



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.



The Brazilian Scientific Denialism Through *The American Journal of Medicine*

Misinformation about the coronavirus disease 2019 (COVID-19) pandemic is widespread on social networks in Brazil. Many doctors, journalists, members of the Ministry of Health, and President Jair Bolsonaro spread conspiracy theories on social media that attribute obscure origins of the disease, unproven risks related to vaccines celebrated and desired around the world,^{1,2} and even promoting prescribing medications without scientific proof,³ all without any concern about the consequences of these disclosures.

To my surprise, the name of this journal and the organization it represents have been involved in this kind of anti-scientific movement. From various social network sources, I received a video of a Brazilian journalist who vehemently defends the use of drugs without scientific proof, announcing that science has bowed to his and the Brazilian President's prescription, using the name of this journal to validate itself. He says that an article published early in 2021 endorses this thesis. Meanwhile, I received a series of challenging posts from supporters of the Brazilian president and other deniers, exalting that science has bowed to the Bolsonaro speech from a scientific article.

In a new and unpleasant surprise, I looked for data from this article on the official website of the Brazilian Ministry of Health, and there were more forceful references to this supposed publication.* I transcribed in full the words of the page:

*“The renowned **The American Journal of Medicine**, the official journal of the Alliance for Academic Internal Medicine, brings in its first edition of 2021 a study that proves the effectiveness of early treatment in the evolution of COVID-19. The publication states that, through preventive*

medicine and early treatment, it is possible to avoid the worsening of the patients' clinical picture and decrease the number of hospital admissions, as well as the evolution of patients to ICU. The article of this Friday (01) reinforces the importance of early treatment, defended by the Federal Government, as a recommendation in the fight against the coronavirus. The instruction published as a scientific article cites the success in combining antivirals and vitamins, including zinc, azithromycin, and hydroxychloroquine, widely used in the Federal Government's protocol to fight the pandemic.”

In fact, the article is there but it was not published on the day indicated; the edition is from January 2021⁴ but was published in August 2020, when the reality about this supposed early treatment was completely different. The reality today is another, and several treatments pointed out in the article proved ineffective. For example, the use of hydroxychloroquine has no effect in the treatment of COVID-19, and its initial and fierce defender, the French doctor and microbiologist Didier Raoult, admitted so in January 2021. Contrary to the Brazilian government's policy and the example of Bolsonaro's attitudes and speech, the article advocates hygiene and social distancing as important ways to confront the pandemic. It is important to highlight that this form of treatment indicated in the article (eg, vitamins, zinc, azithromycin, hydroxychloroquine) was not recommended by the World Health Organization (WHO), and by the country's main health agencies through medical societies, especially those of infectious diseases. Based on this knowledge, no country determined this protocol as principle for the treatment of COVID-19, except Brazil and the followers of Bolsonaro, including the Ministry of Health and some thousands of doctors. The question remains: Are all the other countries wrong and only Brazil has adopted the right path? The numbers show that it is exactly the opposite. Finally, it is important to highlight the seriousness of this kind of misinformation when it comes from official organizations and reaches a country's population, especially when it has a supposed basis in the academic environment. It is necessary to reflect the potential influence in changing preventive behaviors that put at risk the consecrated measures to confront COVID-19.⁵

Funding: None.

Conflicts of Interest: None.

Authorship: The author is solely responsible for the content of this manuscript.

Requests for reprints should be addressed to Hesley Machado Silva, University Center of Formiga-MG, Arnaldo de Senna avenue, 329, Formiga, Minas Gerais, Brazil, 35.680-000.

E-mail address: hesley@unifmg.edu.br

* Available at: <https://www.gov.br/saude/pt-br/assuntos/noticias/the-american-journal-of-medicine-defende-tratamento-preventivo-para-covid>.

Accessed January 15, 2021.

The Ministry of Health's website praises the Brazilian government for always recommending this type of treatment to the detriment of all prevention protocols established worldwide by the WHO and science.⁶ They also boast that, in the words of the website itself: "Brazil is the world leader in the number of patients recovered from COVID-19, and this factor is the result of the actions of the Ministry of Health in response to the pandemic." Then the Brazilian Minister of Health exalts these Brazilian numbers with his erratic actions and talks about the pandemic, forgetting that Brazil is second in the number of deaths worldwide.⁷ Ironically, the minister celebrates his performance and that of his government, while his ineptitude regarding the production, purchase, and distribution of vaccines becomes evident, amid a severe worsening in the number of deaths and cases in the pandemic early in 2021.⁸

The use of an international scientific journal to celebrate the numerous failures occurs amid possibly the most dramatic moment of the COVID-19 pandemic in Brazil. The numbers are so bad, but the Bolsonaro government says the pandemic is at an end and that it does not care about the disease⁹ or the vaccine, among other unbelievable statements. In a sad and tragic coincidence, in the same week, terrifying images and news in the media detail the tragic situation in the state of Amazonas. In that state capital, Manaus, people with COVID-19 are dying from a lack of oxygen cylinders, demonstrating total incompetence in the Brazilian government's handling of the health crisis.

Maybe I am being unfair. Perhaps it is not incompetence of the Bolsonaro government; I suspect it may be actual competence. Since the beginning of the pandemic, the president and his entourage of fanatical followers suggest that nobody should do social distancing, that people should continue with normal life, that those who do not face the disease are cowards, that we should seek herd immunity,¹⁰ that (believe me) the best vaccine for the disease is the virus itself, and that people will really die, but that is life.

Brazil does not have a reasonable plan for beginning vaccinations,¹¹ or for the acquisition of vaccines and syringes, whereas the rest of the world has already started immunization campaigns. It makes sense within this tragic logic. This citation of the scientific article and its disclosure on the government website and its followers' disclosure, whether journalists or just ideological followers, promotes a false sense of security and pride in the population regarding the disease.

Indeed, there would be no reason to fear for the deniers officially represented by the Brazilian government; there would already be cure and treatment unknown to the rest of the planet. Putting this plan into practice with no regard for ethics and involving a scientific journal means nothing to those who have contempt for science. So everyone can go out without a mask like the president does, spend time with others like he does, and go back to work and school, anticipating the death of the elderly and the weakest, which is "expected," and, of course, with dark and autocratic objectives achieved.

Hesley Machado Silva, PhD
University Center of Formiga-MG,
Formiga, Minas Gerais, Brazil

References

1. Yamey G, Schäferhoff M, Hatchett R, Pate M, Zhao F, McDade KK. Ensuring global access to COVID-19 vaccines. *Lancet* 2020;395(10234):1405–6. [https://doi.org/10.1016/S0140-6736\(20\)30763-7](https://doi.org/10.1016/S0140-6736(20)30763-7).
2. Lurie N, Saville M, Hatchett R, Halton J. Developing COVID-19 vaccines at pandemic speed. *N Engl J Med* 2020;382(21):1969–73. <https://doi.org/10.1056/NEJMp2005630>.
3. Silva HM. Medicines and illusions in the fight against COVID-19 in Brazil. *Ethics Med Public Heal* 2021;16:100622. <https://doi.org/10.1016/j.jemep.2020.100622>.
4. McCullough PA, Kelly RJ, Ruocco G, et al. Pathophysiological basis and rationale for early outpatient treatment of SARS-CoV-2 (COVID-19) infection. *Am J Med* 2021;134(1):16–22. <https://doi.org/10.1016/j.amjmed.2020.07.003>.
5. Xiao Y, Torok ME. Taking the right measures to control COVID-19. *Lancet Infect Dis* 2020;20(5):523–4. [https://doi.org/10.1016/S1473-3099\(20\)30152-3](https://doi.org/10.1016/S1473-3099(20)30152-3).
6. Bedford J, Enria D, Giesecke J, et al. COVID-19: towards controlling of a pandemic. *Lancet* 2020;395(10229):1015–8.
7. Carvalho TA, Boschiero MN, Marson FAL. COVID-19 in Brazil: 150,000 deaths and the Brazilian underreporting. *Diagn Microbiol Infect Dis* 2020;99(3):115258. <https://doi.org/10.1016/j.diagmicrobio.2020.115258>.
8. Cimerman S, Chebabo A, da Cunha CA, Rodríguez-Morales AJ. Deep impact of COVID-19 in the healthcare of Latin America: the case of Brazil. *Braz J Infect Dis* 2020;24(2):93–5. <https://doi.org/10.1016/j.bjid.2020.04.005>.
9. COVID-19 in Brazil: "so what?". *Lancet* 2020;395(10235):1461. [https://doi.org/10.1016/S0140-6736\(20\)31095-3](https://doi.org/10.1016/S0140-6736(20)31095-3).
10. Fontanet A, Cauchemez S. COVID-19 herd immunity: where are we? *Nat Rev Immunol* 2020;20(10):583–4. <https://doi.org/10.1038/s41577-020-00451-5>.
11. Ernesto Londoño; Manuela Andreoni; Leticia Casado. Chaotic vaccine plan 'playing with lives' in brazil. New York Times. Available at: <https://www.nytimes.com/2020/12/14/world/americas/brazil-coronavirus-vaccine.html>. Accessed January 15, 2021.