after the infection has gone. During an outbreak in Aruba, Huits retrospectively examined blood samples from nearly 500 patients. In a quarter of the patients, Huits found rheumatic complaints more than a year after the infection. In researching these samples, he came to a remarkable conclusion: "If a patient still had virus in the blood more than a week after the illness started, the risk increased that he or she would suffer rheumatic complaints even a year after infection."

The diagnosis of chikungunya is often missed during the outbreak itself. During Huits' research, advanced molecular technology was needed in nearly 30% of cases to make a diagnosis. Often this advanced technology is not available during an outbreak in the tropics, and the number of infections is therefore underestimated.

Link

- [Challenges in diagnosis and management of chikungunya and Zika virus infections](#) – doctoral dissertation

