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CARNIVAL OR FOOTBALL, IS THERE A REAL RISK FOR ACQUIRING DENGUE FEVER IN BRAZIL DURING HOLIDAYS SEASONS

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ABSTRACT

About one million foreign tourists visited Brazil during the FIFA World Cup 2014. An opinion published before the event [1] stated that dengue fever could be a problem in some of the cities hosting the games. A recently published paper [2] estimated high risk of acquiring dengue during the football games in Brazil for Recife, Fortaleza and Natal. These findings were based on seasonal climate forecasts, and probabilistic predictions of dengue risk were made, with risk-level warnings for the twelve host cities. Two other papers [3, 4] stated that the expected number of cases among foreign tourists during the World Cup would be 33 in 607051, with a higher risk of infection in Fortaleza and Natal. These studies caused alarm among football fans and public health authorities, and eventually interfered with local intervention strategies. But was dengue effectively a threat during the tournament?
In [5, 6] a more careful data analysis was performed and has shown that the fans of football were not likely to get dengue during the tournament period. The data on dengue confirmed cases from 2001 to 2014 [7] is analyzed, without any assumptions on the underlying statistical distribution of the data, which better assesses the risk of infection in a certain city during a given period.

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The risk of acquiring dengue in Brazil is seasonal and increases during the rainy season, from mid September till mid May, where the vector infestation increases considerably. The density of cases becomes residual during June, July and August. For the Olympic Games, which will take place in Rio de Janeiro in August 2016, the risk of dengue infection is also negligible.
The current Brazilian vector control strategy is recommended by the World Health Organization and is executed all year long. Based on [5, 6], we can say that the intensification of dengue preventive measures in Brazil occurs during the correct period, well before the rainy season. These conclusions are of major importance for the effectiveness of the intervention measures provided by the Public Health Authorities for dengue control in Brazil, and for understanding the economic impact that wrong predictions of risk of infection could cause.

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