



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



## Correspondence



## Effective crisis management requires close monitoring of public reactions. The case of international travelers from South-Eastern France

The COVID-19 pandemic reminds us that, in time of crisis, the effectiveness of measures taken by authorities may strongly depend on active support from the population (such as mass vaccination against influenza A H1N1, or general lockdown against COVID-19) [1]. Thus it is crucial to monitor public beliefs and attitudes toward both the epidemic and its management, as well as their evolution, especially when the crisis extends over time [2–4] (see Fig. 1).

To investigate this topic, we surveyed people presenting to our travel clinic to prepare for traveling abroad, from February 20th to March 13th 2020. At this time, international travelers were in the front line of

the COVID-19 threat, though the situation evolved dramatically during this period. 221 travelers aged 15+ answered a self-administrated questionnaire (response rate 73%). The mean age was 44 years (range 15–81 years), 53% were females, their main destinations were Africa (44%), Latin America (24%) and Asia (21%). We compared their attitudes across three consecutive weeks, after adjusting for age, sex and education.

During this period, a stable majority (65%–59%) kept on trusting information provided by the Ministry of Health, while a growing proportion stated that the media overstate the COVID-19 threat (from 35%

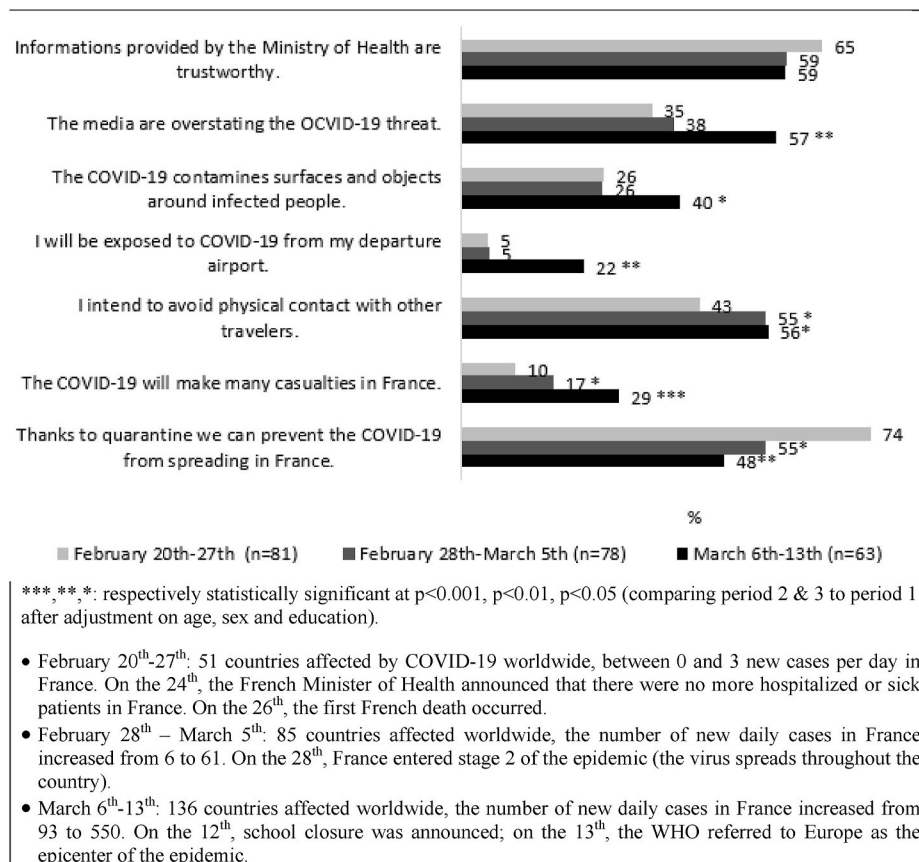


Fig. 1. Knowledge, attitudes and beliefs toward the COVID-19 among international travelers, South-Eastern France, February–March 2020.

<https://doi.org/10.1016/j.tmaid.2021.102123>

Received 21 April 2020; Accepted 11 June 2021

Available online 22 June 2021

1477-8939/© 2021 Elsevier Ltd. All rights reserved.

to 57%). Concurrently, knowledge of its transmission mode improved, as during the third week 40% of participants agreed that this virus contaminates surfaces and objects around infected people (versus 26% during the first one). Regarding travel-related risks, increasing proportions expected to be exposed to COVID-19 from their departure airport and stated that they will avoid physical contacts with other travelers. Finally, regarding the French context, the proportion of participants expecting many casualties in France trebled (from 10% to 29%), while the support for quarantine (for travelers returning from a high risk zone) waned (from 74% to 48%).

Although our results cannot be extrapolated to the French general population, they illustrate the volatility of public attitudes and beliefs in a fast-evolving situation, and their potential impact on crisis management (for example regarding trust in authorities and knowledge of transmission modes). Thus an effective crisis management requires a close monitoring of the threat, but also a close monitoring of shifting public reactions toward both the threat and its management.

We declare that we have no conflicts of interest. We thank the whole team of the International Vaccination Center of Marseille.

#### Funding source

None.

#### Declaration of competing interest

None.

#### References

- [1] Peretti-Watel P, editor. *La gestion des crises sanitaires [health crisis management]*. Paris: La documentation Française; 2010.
- [2] Kim Y, Zhong W, Jehn M, Walsh L. Public risk perceptions and preventive behaviors during the 2009 H1N1 influenza pandemic. *Disaster Med Public Health Prep* 2015;9(2):145–54.
- [3] Abramowitz S, McKun SL, Fallah M, Monger J, Tehoungue K, Omidian PA. The opposite of denial: social learning at the onset of the Ebola emergency in Liberia. *J Health Commun* 2017;22(sup1):59–65.
- [4] Raude J, MColl K, Flamand C, Apostolidis T. Understanding health behaviour changes in response to outbreaks: findings from a longitudinal study of a large epidemic of mosquito-borne disease. *Soc Sci Med* 2019;230:184–93.

Patrick Peretti-Watel\*  
 IHU Méditerranée Infection, Marseille, France  
 Aix Marseille Univ, Institut de Recherche pour le Développement (IRD),  
 Assistance Publique - Hôpitaux de Marseille (AP-HM), Service de Santé des  
 Armées (SSA), Vecteurs - Infections Tropicales et Méditerranéennes  
 (VITROME), Marseille, France  
 Southeastern Health Regional Observatory (ORS Paca), Marseille, France  
 Sébastien Cortaredona, Naomi Canard, Meriem Louni, Valérie Seror,  
 Philippe Gautret  
 IHU Méditerranée Infection, Marseille, France  
 Aix Marseille Univ, Institut de Recherche pour le Développement (IRD),  
 Assistance Publique - Hôpitaux de Marseille (AP-HM), Service de Santé des  
 Armées (SSA), Vecteurs - Infections Tropicales et Méditerranéennes  
 (VITROME), Marseille, France

\* Corresponding author. VITROME, IHU Méditerranée Infection, 19-21  
 bd Jean Moulin, 13005, Marseille, France.  
 E-mail address: [patrick.peretti-watel@inserm.fr](mailto:patrick.peretti-watel@inserm.fr) (P. Peretti-Watel).