



## Letter to the Editor

## Improvisation in times of pandemic, a reason for reflection



Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has been one of the most significant health crises worldwide in the last decades. This new pandemic has brought to light the strengths and weaknesses of current health care systems worldwide, even in countries that pride themselves on being at the forefront in terms of clinical, scientific, and technological capacity and development. Crises such as these are also opportunities to reflect and learn. Coronavirus disease 2019 (COVID-19) has provided us with several valuable lessons that involve the whole spectrum of medical practice: human, scientific, technical, and social.

First of all, solidarity remains essential. In the human aspect of our practice, this pandemic has transformed the hospital routine. In countries such as Spain, the health care system has undergone a complete transformation of its organizational structure in a matter of weeks, to provide urgent care for COVID-19 patients. Many hospitals have doubled or tripled their capacity and become monothematic centers for COVID-19. A wide variety of professionals including nurses and physicians of different departments including internal medicine, pediatrics, orthopedic surgery, among others have adapted, setting up multidisciplinary teams devoted to COVID-19, thereby demonstrating selfless altruism and professionalism, as well as versatility in the face of daunting structural limitations and scarce resources.

Another lesson of this pandemic is that, from a scientific standpoint, not everything goes. The medical practice must always be grounded in the scientific method and respect the Hippocratic principle of “primum non nocere”. Clinicians have been faced with resorting to treatments with little or no scientific evidence to back them up, often basing therapeutic decisions on “in vitro” studies or on small case series. For example, we have used lopinavir/ritonavir based on “in-vitro” studies with SARS (Chen et al., 2004), or we have generalized the use of hydroxychloroquine and azithromycin based on six patients in an uncontrolled study (Gautret et al., 2020). Follow up studies have failed to identify a clear benefit of these drugs (Cao et al., 2020; Molina et al., 2020) or have revealed toxicity. The urgency of the pandemic has prompted a weakening of robust publication criteria and peer review standards, leading to the publication of articles of questionable scientific and methodological value. Consequently, some scientific societies such as the European AIDS Clinical Society (Anon, 2020a) or the Infectious Diseases Society of America (Anon, 2020b), have recently insisted on the need to circumscribe the use of untested drugs for SARS-CoV-2 in the context of clinical trials. When this health crisis is

over, we must reflect on the need to achieve a balance between clinical urgency and due scientific process.

From a technical standpoint, we were prepared, yes, but not adequately. The unparalleled abruptness of the pandemic has overwhelmed public health and epidemiology experts, saturating health care systems at all levels, including primary care, hospitalization, and intensive care units. It has rendered them incapable of providing adequate and proportionate care, including the lack of intensive care beds.

Finally, as a consequence of globalization, we should have reacted sooner. Many countries allowed COVID-19 to become established in their territories without heeding warnings from neighboring countries, despite evidence that some strategies help stop the spread of infection. Public health agencies in many countries have reacted slowly, working as an independent unit, often skeptical of the preventive measures implemented in countries such as China and Korea (Choi and Ki, 2020). Perhaps, the focus was more centered on boasting about the strengths of the classical system of detection and containment of diseases than in assuming a new, more global epidemiological reality.

This pandemic has revealed the vulnerability of our health care systems to the appearance of new infectious agents. We have to be prepared for the future with robust but flexible healthcare systems, by providing timely scientific evidence, and always being true to the scientific method. Only then will we be prepared for a new outbreak because, as is often said in our country, “rush is not a good counselor”.

## References

- Anon. EACS & BHIVA Statement on risk of COVID-19 for people living with HIV. 2020. [Last accessed 13 April 2020] <https://www.eacsociety.org/home/covid-19-and-hiv.html>.
- Anon. Infectious Diseases Society of America Guidelines on the Treatment and Management of Patients with COVID-19 Infection. 2020. <https://www.idsociety.org/practice-guideline/covid-19-guideline-treatment-and-management/>.
- Cao B, Wang Y, Wen D, Liu W, Wang J, Fan G, et al. A trial of lopinavir-ritonavir in adults hospitalized with severe covid-19. *N Engl J Med* 2020;382(19):1787–99, doi:<http://dx.doi.org/10.1056/NEJMoa2001282>.
- Chen F, Chan KH, Jiang Y, Kao RYT, Lu HT, Fan KW, et al. In vitro susceptibility of 10 clinical isolates of SARS coronavirus to selected antiviral compounds. *J Clin Virol* 2004;31(1):69–75, doi:<http://dx.doi.org/10.1016/j.jcv.2004.03.003>.
- Choi S, Ki M. Estimating the reproductive number and the outbreak size of COVID-19 in Korea. *Epidemiol Health* 2020;42:e2020011, doi:<http://dx.doi.org/10.4178/epih.e2020011>.
- Gautret P, Lagier JC, Parola P, Hoang VT, Meddeb L, Mailhe M, et al. Hydroxychloroquine and azithromycin as a treatment of COVID-19: results of an open-label non-randomized clinical trial. *Int J Antimicrob Agents* 2020;105949, doi:<http://dx.doi.org/10.1016/j.ijantimicag.2020.105949>.
- Molina JM, Delaugerre C, Goff JL, Mela-Lima B, Ponscarne D, Goldwirt M, et al. No evidence of rapid antiviral clearance or clinical benefit with the combination of hydroxychloroquine and azithromycin in patients with severe COVID-19 infection. *Med Mal Infect* 2020;50(4):384, doi:<http://dx.doi.org/10.1016/j.medmal.2020.03.006>.

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