



The Brazilian Journal of INFECTIOUS DISEASES

www.elsevier.com/locate/bjid



Letter to the Editor

The fast transmission of infectious diseases around the world – a new concern to the public health



Dear Editor,

The high number of people traveling around the world (1,184,000,000 trips in 2015) with ~45% participation of emerging countries tourists, allied to their hostage of international sportive mass gatherings events (Fig. 1A and B), increase the potential risk for infectious diseases transmission due to emerging countries recently challenged public health systems still devoted to endemic diseases issues associated to older policy.¹

International travelers from emerging countries, like Brazil, seems to be different to most country people with distinct social status and better health, shown by travel expenditure and travel insurance claims (Fig. 1C and D), corroborating to the “healthy immigrant effect”.²

Imported infectious diseases represent a new problem for these international travelers, where we see outbreaks caused by people visiting endemic or risky areas, including developed countries, and bring back previously controlled diseases like measles and mumps in Brazil – 2014/2015.³

The infectious disease control imposed by some nations, due to increased travel, leads to rethinking public health as a larger phenomenon. The current models of border surveillance, either by entry visa, limited length of stay or mandatory travel insurance (Schengen Convention), do not seem as effective in preventing the migration of infectious diseases transported both by foreign visitors or returning travelers. As an example, the recent Zika Virus epidemic in Brazil and fast worldwide spread, possibly a large-scale pandemic, promoted a global mobilization to control and study a new emerging disease,⁴ denoting the discussion of an important topic:

infectious diseases are no longer limited to governmental borders or poor nations, they are a worldwide problem, especially the neglected ones.

Emerging countries with recently established public health systems are exquisitely exposed to new diseases outbreaks due to the recent increasing international travel, requiring more preventive measures both for border surveillance or control of their returning travelers, in a challenge for their endemic diseases dedicated systems. The full implementation of WHO's 2005 International Health Regulations, which includes the International Certificate of Vaccination and Prophylaxis, is mainly oriented to developed countries. Revision of these Regulations is required both to include this newcomer emerging systems but also vaccine-preventable diseases transferred from developed countries.⁵ Travel Insurance should be an important tool due to the possibility of travelers to receive medical treatment that would prevent bringing back infectious diseases to their home countries.

We believe that it is mandatory to create a unique global network in order to improve the notification of easily transmitted diseases and also unknown diseases, where everyone should adopt rigid protocols to provide information regarding new or current outbreaks. In addition, all data must be available for all nations, which could ultimately lead health policy makers around the world to get full access regarding all unified outbreak alerts. Probably, we could tackle H1N1, Ebola, and Zika virus epidemics more effectively and maybe researchers could gather more information to eventually help Health Authorities to prevent future epidemics, and speed up treatment of sick people.

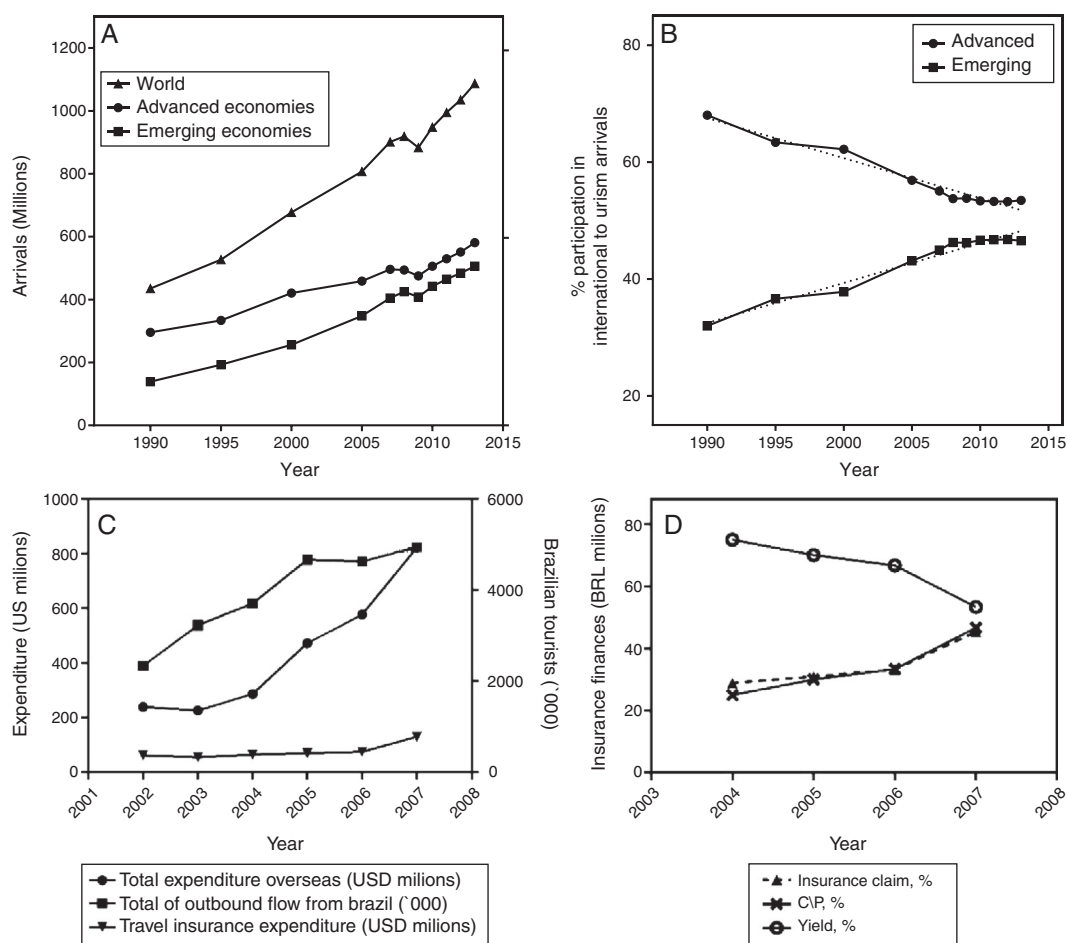


Fig. 1 – A – International tourism in the world (triangles)/advanced (dots) or emerging (squares) countries, expressed as millions of arrivals (closed symbols). B – Percentage of world arrivals from each origin. Dotted lines represent the 95% confidence interval of regression lines. *p*-Values are the comparison of slopes between regressions. C – Expenditure of Brazilian tourists abroad. D – Travel insurance indexes of Brazilian tourists abroad. Straight lines represent regression lines and correspondent interrupted lines represent the 95% confidence intervals.

Conflicts of interest

The authors declare no conflicts of interest.

Acknowledgments

The authors wish to acknowledge the assistance from Instituto de Medicina Tropical de São Paulo–USP, LIM – 49/LIM – 52–HCFMUSP, FAPESP and CAPES.

REFERENCES

- Hunter P. Tropical diseases and the poor: neglected tropical diseases are a public health problem for developing and developed countries alike. *EMBO Rep.* 2014;15:347–50.
- Kwak K. An evaluation of the healthy immigrant effect with adolescents in Canada: examinations of gender and length of residence. *Soc Sci Med.* 2016;157:87–95.
- Nali LH, da S, Fujita DM, et al. Potential measles transmission risk in mass gatherings: are we safe for the Olympic games-Rio 2016? *J Travel Med.* 2016;23.
- De Cock KM, Simone PM, Davison V, Slutsker L. The new global health. *Emerg Infect Dis.* 2013;19:1192–7.
- Steffen R, Behrens RH, Hill DR, Greenaway C, Leder K. Vaccine-preventable travel health risks: what is the evidence – what are the gaps? *J Travel Med.* 2015;1:1–12.

Dennis Minoru Fujita^{a,*}, Luiz Henrique da Silva Nali^b, Paulo Roberto Urbano^b, Débora Maringoni Soeiro^a, Heitor Franco de Andrade Jr.^a

^a Universidade de São Paulo (USP), Instituto de Medicina Tropical de São Paulo, Laboratório de Protozoologia, São Paulo, SP, Brazil

^b Universidade de São Paulo (USP), Instituto de Medicina Tropical de São Paulo, Laboratório de Virologia, São Paulo, SP, Brazil

* Corresponding author.

E-mail address: dmfujita@usp.br (D.M. Fujita).

Received 23 May 2016

Accepted 27 June 2016

Available online 26 July 2016

1413-8670/© 2016 Sociedade Brasileira de Infectologia.

Published by Elsevier Editora Ltda. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

<http://dx.doi.org/10.1016/j.bjid.2016.06.003>