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Letter to the Editor

Global research trends of yellow fever: A bibliometric overview

Yellow fever is an acute viral hemorrhagic disease with high mortality transmitted by infected mosquitoes. It is caused by the yellow fever virus, a reemerging arbovirus, which is endemic in tropical and subtropical areas in South America and Africa. The recent outbreaks in Angola, Congo and Brazil represent a global concern due the lethality and the high risk of the spread of this disease in Latin America and Asia [1]. Although a vaccine is available for the current epidemic of yellow fever, the failure of mosquito control and the lack of healthcare financing in developing countries have favored its rapid expansion [1].

Due the changing global in many factors of the yellow fever, the analysis of the scientific output could provide valuable information for the better understanding of this disease. Therefore, we conducted a bibliometric study with the aim to characterize the worldwide scientific production related to yellow fever deposited at major multidisciplinary journal-indexing databases, PubMed/Medline and Scopus, using the following search strategy: "yellow fever OR yellow fever virus OR YFV" from 1970 till the date of August 20, 2017.

At Scopus, a total of 7322 yellow fever-associated documents were retrieved with an annual production of 159.1 publications. 34.59% of the articles were from USA, followed by France (7.41%), Brazil (7.09%) United Kingdom (6.88%) and Germany (5.01%). 21.49% of publications were published in the last five years and 4.65% in the last year. At PubMed/Medline, 4594 were found with an annual production of 99.8 documents with a peak of publications in 2016. Among these articles, the 11.38% were from USA, 3.37% from Brazil, 2.08% from United Kingdom, 1.85% from France and 1.74% from Germany (Fig. 1). The yellow fever-related publications were from 106 countries, indicating the worldwide distribution of yellow fever research and contradictory, the scientific production was higher in Western Europe countries than African countries. According to the research trends, an increase of 41% of publications is expected for 2017.

This study can be considered a complement to the study by Bundschuh et al. [2] published in 2013, where the authors retrieved the information from the Web of Science database [2]. Although

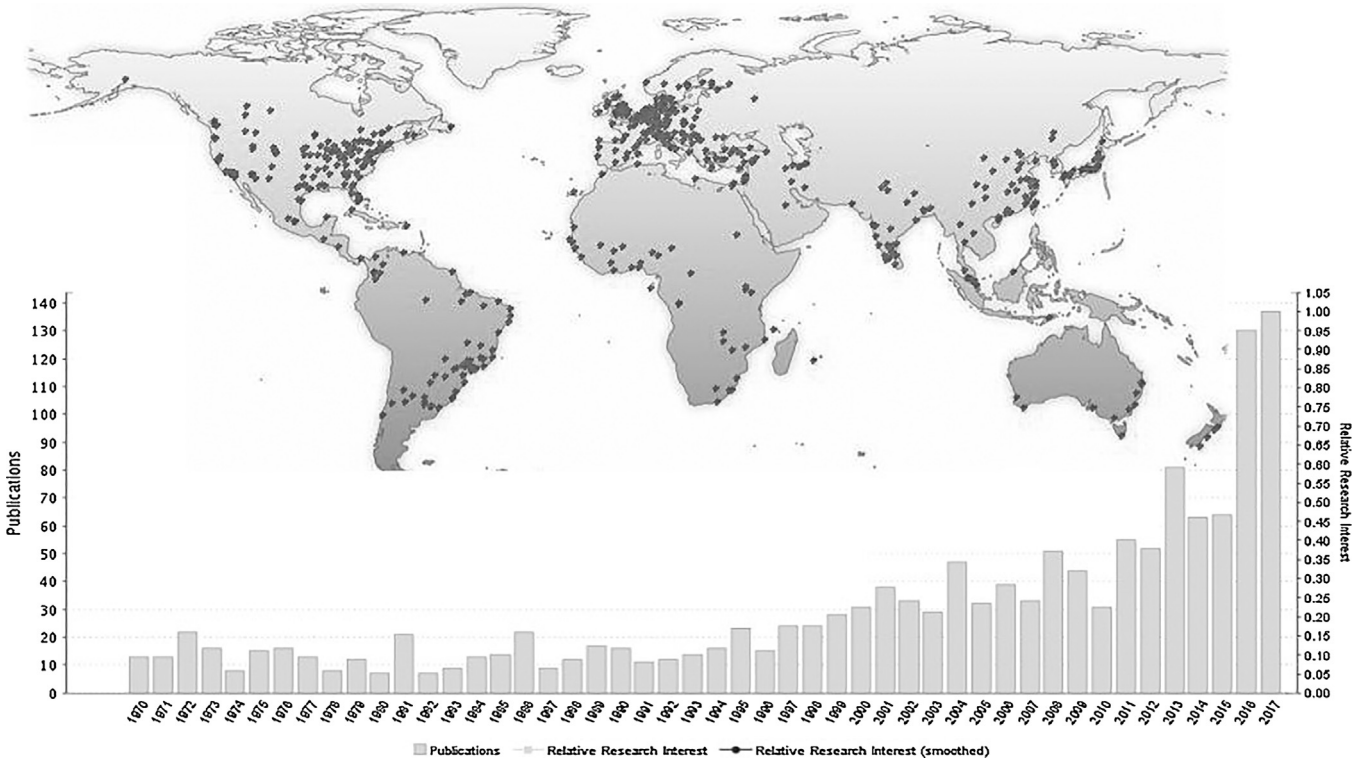

Fig. 1. Global distribution and trends in time of yellow fever research in PubMed/Medline during the studied period. (Source: GoPubMed®)

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the scientific production about yellow fever remains low, the current study showed an increase of publications in the last year, affected directly for the recent outbreaks in different parts of the globe. The USA, Brazil and the Western Europe countries were the most productive regions, comparable with the results of previous bibliometric studies in other re-emerging infectious diseases [3,4]. However, the global distribution of the yellow fever research highlights its international influence as a public health problem. The lack of scientific research in the most affected countries in addition to the recent report of low knowledge regarding yellow fever vaccination in endemic areas [5] and the spread of misinformation about this disease in social media [6] clearly demonstrate that more research and collaborative work are needed, especially at risk regions, to implement effective strategies for controlling yellow fever outbreaks, increase the vaccination coverage and reduce morbidity and mortality related with such outbreaks.

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Competing interests

None declared.

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References

[1] Ortiz-Martínez Y, Patiño-Barbosa AM, Rodriguez-Morales AJ. Yellow fever in the Americas: the growing concern about new epidemics. F1000Res 2017;6:398.
[2] Bundschuh M, Groneberg DA, Klingelhoefer D, Gerber A. Yellow fever disease: density equalizing mapping and gender analysis of international research output. Parasites Vectors 2013;6:331.
[3] Ortiz-Martinez Y. Study of the scientific production on *Hantaviruses* in Latin America and the Caribbean. Med Clin (Barc) 2017;148(12):575–6.
[4] Ortiz-Martínez Y, Vega-Useche L, Villamil-Gómez WE, Rodriguez-Morales AJ. Saint Louis Encephalitis Virus, another re-emerging arbovirus: a literature review of worldwide research. Infez Med 2017;25(1):77–9.
[5] Marlow MA, Pambasange MA, Francisco C, Receado OD, Soares MJ, Silva S, et al. Notes from the field: knowledge, attitudes, and practices regarding yellow fever vaccination among men during an outbreak—Luanda, Angola, 2016. MMWR Morb Mortal Wkly Rep 2017;66(4):117–8.
[6] Ortiz-Martinez Y, Jimenez-Arcia LF. Yellow fever outbreaks and Twitter: rumors and misinformation. Am J Infect Control 2017;45(7):816–7.

Yeimer Ortiz-Martínez*
Faculty of Health Sciences, University of Sucre, Sincelejo, Colombia

* Correspondence to: Calle 14A #15-75, Barrio Montecarlos, Magangué, Bolívar, Colombia.
E-mail addresses: Yeimer10@hotmail.com, yeimerortiz@gmail.com.

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