

Letter to the Editor

From the Rio 2016 Olympics to the Paris 2024 Olympics: Is there a risk of Dengue disease?

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The potential risks posed by large international gatherings, like the Olympic Games, underscore the presence of arboviral diseases globally transmitted by arthropods, including dengue, Zika, chikungunya, yellow fever, and West Nile infection. During the Rio 2016 Olympics in Brazil, the re-emergence of the Zika virus, despite its low incidence, posed significant challenges for event authorities, emphasizing the need for robust preparedness and response strategies in the face of emerging infectious diseases during large-scale international gatherings [1,2].

The upcoming Paris 2024 Olympic in France, scheduled to commence on July 26th and run until August 11th, are anticipated to attract millions of international visitors. In light of this, it is imperative to communicate a concern regarding the potential risk of dengue

diseases during the event. Vigilance and proactive measures are essential to safeguard the health of participants and attendees, drawing on insights from past experiences with dengue diseases during major international gatherings. The collaboration between health authorities, researchers, and event organizers is crucial in addressing and mitigating any potential public health challenges associated with dengue diseases during the Paris 2024 Olympics.

The presence of dengue vectors including *Aedes aegypti* and *Aedes albopictus* in Europe has raised considerable concern [3]. In the years 2022 and 2023, reports indicate the presence of dengue fever in Europe. Unfortunately, instances of autochthonous cases have been documented in countries such as France, Spain, and Italy. The Asian tiger mosquito

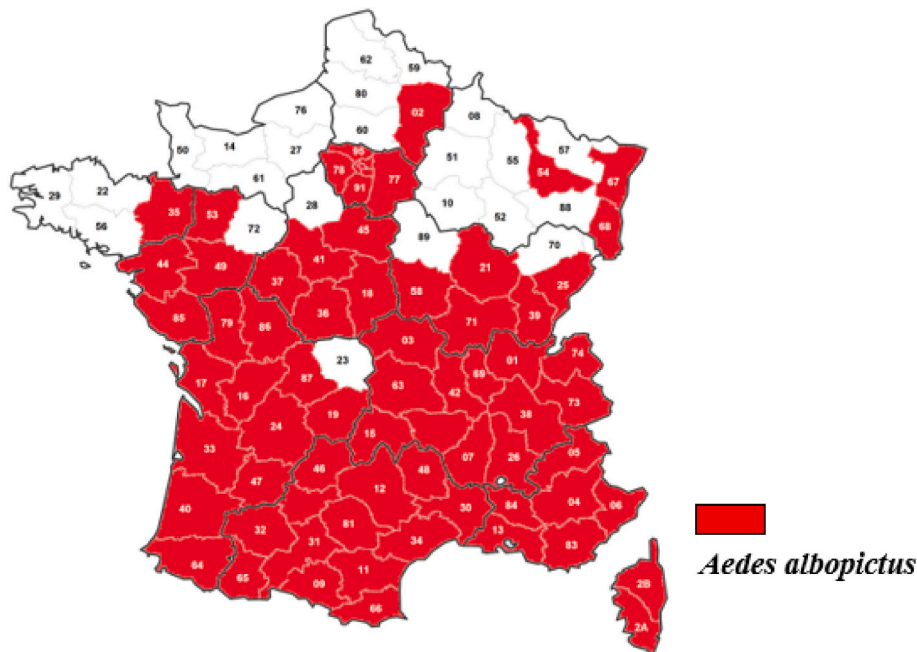


Fig. 1. The distribution of *Aedes albopictus* in France [5].

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(*Aedes albopictus*) is an invasive species that is a threat to Europe, now. Today, there is a public concern and in a study, the dengue was called in term “homegrown” in Europe [4].

France as a country in the heart of Europe has reported the vector and cases of dengue in recent years. The vector of dengue fever, *Aedes albopictus*, was initially detected in the south of France in 2004. This vector has spread northward of France over the years and has since become widely distributed throughout the country [1]. As of January 1, 2023, *Aedes albopictus* is distributed across France, with a total of 71 out of the 96 areas detecting the presence of *Aedes albopictus* (Fig. 1) [5]. Cases of autochthonous dengue fever infections have been identified in France since 2010 [6]. Dengue fever cases were reported in France in 2022 and 2023, with 65 and 43 cases, respectively [4]. Cases of dengue were identified in the vicinity of Paris [2,5].

There is limited evidence to suggest that hosting the Olympic in France in 2024 will contribute significantly to the global spread of arboviral diseases. There are numerous uncertainties surrounding the potential outbreak of arboviral diseases at the Olympic Games in France in 2024. However, neglecting preventive measures against these diseases should be deemed unacceptable, representing the minimum action that Olympic authorities should undertake. Nevertheless, the CDC and WHO continue to recommend taking appropriate personal protective precautions for all arboviral diseases to minimize risks.

In conclusion, it is recommended to implement public health measures to limit the risk of arboviral diseases during the 2024 Olympic in France. This includes educating potential travelers and visitors about the risks associated with arboviral diseases before their trip and encouraging the practice of precautionary measures. Consideration should be given to travel restrictions for individuals coming from countries where arboviral diseases are epidemic. Additionally, enhanced surveillance is essential leading up to the Olympics. Post-Olympics, countries should diligently monitor for signs of arboviral disease transmission through robust epidemiologic surveillance.

CRediT authorship contribution statement

Ismaeil Alizadeh: Writing – original draft, Visualization, Conceptualization. **Fatemeh Sadat Mousavi:** Data curation. **Maryam Faraji:** Data curation. **Milad Zandi:** Writing – review & editing, Supervision.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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