

Risk of fans catching dengue fever during Olympics 'very low'

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The risk of sports fans catching dengue fever during the Rio Olympics is very low, according to a new study involving mathematicians at the University of Strathclyde.

Athletes and foreign visitors have expressed concern about catching the mosquito-borne disease this summer, as Brazil has the highest recorded number of dengue cases worldwide.

But using mathematical modelling, academics have forecast the [worst case scenario](#) would be 23 tourists bringing home [dengue fever](#), and 206 catching the illness with no symptoms.

The research was carried out by a team including academics at the University of Strathclyde, the University of São Paulo and London School of Hygiene & Tropical Medicine, led by Professor Eduardo Massad. The data was analysed by Raphael Ximenes a joint sandwich PhD student currently at the University of Strathclyde from the University of São Paulo.

Dr David Greenhalgh of Strathclyde's Department of Mathematics and Statistics, said: "The Olympics is expected to attract some 400,000 foreign visitors in addition to around 600,000 domestic supporters. As Brazil is the country with the highest number of dengue cases worldwide, concern about the risk to tourists is justifiable.

"However, tourists may take some comfort from [mathematical](#)

modelling, which suggests that even if the number of new cases in the worst month of August in history was matched, the risk to travellers is still extremely low."

Dengue fever is a viral, flu-like illness which is spread by infected mosquitoes – in Brazil most commonly the *Aedes aegypti* mosquito. The condition is widespread in areas of the world with a high mosquito population, typically within major urban centres with a warm and humid climate.

There are currently no specific medications to treat the disease, but it usually clears up by itself within 14 days. A very small number of people go on to develop severe dengue, a complication which can be life-threatening.

Mr Ximenes said: "Rio de Janeiro has been of major importance for the study of dengue, as the city has suffered a number of outbreaks. For that reason, properly quantifying the risk to foreign visitors to the Olympics is vital.

"Mathematical modelling is providing an important tool in helping public health experts predict the probability of tourists developing the disease."

The team is now looking at using similar modelling techniques to explore the future risk of the Zika virus.

Provided by University of Strathclyde, Glasgow

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