

Science, politics, history and the intriguing and persistent mysteries of pandemics

We are in the midst of yet another pandemic (Covid-19) related to a new etiological agent, namely the SARS-COV-2 coronavirus which, despite its high transmissibility, has relatively low pathogenicity. Despite the turbulence it has been causing in health systems its effects on health can be considered of medium intensity, when compared with the more lethal effects of other pandemics in the past, or with possible epidemics in the future. With these characteristics, by the end of August 2020 it had afflicted more than 23 million people and led to the death of more than 800 thousand of those infected. Its effects have had an impact not only on physical and mental health, but also on the economy and social life in general. The burden of responsibility has been placed squarely on science to find a solution. Researchers have sought to comply with these expectations, trying to understand, in real time, the pandemic, its transmission, its effects and, especially, to seek out and develop solutions. Thus far, an immense output of scientific material has been generated. Pubmed alone recorded approximately 45,000 published scientific documents, increasing at a rate of 2,000 per week. Some minor advances have been recorded in the area of medication and this is indeed a promising area. In terms of prevention, the importance of physical distancing and the use of masks is clearly acknowledged, and the race for a vaccine has been launched in the hope – albeit without any degree of certainty – that it will provide the solution for Covid-19.

On another front, most politicians (with some exceptions) are working feverishly to implement the most effective measure we have so far for controlling the pandemic, namely physical distancing. The best results are seen among those who manage to mobilize existing capabilities through effective political leadership. Governments that have efficiently coordinated political action and that use the accumulated scientific knowledge, appear to have had greater success in containing the epidemic. However, at the same time, in many nations, neoliberal policies have dragged them into fiscal austerity, with a reduction in public investments in research and development and in health systems.

Undoubtedly, science has reached a high level of development and has been able to make contributions to reveal elements of the pandemic. For example, in the last major pandemic, the 1918-19¹ Spanish Flu, physical distancing and the use of masks were advocated. However, unlike now, there were no instruments to measure and evaluate the effectiveness of the adoption of same. Nevertheless, in recent years, in parallel with the development of science and scientific knowledge, there has been a growing movement of negationism of this acquired knowledge. Undisputed scientific advances, which have had an immense impact on the health of populations, such as vaccines, are being abandoned, to the point of jeopardizing the stage of disease control, such as measles! The effectiveness of drugs, which has always been attested by researchers, after laborious testing, is now surprisingly being refuted by these same negationists, who are often in important political positions.

All of this has been happening with surprising speed and caused us immense perplexity². How, in the early 21st century, can we still be witnessing a devastating pandemic with limited resources to control it? How can we allow part of the scientific effort to be undermined by an influential convergence of the political right wing with scientific negationism? There is no doubt that these and many other issues will be at the center of scientific and political debates for the coming months, years and possibly decades. However, for us researchers in the health field, in order to contribute to the basis of our investigations, it is relevant to highlight some aspects that have been redeemed from the stimulating historiography on pandemics, epidemics and infectious diseases in general:

1. The decline of infectious diseases, which began in the late 19th century, and the technologies for their treatment and control developed in the 20th century, motivated the ‘belief’ that they would disappear. However, to a great extent as a consequence of human interventions in the natural and social environment, they not only re-emerge at the end of the century, but also reinvigorate their pandemic potential³.

2. There are arguments to the effect that infectious diseases and their epidemic and pandemic manifestations have played a role comparable to economic and military determinants in shaping the historical trajectory of human societies⁴.

3. Epidemics and pandemics are perceived and responded to in relation to the intellectual context of their time, but they also shape the social, political and theological thinking prevailing in the subsequent years⁵.

4. Public health responses to epidemics and pandemics, at each time and place, reflect not only the prevailing theories and knowledge that explain these phenomena, but also reveal the more or less authoritarian and interventionist character of the State and the political orientations of its leaders⁶⁻⁸.

At a time when social inequalities are on the increase⁹, in which climate change is accelerating¹⁰ and, in parallel with the expansion of scientific knowledge, the negation of science emerges, strengthened by the emergence of the far right in the political field¹¹, our reflections on the pandemic need to be reviewed and updated, such that the questions, mysteries and perplexities that afflict us and have persisted throughout the ages can be answered: How do they arise? When will they disappear? When will the next one appear?

Mauricio L. Barreto (<https://orcid.org/0000-0002-0215-4930>)¹

¹ *Centro de Integração de Dados e Conhecimentos para Saúde, Fiocruz. Salvador BA Brasil.*

References

1. Barry JM. *The Great Influenza: The Epic Story of the Deadliest Plague in History*. New York: Viking; 2004
2. Rodhain F, Saluzzo JF. *Grippe, rage, méningite, sras... le mystère des épidémies*. Paris: Éd. Pasteur; 2005.
3. Institute of Medicine. *Emerging infections: microbial threats to health in the United States*. Washington: National Academy Press; 1992.
4. McNeill WH. *Plagues and peoples*. New York: Doubleday; 1977.
5. Ranger T, Slack P, editors. *Epidemics and ideas: essays on the historical perception of pestilences*. Cambridge: Cambridge University Press; 1995
6. Baldwin P. *Contagion and the state in Europe 1830-1930*. Cambridge: Cambridge University Press; 1999.
7. Watts S. *Epidemics and history: disease, power and imperialism*. New Haven: Yale University Press; 1997
8. Evans RJ. *Death in Hamburg: Society and politics in the cholera years 1830-1910*. Oxford: Clarendon Press; 1987
9. Barreto ML. Health inequalities: a global perspective. *Cien Saude Colet* 2017; 22(7):2097-2108
10. Watts N, Adger WN, Ayeb-Karlsson S, Bai Y, Byass P, Campbell-Lendrum D, Colbourn T, Cox P, Davies M, Depledge M, Depoux A, Dominguez-Salas P, Drummond P, Ekins P, Flahault A, Grace D, Graham H, Haines A, Hamilton I, Johnson A, Kelman I, Kovats S, Liang L, Lott M, Lowe R, Luo Y, Mace G, Maslin M, Morrissey K, Murray K, Neville T, Nilsson M, Oreszczyn T, Parthemore C, Pencheon D, Robinson E, Schütte S, Shumake-Guillemot J, Vineis P, Wilkinson P, Wheeler N, Xu B, Yang J, Yin Y, Yu C, Gong P, Montgomery H, Costello A. The Lancet Countdown: tracking progress on health and climate change. *Lancet* 2017; 389(10074):1151-1164.
11. Specter M. *Denialism: How irrational thinking harms the Planet and threatens our lives*. New York: Penguin Press; 2009.