

Vaccines for COVID-19 – Can we avoid living again in a ghost town?

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Received: March 2021; Accepted: March 2021; Published: March 2021.

Over the last year, the pandemic of Coronavirus Disease 2019 (COVID-19), caused by the Severe Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), have caused considerable havoc on society (1). Indeed, this has been a chronicle of an announced zoonosis (2,3). Its impact has been even deeper in developing countries (4,5), such as Colombia (6,7,8). So far, up to March 9, 2021, the world has recorded 117.5 million cases of COVID-19, with 2.6 million deaths (2.22%). Colombia is included in the Top 20 countries with the highest number of cases (2.282.372) and the Top 20 deaths globally (60.676).

Despite the relative number of cases evolving to severe and fatal outcomes, given the pandemic's magnitude, its clinical significance is so relevant, as this emerging disease affects disproportionately people above 60 years old and with risk factors, especially under poverty. Among them are concentrated severe and fatal cases.

For all these reasons, since the beginning of the pandemic, more than a year ago, it was understood the urgent need for efficacious and effective treatments and vaccines (9,10). Fortunately, on this stone road, the rapid development of a plethora of COVID-19 vaccine candidates paved the way for the hopes of pandemic control (11). Twenty-one vaccines reached phase 3 trials, with six of them authorized, under early or limited use, and six approved by international regulatory agencies, such as FDA and EMA. Even more, 30 are on track at phase 2 and 42 on phase 1, not mentioning dozens or hundreds of additional preclinical candidates under study (11).

Among them, vaccines developed and produced by Pfizer-Biontech, Gamaleya, Oxford-AstraZeneca, Sinopharm and Sinovac, are currently deployed in their first lots of doses in Latin America, with the hope to reach sooner than later, a significant population coverage. All these vaccines are significantly efficacious (study under up to phase 3 trials, controlled). However, some of them are recently showing are effective (real world), as is the Pfizer-Biontech BNT162b2 COVID-19 vaccine. This vaccine, massively applied in Israel, showed that it is effective for a wide range of COVID-19-related outcomes, a finding consistent with that of the randomized trials (12,13,14). Nevertheless, Colombia is not Israel. And so far, our vaccination plan in this South American country have started late and slow.

How to cite (Vancouver).

Rodríguez-Morales A, Máttar S, González TM. Vaccines for COVID-19 – Can we avoid living again in a ghost town?. Rev MVZ Córdoba. 2021; 26(2):e2350. <https://doi.org/10.21897/rmvz.2350>



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In Colombia, just more than 315,000 doses have been applied up to March 9, 2021, of the Pfizer-Biontech and Sinovac COVID-19 vaccines. The number of daily vaccines has not reached more than 34.000 doses per day (Figure 1). At this rhythm, it will take 1,530 days to vaccinate the whole population of Colombia (51 million people), probably in April 2025. Everybody is concerned and expecting to increase the number of people vaccinated daily in the country by at least between 100.000 and 150.000 per day to reach the goal in less than a year. That represents a complex challenge but a major priority for the nation and its public health.

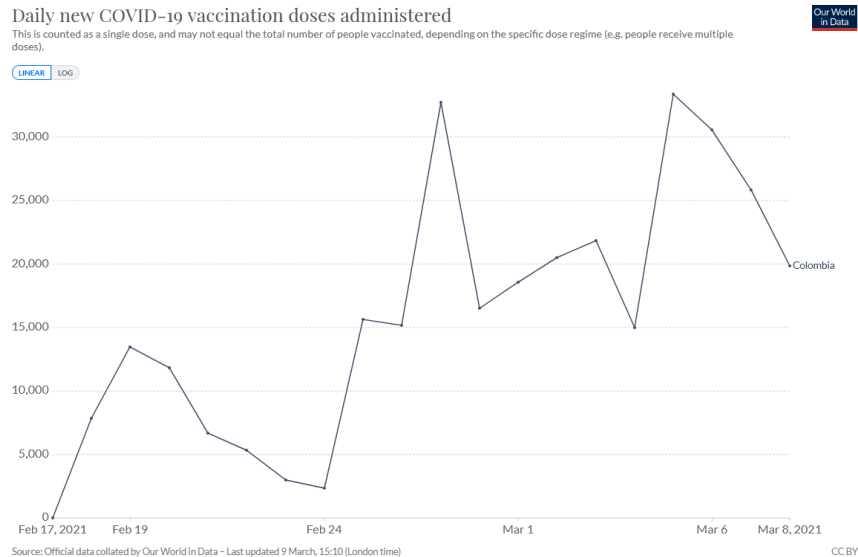


Figure 1. Daily new COVID-19 vaccination doses administered in Colombia up to March 8, 2021.

Beyond that, multiple experts in the field question if, with COVID-19 vaccines, can we avoid living again in a ghost town? In the worst moments of this pandemic, “we all got locked down”, as the famous British rock n’roll band formed in London (United Kingdom) in 1962, Rolling Stones®, referenced the COVID-19 pandemic and was released in April 2020 amid the first waves of disease. The year 2021 is considered a transition one. However, the real control of the pandemic relies not only on the efficacy and effectiveness of the COVID-19 vaccines and good national vaccination plans but also in keeping the biosafety and related measures under strict compliance, as well as to educate and disseminate correctly information related to the relevance and role of the COVID-19 vaccines in this scenario. Many questions still need to be answered in detail by science. How long will last the immunity from natural infection, from vaccines, will be necessary to revaccinate people in a year, as happens with seasonal influenza. How vaccines are affected by the new variants of concern of the SARS-CoV-2, such as the P.1, already present in Colombia, at Leticia, Amazonas? or other circulating in United Kingdom, South Africa, and many other countries? (15, 16). No one wants to live again in a “ghost town” under quarantine, isolation or lockdown, but the future depends on us. We hope science triumphs again, as it was done with many other epidemic and pandemic diseases defeated by humankind in our long history on earth, like polio, measles, rubella, plague, among many others.

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