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Bridging the gap between scientific discovery and clinical application during the COVID-19 epoch



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Dear Editor,

The severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) pandemic has led to a historic race for publication, with more than 105,000 papers having been published as of February 1, 2021 [1] “Binge-publishing” has been facilitated by the emergence of preprint platforms and hastened reviewing processes.

Instant availability of scientific data made it possible to quickly identify the virus (SARS-CoV-2) responsible for the pandemic and to determine its modes of transmission and the associated risk factors for disease severity, thereby facilitating identification of potential treatments and vaccine design. As a result and as never seen before, measures were rapidly implemented worldwide to control the spread of the pandemic. However, the immediate availability of scientific results in a field where new evidence emerges every day and where knowledge continuously evolves can render it singularly challenging to track new and relevant findings.

This pandemic is the first to be marked by the unlimited use of social media as a means of information acquisition. However, when used by persons devoid of scientific background, mass media may tend to disseminate misinformation, and to amplify “infodemics” [2].

In this context, relevant information may in some cases not stand out from unreliable, inconsistent data, as well as conspiracy theories liable to undermine the trust of the general population in health interventions and the global effort to control the pandemic. As a response to this unprecedented public health challenge, the WHO has called on member states “to develop and implement action plans to manage the infodemic by promoting the timely dissemination of accurate information based on science and evidence” [3].

As a result, several literature reviews publishing up-to-date, newly emerging evidence have been launched [4–7]. In line with this, the multidisciplinary collaborative network of French research institutions working on emerging infectious diseases known as “REACTing” undertook a weekly selection of peer-reviewed articles [8]. Breakthrough publications from various medical and scientific disciplines were selected, summarized and compiled into an easy-to-read document. However, no critical analysis of the data in these articles was performed, which meant that this overview of the literature, targeting a well-informed public, was not necessarily able to effectively counteract misinformation.

In addition, as the number of cases has surged worldwide, physicians have been confronted with more and more questions regarding operational issues, questions for which the answers tend to be drowned out by the massive flow of daily articles, or are shown through various literature reviews to be controversial.

Hence, to improve disease management, exchange of knowledge is needed between:

- clinicians finding themselves face to a wide range of COVID-19 patients demanding efficacious operational approaches;

- researchers who read and critically examine the plethora of articles on this topic.

In an attempt to bring relevant scientific advances closer to clinical application, the national mission of Operational Coordination of Biological and Epidemic Risk (*Mission Nationale COREB*) has joined forces with REACTing to release a dynamic, scientific update on COVID-19 scientific evidence. The COREB has been commissioned by the French Ministry of Health to animate the network of Emergency and Biological Risk (EBR) reference hospitals, to coordinate EBR training and education and to write operational procedures. The goal of our collaboration is to provide scientists, in the broadest sense, with accurate and scalable answers to operational questions with a public health approach and an implementation concern. To our knowledge, no comparable initiative producing tailored responses to specific operational questions on COVID-19 patients' care and treatment has been taken as of yet.

In contrast to literature reviews, we critically analyze the results of the most relevant articles addressing essential operational questions related to COVID-19, with a focus on epidemiological, virological, clinical, and therapeutic aspects, including vaccines. Updates are published when new relevant data and/or new questions are communicated, allowing us to improve our messages upon publication of new evidence. As part of this project, we organize weekly meetings during which key questions are identified and articles on these issues are selected. Experts in each field help us to choose the most relevant articles, of which the limitations and conclusions are comprehensibly expressed. An independent committee reviews our slideshow by analysing and proposing suggestions before it is posted online. Only after revision and agreement by all the authors will the slideshow be freely and widely distributed to the medical and scientific community, using various communication supports.

The slideshows are meant to effectively combat the misinformation to which caregivers or the general population may be exposed and to address to the numerous public health questions raised by this pandemic. Our rigorous translation of the scientific literature is intended to be shared with all scientists and clinicians and to help them to provide evidence for their clinical decisions. Our translation is also shared on social networks and with mainstream journalists, the objective being to focus mass media discussions and debates on the best available evidence.

In this way, collaboration between COREB and REACTing contributes to the fight against misinformation by disseminating accurate, appropriate and truthful, legitimately obtained information. In the current situation, association between researchers and clinicians is an essential means of implementing the best clinical and public health practices in the ever-evolving context of the Covid-19 pandemic. Faced to an unprecedented situation and in order to bolster the global response to infodemics, each country should promote the establishment of a bridge between clinicians in the field and researchers in their laboratories.

Authors' contributions

Boris Lacarra, Guillaume Mellon and Inmaculada Ortega Perez conceived and designed the study, wrote the first draft and reviewed and revised the manuscript.

Eric D'Ortenzion and François-Xavier Lescure reviewed and revised the manuscript for final approval.

All authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

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Disclosure of interest

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