

Perspective of Covid-19 pandemic in South Asian countries

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Abstract. – COVID-19 is rapidly spreading throughout the world since December 2019. It has hit South Asian countries with faded impact, which can be attributed to (a) availability of kits, (b) number of people tested for COVID-19, (c) immunity, (d) environmental conditions and (e) vaccination.

Key Words:

COVID-19, Pandemic, South Asia, Impact.

Introduction

Since the rise of novel coronavirus disease (COVID-19) in December 2019 in Wuhan city of China, every other country of the world remained concerned about its entry and spread in their own territories by taking various preventive measures¹. Despite all barriers, the outbreak gradually spread to all six continents of the globe while it hit hard some specific countries of Europe, Asia and North America. Recently its epicenter from China has shifted to other countries such as Italy, Spain, and the USA. The exponential infectious rate of COVID-19 has posed a major threat to international health system and economy^{2,3}. As per World Health Organization (WHO), on October 19, 2020 there are around 40.3 million confirmed cases of COVID-19 with 1.12 million casualties in 215 countries/territories of the world⁴.

South Asian Association for Regional Cooperation (SAARC) comprises the world's most populous countries (India, Pakistan, Bangladesh, Nepal, Sri Lanka, Maldives, Bhutan, and Afghanistan) with about 1.86 billion people, accounting for about 24% of the world's total pop-

ulation⁵. By 19th October, authorities in SAARC had reported just 8,451,822 confirmed cases and 129,210 deaths with average fatality rate of 1.52% (**Supplementary Table I**). The age distribution data derived from "The World Factbook 2020"⁶). Given extremely limited diagnostic testing, the region may not have sufficient information to gauge the true extent of the epidemic and is ill prepared for the potential crisis that lies ahead.

There are numerous health issues in South Asian countries but the infectious diseases are the biggest challenges here due to low health infrastructure and poor economy. Infectious diseases such as tuberculosis (TB), diarrhea, measles, and malaria are still very common in these countries and cause a lot of mortalities. Malaria is a life-threatening disease caused by bites of infected female *Anopheles* mosquitoes carrying the parasite *Plasmodium* and it kills 12.5 million people every year in South Asian region. According to the WHO report in December 2019 there were more than 228 million reported cases of malaria globally with an estimated 4.05 millions deaths⁷.

It is quite interesting to study the change in virulence pattern of SARS-CoV-2 as it has exhibited faded impact in neighboring South Asian countries after causing serious damage in China earlier.

The various speculations for the low prevalence of COVID-19 in South Asia are as follows:

1. Test kits need to be available and people are also reluctant to get tested.
2. The South-East Asia region was one of the areas most affected by TB in 2018. India and Pakistan had 27% and 6% of the TB cases, respectively. Thus, people may have developed

resistance against viruses while taking vaccine against TB.

3. The environmental conditions of these countries are warm and the novel coronavirus cannot survive/ transmit above 26°C, therefore, its spread was quite low in warmer regions of South Asia and sub-Saharan Africa. The previous studies of SARS also supported the low incidence of disease in warmer and low humidity regions. While the highly affected countries of Europe and North America have a low temperature between 6-12°C which has caused the drastic infection of this virus. In a previous study, it was demonstrated that at 4°C temperature and humidity at 20%, 50%, and 80%, the lowest level of virus inactivation was recorded at 20% humidity⁸. Virus inactivation was rapid at 20°C at all humidity levels, and maximum inactivation was recorded at 40°C at 50% humidity level. In Pakistan, average temperature from June to August is 34-39°C with relative humidity level ranging from 70 to 99%. However, these conditions may vary in different parts of the country. SAARC countries are located at the same belt with hot to mild climatic conditions. Thus, it can be speculated that rise in temperatures and moderate humidity will have impact on corona virus⁹. In conclusion, high temperature and moderate relative humidity will be unfavorable conditions for the transmission of corona virus in South Asian countries.
4. The low mortality rate in the affected population of COVID-19 could be attributed to the immunological response particularly with respect to their immunity against malaria or antimalarial response. This speculation gets its support from the therapeutically evidences of antimalarial drugs such as hydroxychloroquine and chloroquine, which are showing their efficacy in the treatment of COVID-19¹⁰.

The asymptomatic or low to severe immunological responses in the South Asian population show their resistance against the coronavirus. South Asian countries have low mortality and high recovery rate although a large portion of the population is still unexposed to COVID-19 and unable to show its response to lethal coronavirus. The so far data of these countries could be insignificant in terms of morbidity and mortality and could not be employed to the whole population, however so far the immuno-

logical pattern and mathematical trajectories are revealing these facts and can not be ignored and neglected.

From comparable climatic conditions of SAARC countries, it could be expected that COVID-19 would hit region of South Asia with similar consequences. However, according to the latest data, India has more COVID-19 cases as compared to Pakistan and other SAARC countries. This might be attributed to difference in necessary steps taken by the governments of SAARC countries and Standard Operating Procedure (SOP) followed by their people to combat COVID-19.

Conflict of Interest

The Authors declare that they have no conflict of interests.

Acknowledgments

We would like to thank the European Review for Medical and Pharmacological Sciences for allowing the publication of this article without a fee.

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