



The COVID-19 pandemic and shortcomings in management approach on a population level

The COVID-19 pandemic has required an urgent, decisive and coordinated response from governments worldwide. According to the World Health Organization (WHO), a response plan for COVID-19 should center on measures to reduce exposure of the population to the virus and curb its transmission; to manage and care for cases, particularly those who are more vulnerable to developing severe forms of the disease; to prevent overwhelming of healthcare systems; and to reduce economic and social impacts¹.

As an initial response, in the absence of a vaccine or treatment available, countries with different political contexts implemented measures for isolating confirmed cases and individuals who had close contact with infected persons, mass testing, and tracing of cases. In Brazil, the first recorded case of COVID-19 was on 26th February 2020, where this was followed by an exponential growth in the number of cases and deaths. However, the management of the pandemic has been marked by delays and failures fueled by denialism and lack of coordination among the 3 levels (Federal, State/District and Municipal) of the National Health System (SUS), having dire implications for a country of continental proportions with major inequalities.

In fact, in order for coordinated actions by public authorities to be effective, the situation peculiar to each state must be taken into account when devising tailored containment measures. A recent study² applied an epidemiologic model to 5 Brazilian states to investigate the consequences of lack of coordination between Federal and State levels in the devising of measures for containing COVID-19. The results showed that, in a scenario of adoption of COVID-19 containment policies that failed to take into account state peculiarities, quarantines were more lax, yet longer, and associated with higher cumulative deaths, particularly in outlier states whose characteristics differed from national norms.

Since the outset of the pandemic, the underplaying by the chief of executive leadership of the seriousness of the pandemic and the undermining of scientific recommendations has been constant. With statements undermining mask-wearing and social distancing, together with the promotion of ethically, epidemiologically and scientifically unsound measures, such as vertical isolation, Brazil's leadership has opposed the efforts of the technical panels of the MoH and a number of governors, fostering a political discourse that proved deleterious in the management of the health crisis³.

The lack of clear guidelines on a national level for tracing cases, coupled with difficulties in implementing strategic testing, has hampered the identification of the true number of cases in the different regions. Against this backdrop, there were planning failures in procurement of supplies, low testing of asymptomatic persons, fragmented distribution of tests and inconsistencies in compiling records of tests performed in Brazil.

Beyond testing, in face of the thousands of SARS-CoV-2 variants worldwide, it is vital to expand the tracking of the most transmissible and severe mutations. Monitoring the way the virus is evolving is paramount for the development of accurate diagnostic tests, treatments and vaccines.

According to genomic data from the international GISAID platform (*Global Initiative on Sharing All Influenza Data*; <https://www.gisaid.org/phylogenetics/brazil/>), less than 0.1% of positive cases in Brazil had their genome collected and sequenced during the period spanning from February 2020 to June 2021⁴. In this respect, in 2021, a proposed action strategy for the Health Surveillance Secretariat (SVS) of the MoH was announced aimed at boosting genome surveillance of SARS-CoV-2 in Brazil⁵. A shift in the national scenario with regard to mapping the pandemic and allowing swift identification of the variants circulating in the country, and their distribution, could more effectively guide public policies.

Another example illustrating the denialist strategies comprising Brazil's response to the pandemic is the promotion of pharmacological treatments against COVID-19 without proven efficacy, such as the use of chloroquine/hydroxychloroquine in association with Azithromycin, Ivermectin, Nitazoxanide and vitamin supplements. Although, to date, there is no solid evidence supporting the prophylactic or therapeutic use of these medications, their use was encouraged by the Brazilian government for treating the disease in its early stages. A cocktail containing different combinations of the drugs outlined above, referred to as a "Covid-Kit", was made available at government Basic Health Clinics of some Brazilian cities. To much consternation, the possibility of distributing the cocktail via pharmacies affiliated under the national Popular Pharmacy Program had also been mooted⁶.

The use of drugs with unproven efficacy exacerbates the pandemic on several fronts, including the risk of serious adverse events, inherent delay in seeking medical attention, and huge waste of public money which could have been better invested. Other consequences include increased self-medicating and future emergence of antibiotic-resistant strains, particularly in the case of Azithromycin, owing to its indiscriminate use.

The treatment of COVID-19, together with its prevention and diagnosis, has driven the *infodemic* which has propagated globally throughout the pandemic. The glut of information on COVID-19, particularly false or inaccurate information, has hampered effective health communication and had a major social impact. A study conducted in England showed that a high level of conspiracy thinking about the coronavirus was associated with less adherence to government guidelines and less willingness to take diagnostic tests or be vaccinated⁷.

Thus, developing evidence-based strategies to mitigate misinformation is crucial. Such strategies should center on information monitoring, building eHealth Literacy and science literacy capacity, improving the quality of information, and accurate knowledge translation⁸, besides greater transparency and integrity of studies, more specifically those related to COVID-19. In Brazil, despite growing public attention to the issue, initiatives fighting the infodemic have been weak, with limitations concerning scant investment in communication, sidelining of science, and unequal access to information.

With the pandemic paradigm of the development of vaccines for COVID-19, misinformation discourse remains strong, but now vaccination has become the target. Social media networks are awash with sensationalist fake news about supposed dangers of the vaccine, ranging from false adverse effects post-vaccination to conspiracy theories over the use of vaccination to implant people with chips. These anti-scientific narratives, often supported by public authorities, erode public confidence in the efficacy and safety of vaccines.

With regard to vaccination for COVID-19, Brazil's trajectory has also involved failures in planning ahead for purchase of vaccines, diplomatic issues, shortage of essential supplies and exacerbation of political disputes. All of these shortcomings culminated in delays in mounting the national vaccination campaign, which commenced only on 18th January 2021, while many countries had launched programs back in 2020.

Despite this slow start, Brazil has made advances in the vaccine roll-out. In the first quarter of 2021, evidence indicates an association between vaccination and a relative material decline in mortality of older adults compared to younger individuals⁹.

In Israel, where the pace of vaccination has been rapid, data have been encouraging, highlighting the importance of this strategy in tackling COVID-19. The country began applying vaccines to its population in mid-December 2020 and, by 24 February, 85% of over 60s had received both shots of the Pfizer-BioNTech vaccine schedule, with a sharp drop in the number of cases and hospital admissions related to the disease¹⁰.

Almost one and half years after the first cases and deaths due to COVID-19, around 500 cases of the delta variant have been registered in Brazil. The country has not learned from past mistakes and is ill-prepared for the looming wave of variants. We are witnessing the same “modus operandi” of the pandemic and the impact that the introduction of this “new” variant is having on the Epidemiology of the disease which, by all accounts, appeared to be largely under control in many countries able to contain the number of cases and deaths in 2020. The lessons seem clear, yet the way we are learning them appears to be in stark contrast with what is truly required to combat this “new Spanish flu”.

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