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# IMPACT OF COVID-19 ON BRAZIL

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## ABSTRACT

Virus is one the most interesting creature of nature; some are beneficial and showed a symbiotic relationship with the host, although others are used to treat genetic diseases or serve as vaccines. From the past viral infection, SARS and MERS significantly influenced the humanity in the year 2002 and 2012 respectively. Now a day's a new viral infection COVID 19 caused by novel corona virus, SARS-CoV-2 greatly influenced the humanity globally and till now around 3.12 M cases of infection with 217 K deaths were reported worldwide as on 27 April 2020. However, we are well equipped and having updated Medical and technical facilities, but unfortunately we are on foot against COVID 19. In this review, we discussed the current condition and the impact of Covid-19 on Brazil.

**KEYWORDS:** SARS, COVID-19, Brazil, Quarantine, SARS-CoV-2.

## INTRODUCTION

On 12 December 2019 total 27 cases were reported to Wuhan Municipal Health Commission (WMHC) suffered from pneumonia and seven of them were seriously ill. Later on researchers confirmed that the novel corona virus (SARS-CoV-2) can be the possible cause of infection and pathological studies found the more than 80 % similarities between novel corona virus.[1] and Sever Acute Respiratory Syndrome (SARS) identified in the year 2002 and Middle East respiratory syndrome coronavirus (MERS-CoV) in the year 2012. Very soon it becomes pandemic and World Health Organization (WHO), declared it as a Public Health emergency. As per WHO on 11 March 2020, first case outside the China was reported and within two weeks around 414,180 confirmed cases with 1800 deaths were reported globally.

### SARS-CoV-2

Corona virus family comprising around 42 different virus species, having single stranded RNA and divided into four different classes: alpha-coronavirus, beta-coronavirus, gamma-coronavirus, and delta-coronavirus the SARS-CoV-2 belongs.[2] to beta-coronavirus with Nidovirales odor. The novel corona virus having mortality rate around 4 %, as compared to previously identified infection Sever Acute Respiratory Syndrome (SARS) and Middle East respiratory syndrome coronavirus (MERS-CoV) having 8 % and 34 % respectively. All types of coronaviruses are enveloped,[3] having positive single stranded RNA and have viral proteins, membrane protein and spike glycoprotein known as N, M and S respectively as shown in figure 1. The presence of spike surface is one of the important characteristics of corona virus, by which it binds to the host cell by using Angiotensin converting enzyme 2 (ACE2) and DPP4 receptor for SARS and MERS respectively.

Latest literature reports stated that, the transmission.[4] rate of COVID 19 infection and the incubation period is much higher than the SAAR and MERS, however the SARAS and SARSCo V-2 having same animal source of infection (Bats).[5] Apart from this both showed similar sign and symptoms characterized by fever, pain, GIT problems, increase respiratory and heart rate, difficulties in breathing.[6] and also many people experienced the loss of smell or taste.

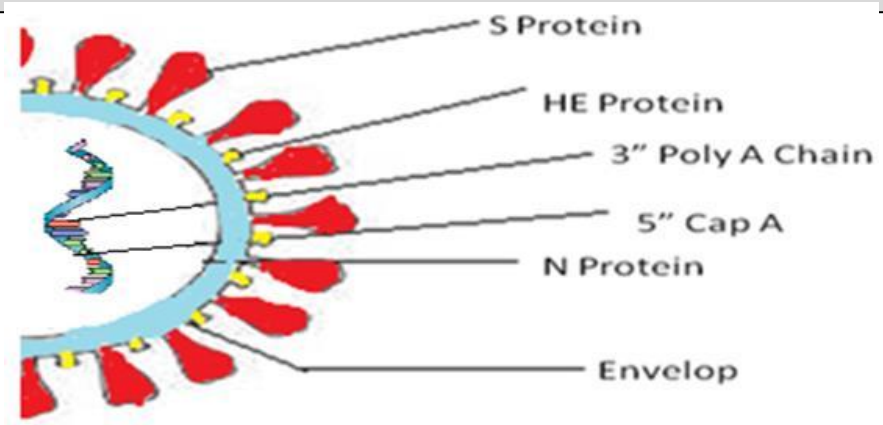


**Figure 1: Structure of SARS-CoV-2.**

**Brazil responds to COVID-19 pandemic**

Brazil is the fifth largest country in the world, exceeded in size only by Russia, Canada, China, and the United States, though its area is greater than that of the 48 conterminous U.S. states. Brazil is the fifth most-populous country on Earth and accounts for one-third of Latin America's population. Brazil has a humid tropical and subtropical climate except for a drier area in the Northeast, sometimes called the drought quadrilateral or drought polygon.

On January 27 2020 the first case of COVID 19 was identified[7] in Brazil and national public health emergencies (NPHE) formed by the Brazilian Ministry of Health (MoH) based on previous pandemic experience such as in 2009 H1N1 infected around 46,355 cases till 2010 make the state plans as per the guidelines provided by WHO for surveillance, management, awareness and raising the alert level among people.

However the first case, 61-year-old man[8] has travelled history Italy was registered on February 26, 2020 in Sao Paulo. On 3 February 2020, Brazil declared COVID-19 a public health emergency, although WHO declared it on 30 January 2020 and on 6th February, Brazilian Ministry of Health approved the Quarantine law[9] (No.13,979 [16]) to which isolation, quarantine, epidemiological study, temporary restriction on travelling (national and international) were implemented with an aim to protect the community against deadly SARS-CoV-2 viruses.

Although Brazil[10] is continuously attempting and implement various preventive measures to reduce the number of infected cases, especially by focusing on social and physical distancing, but the number of cases of COVID-19 have been soaring and currently around 73,166 confirmed cases with 5,083 deaths with 31,142 recovered cases has been reported as on 28 April 2020 figure 2 (A and B).

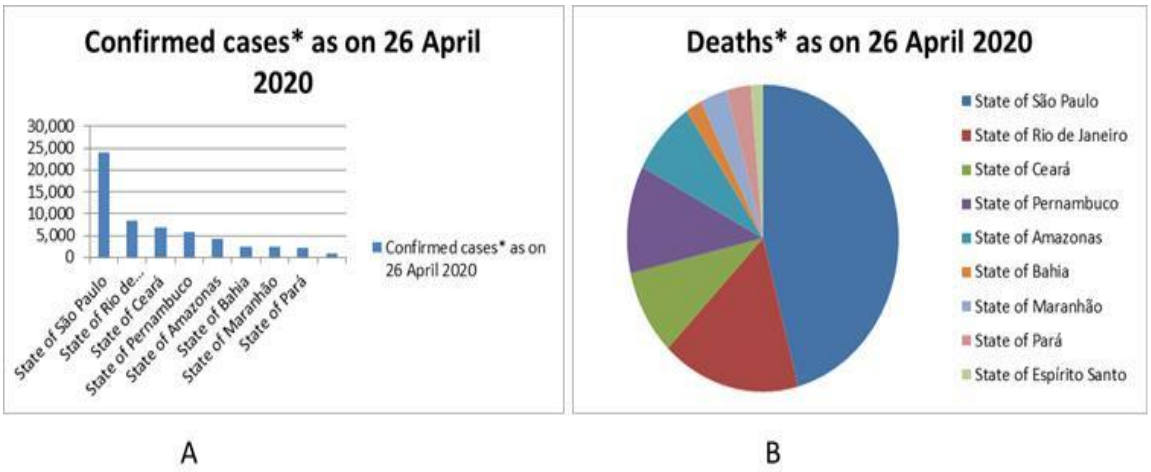


**Figure 2: Number of confirmed cases (A) and deaths (B) in Brazil till 26 April 2020.**

In addition to other, it also provided the personal protective equipment (PPE) for health professionals and others, including surgical masks, face guards, helmets, N95 masks, because coronavirus is known for its dissemination in health. During the isolation and quarantine, people were restricted to their homes, all kinds of transports (water, air and road) were stopped with the exceptions of essential goods, fire, police and emergency services. All public gathering places, including temples, market, schools, universities,

industries, banks, etc. were closed except daily routine item shop like food shops, banks ATMs, petrol pumps etc.

## CONCLUSIONS

In Brazil, the physical distancing measures significantly reduced the number of cases, but apart from it the testing capacity and availability of intensive care units (ICUs) [11] and mechanical ventilators is also necessary to reduce the number of deaths due to COVID-19. However, there is no clinically approved treatment available for COVID-19, although some drugs like hydroxyquinoline, Ritonavir, Plasma therapies etc. are under clinical observation. Hence our scope is limited and we only hope for the best.

## CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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