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LETTER TO THE EDITOR

Vaccines such as the MMR (Measles-Mumps-Rubella) against COVID-19 in Brazil: a missed chance?

ANTONIO ARAÚJO, LILIANE LINS-KUSTERER & EDUARDO NETTO

On 19 June 2020 a publication in *mBio*, by the American Society for Microbiology, suggested that the (Measles, Mumps and Rubella) MMR and polio vaccines could activate non-specific defence cells of the innate immune system, even against the current coronavirus. In addition, the polio and MMR vaccines have been associated with reduced mortality from influenza (Fidel & Noverr 2020). The use of the MMR vaccine against COVID-19 would be justified due to its potential for efficacy in adults (Kolla et al. 2022, Taheri Soodejani et al. 2021, Chumakov et al. 2021, Gold 2020). In this context, evidence of a reduced risk of COVID-19 in adults by using the flu vaccine has been reported by Tayar et al. (2022).

In July 2020 a Brazilian clinical trial began to test the effectiveness of the MMR vaccine in reducing the severity of COVID-19 at the Teaching Hospital of the Federal University of Santa Catarina (Fedrizzi 2021). A short time later, in January 2021, a technical note was published, showing a 54% reduction in the chance of symptomatic COVID-19 and a 74% reduction in the chance of hospitalisation (FAPESC 2021). In September 2021 these preliminary outcomes were updated: 'Participants in the MMR group, compared with those in the placebo group, had a 48% risk reduction in symptomatic COVID-19 (RR = 0.52; 95% CI: 0.33 – 0.83; p = 0.004) and a 76% risk reduction in COVID-19 treatment (RR = 0.24; 95% CI: 0.06 – 0.88; p = 0.020) with one dose, and a 51% risk reduction in COVID-19 symptoms (RR = 0.49; 95% CI: 0.31 – 0.78; p = 0.001) and a 78% risk reduction in COVID-19 treatment (RR = 0.22; 95% CI: 0.06 – 0.82; p = 0.015) with two doses' (Fedrizzi et al. 2021).

On 01 February 2021, the month following the release of that same technical note (FAPESC 2021), Brazil reached the number of 1.4 million people aged ≥ 20 and ≤ 59 years old vaccinated against COVID-19, out of an estimated 107 million. However, from October 2020 to May 2021, a period in which Brazil experienced its peak in deaths from COVID-19 (Brazil 2022), the Brazilian Federal Government, mainly through the Ministry of Health, prescribed 'early treatment' anchored in (hydroxy)chloroquine. In the fight against the current pandemic this measure was maintained even after several clinical trials had demonstrated the ineffectiveness of 'early treatment' in preventing infection or inhibiting severe symptoms of COVID-19, while increasing side effects.

Therefore, more resources (direct and large-scale investment, through public funding grants) were not allocated to promising initiatives, such as those coordinated by Fedrizzi (2021), which illustrates the possible loss of a therapeutic opportunity. This immoral fact contradicts Article 196 of the Brazilian Constitution by not fully striving to 'reduce the risk' of an infectious disease pandemic (Brazil 1988). The Brazilian society's poor support for studies capable of evaluating the MMR or influenza vaccines as possible protective factors against COVID-19 may have caused, within the margins of the Federal Constitution of Brazil, a deficit of effectiveness in public management and epidemiological control of the current pandemic, thus preventing a decrease in the corresponding hospital admissions.

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