



EDITORIAL

What have we learnt from Covid-19 Pandemia? Looking to the future



More than two and a half years ago, the World Health Organization (WHO) declared COVID-19 a pandemic. Since then, more than six million lives worldwide have been lost to the disease, and daily life has been disrupted in countless ways. Some countries are returning to a degree of normality, although the threat of another wave of disease induced by a variant virus remains. The consequences that Covid-19 is producing over time are becoming known and documented, in addition to the effects that SARS-CoV-2 produces on the previous pathology of patients.^{1,2} We reflect on five points the world has learned through the course of the pandemic.

1. Infectious disease and economics. Economic impact: The direct health impact may not be what we remember most. The indirect effects on the health of the population, as a result of delayed care, overburdened health systems and the increased burden of mental health, are significant. Children, especially those from low-income families, suffered significant and untold damage during prolonged school closures. The economic damage and dislocation caused by the pandemic have diminished the quality of life for people around the world.^{3,4} We learn from challenges, disruption and failure.
2. The clinical presentation and outcomes of acute COVID-19 are well described. Most patients have mild disease and only a minority need hospital admission. In most cases, patients experience a complete resolution of their symptoms after 2 to 6 weeks, but a subgroup present long lasting symptoms.⁵ Post COVID-19 condition occurs in individuals with a history of probable or confirmed SARS CoV-2 infection, usually three months from the onset of COVID-19 with symptoms; these last for at least two months and cannot be explained by an alternative diagnosis.^{6,7} Some authors⁸ have proposed the following integrative classification for post-COVID symptoms: potentially infection related-symptoms (up to 4–5 weeks), acute post-COVID symptoms (from week 5 to week 12), long post-COVID symptoms (from week 12 to week 24), and persistent post-COVID symptoms (lasting more than 24 weeks). An additional clinical problem has been the effect of the Covid-19 infection on patients' pre-existing pathologies which can worsen.² Indeed, COVID-19 can affect the respiratory system in a variety of ways and across a spectrum of levels of disease severity, depending on a person's immune system, age and comorbidities.² We have learnt that a global public health effort is required to increase awareness about minimizing the burden of the comorbidity conditions that cause fatalities in COVID-19 infected peoples. The pandemic has bluntly challenged us; our response has evolved as new information and tools have become available. Emerging evidence, on topics such as the benefits of masking, the possibility of repeat infection, the risk of new variants, the difficulty of achieving herd immunity, and the benefits of boosters, has required changes in policy and behaviour.^{9,10} For example, some studies have suggested that respiratory protection and social distancing reduced by over 50% of the number and severity of COPD and bronchiectasis exacerbations and by even more the number of seasonal flu infections. Although these results should be confirmed by prospective controlled studies, it seems obvious that masking, among other protective actions, at least during the winter period could be a very cost-effective measure among susceptible patients with chronic airways diseases.¹¹ Governments, healthcare and businesses have had to weigh the benefits of incorporating new evidence into their response plans against the confusion and frustration caused by frequent change. Agility in investigation, decision-making, and strong communications have enabled the crisis to be responded to more effectively.
3. The vaccine development paradigm has been transformed. Two and a half years later, it is easy to forget how remarkable the development of COVID-19 vaccines was. Moving in just one year from a genomic sequence to the authorization of a COVID-19 vaccine shattered all previous records. In addition, biomedical science delivered multiple vaccines with high efficacy against severe COVID-19 and a strong overall safety profile.¹²

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Conversely, weaknesses in vaccine manufacturing and equitable distribution require change: there have been persistent inequalities in access, it is important to increase the global vaccine-manufacturing capacity for emergencies because it would help ensure rapid access for the greatest number of people. Low-income regions have to develop their own local capacity so that they depend less on global agreements and long supply chains. Trust is one of the most delicate but critical requirements for an effective pandemic response. In some countries there has existed vaccine scepticism and that has limited the demand. Trust is hard to manufacture during a crisis. Building confidence in specific areas (including biomedical science) can be especially important.^{13,14} Around the world, a significant part of the population declined to take the vaccine and probably that helped SARS-CoV-2 to mutate and spread.

4. Life after Covid-19 has changed. Are the same number of workers required at the present time? How many of those who currently work can do so from home? What influences has this had on companies and states? Covid-19 affected employment and the main concern now for all countries is high inflation rates.¹⁵ These are questions that at the present time are not fully answered and that will have to be resolved in the future. Two years and a half on, the facts are clear: no country kept its economy moving well without controlling the spread of the virus as well. On the other hand, and is clear that it was necessary for the schools to be closed and teaching to begin online, which proved to be “a poor substitute” for classrooms. Likewise, and especially in the first waves of the pandemic, hospitals and primary care services had to adapt to the demands of the request for services (creation of areas in primary care to segregate patients suspected or confirmed to have COVID-19, implementation of telephone consultations, identifying additional space, ensuring sufficient personnel, cancelling elective surgeries, discharging stable patients immediately, maintaining line of sight, minding the air, availability of protective equipment, use of technology to connect families, maintaining caches of supplies and diversify supply chains, ...).¹⁶
5. In the area of scientific publications, this pandemic has conditioned an urgent need to acquire and disseminate knowledge that can quickly reach all specialists and that can contribute to improving preventive and therapeutic aspects. In this rush to publish, without a doubt, “quality” has been sacrificed to “need”, with a share of “opportunity”. In the early days of the pandemic, most of the investigation research articles could be considered at risk of bias, with few studies adhering to good standards of reporting.¹⁷ Some authors have found that the majority of Covid-19 research is composed of publications without original data, high risk of bias, a limited number of patients and an alarmingly high rate of retraction.^{18,19} We need a balance between the velocity and quality of research, and to carefully consider medical information and clinical applicability in a pressing pandemic context. Publishing of research works should proceed

with rigor and this is the collective responsibility of researchers and publishers alike.

We have learned from our previous mistakes, but in a pandemic like the one we living through we have to be more supportive, justify collective action in the face of a common threat, be more proactive, we should regard COVID-19 as a training run for something that could be much worse, and organize our governance, global interactions, institutions and practices accordingly. What we must not do is to blame one another in this time of uncertainty. Until every country is safe, no country will be safe.

Author's contribution

JIG-O: writing the core content of the study and revising it critically for important intellectual content. MAM-G: critical review of the manuscript. All authors approve the current version of the manuscript.

Conflicts of interest

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