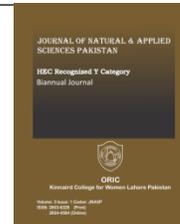




Contents list available <http://www.kinnaird.edu.pk/>

Journal of Natural and Applied Sciences Pakistan

Journal homepage: <http://jnasp.kinnaird.edu.pk/>



EPIDEMIOLOGY AND MANAGEMENT OF THE COVID-19 PANDEMIC IN PAKISTAN: SHORT COMMUNICATION

Sarir Ahmad^{1*}, Ikram Ullah², Mehrab Khan², Umair Nasir³, Zar Muhammad⁴, Mohsin Khan⁵, Mohib Ullah¹

¹Department of Botany, Abdul Wali Khan University Mardan

²Department of Biochemistry, Abdul Wali Khan University Mardan

³Management Sciences, Islamia College University Peshawar Pakistan

⁴Department of Education, Khyber Pakhtunkhwa Pakistan

⁵Khyber College of Dentistry, Peshawar Pakistan

Article Info

*Corresponding Author

Email: sarirplants@gmail.com

Abstract

The Human race is affected by the irredeemable cataclysm due to an upper tract respiratory disease called Covid-19. The causal agent is a virus formally known as SARS-COV2. Almost all the countries were struck hard by this disease and thus to limit its spread; a lockdown was imposed. Pakistan being a developing country with having a shattered economy faced an extreme crisis due to the pandemic. The Covid-19 first case appeared in Pakistan in February 2020. The pandemic spread to the whole country, and soon all the regions had an increased number of patients. The country's weak health system was exposed due to the unavailability of basic medical facilities. The authorities took certain steps to tackle the SARS-COV-2 pandemic by putting a complete ban on public gatherings, traveling, and theological practices. Vaccines are available in the country that is provided by the government freely to its public. The severity of the pandemic is declining however, care must still be carried out for larger human interest.

Keywords

COVID-19, Contagious disease, vaccine, SARS-COV2, pandemic



1. Introduction

COVID-19 (Coronavirus) is a severe global contagious disease caused by SARS-COV2. The World Health Organization (WHO) adjudged

Covid-19 as a pandemic; when total deaths crossed 4000 in infected countries. A deep investigation of the samples collected from the lower respiratory tract of the patients revealed

that the causal agent is (SARS-COV2). (Lu *et al.*, 2020)

The novel coronavirus was first identified in China, Hubei province, in 2019, which originated from the animal market and large seafood in Wuhan. The evolutionary analysis confirms that the SARS-COV2 emerged, has been found in bats for several decades. To stop the rapid infection rate, almost all countries went into lockdown. Shutting down severely affected individuals' wellbeing as well as it had impacts on the national and international levels (Borghetti *et al.*, 2021). The global supply chain demands aroused and brought mayhem into the societies. Among other consequences of the pandemic; many employed professionals lost their jobs and faced immense socio-economic and mental wellbeing. The overall crisis of the pandemic required a holistic approach for adapting to a new situation in every walk of life. The crisis created by the pandemic required governmental support to bring peace and ease into the lives of the citizens (Shafi *et al.*, 2020). In this short communication; we tried to discuss the epidemiology and management of the Covid-19 pandemic in Pakistan.

2. Covid-19 Spread In Pakistan

This deadly virus entered Pakistan through a student who returned from Iran on February 26, 2020. A second case was reported from the capital territory of Islamabad. The second patient also has a travel history of Iran (Shafi *et al.*, 2020). Authorities suspended all international flights, except domestic flights,

from 13 March 2020. The Pakistan Security Council conference decided all the educational organizations, including Schools, Colleges, and Universities, would be shut till 5 April 2020. Pakistan terrestrial borders were closed from March 16th with neighboring countries like Iran, Afghanistan, India, and China. The lockdown was relaxed phase-wise while Pakistan adopted a new approach by adopting the modal of Sweden; only highly infected areas were smart lock-downed, which later shifted to micro-lockdown (Shehzad, 2020).

2.1. Health Emergency In Pakistan Due To The Pandemic

Since late February 2020, Pakistan's health system was under pressure due to under-development and intensity of the Covid-19 as compared to advanced countries like China that managed the pandemic very well in a short time. Almost twenty-five percent (25%) of Pakistan's population lives below the poverty line and cannot afford the treatment of expensive private sector hospitals. Pakistan's total population is 220 million, while the total beds available in Government hospitals were 133707, which means that only six beds are to be shared by 10,000 patients. A Ventilator is needed for the critical patients but unfortunately, Pakistan has only 1400 functional ventilators in government hospitals, says the Ministry of Science and Technology, Pakistan (Shehzad, 2020). WHO has emphasized maximizing the testing for the Covid-19 to stop the flow of infection and initiate the early treatment of the infected

patients. Here again, Pakistan lacked the testing kits number as only 6000 kits were available with each province.

3. Authoritative Decisions for Slowing the Spread of Disease

The Government of Pakistan made a special response center called “National Command and Operations Center (NCOC)” to watch the Covid-19 scenario and take serious decisions to combat the pandemic. Few are discussed below.

4.1 Bann On Physical Educational Activities

All the educational institutes including schools, colleges, Universities, and Madrasas were closed for more than a year to stop the spread of the disease. The Higher Education Commission (HEC) digitalizes the education system due to the Covid-19 risks to the health and ensures students' safety. Pakistan finds itself poorly prepared for online/distance learning due to numerous reasons like lack of excess to electronic devices, i.e., smartphones and laptops. Due to internet facilities' unavailability in remote areas, online learning got greatly criticized (Rasheed, 2020).

3.1. Bann On Theological Practices

Due to the risks of spreading the Covid-19 cases, the authorities put a strict ban on the congregation for Taraweeh prayer in Ramadan. According to the Government of Pakistan's decision to limit mosque gatherings, there would be only five people per mosque during prayers. Later, due to the agreement between Ulema (clergy) and the authorities, the Jumma prayer, Taraweeh prayers, and other Islamic worship

services were allowed, especially in the holy month of Ramadan with strict compliance with the SOPs hygiene, maintaining social distance, and adhering face mask (Kugelman, 2020).

4. Treatment of the Covid-19 Patients

Broad-spectrum antibiotics such as Remdesivir (GS-5734) and Favilavir decrease the replication of new coronavirus in the body of infected patients. According to a China daily, the Zhejiang provincial government, China, announced the approval of favilavir drug for coronavirus patients, which is supposed as the first drug against Covid-19. While Remdesivir (GS-5734) is an inhibitor that is used against RNA viruses, including MERS-CoV infection, Ebola, and Covid-19 patients as well (Tran, 2020).

5. Vaccines Availability in Pakistan

The Government of Pakistan administered 30 million vaccine shots for the citizens free of cost. The approved vaccines in Pakistan are Moderna-mRNA-1273, Pfizer/BioNTech BNT162b2, Cansino Ad5-nCoV, Gamaleya Sputnik V, Oxford/AstraZeneca AZD1222, Sinopharm (Beijing) BBIBP-CorV (Vero Cells), and Sinovac CoronaVac (Covid 19 vaccines tracker, 2020; Track Vaccines in Pakistan).

Table 1: Statistics of the Covid-19 infections, Deaths, and Vaccination

Regions	Total Infections	Total Deaths	No of People Vaccinated	Percent of Population Vaccinated
Pakistan	11,60000	25,788	1,617,188,7	7.5
Global	21,70,0000	451,0000	2,116,127,330	26.9

(WHO, 2021)

6. Conclusion

The Covid-19 will disseminate throughout the country; thus a vaccinated society will have immunity against it. Therefore, the authorities should emphasize on vaccination of citizens. The public should adhere to SOPs like wearing a mask and maintaining a proper social distance. The Covid-19 has changed the modern world and Pakistani Think-Tank needs to analyze the situation and take preemptive measures as Covid-19 could be just the tip of the iceberg.

7. References

Borghgi, E., Massa, V., Zuccotti, G. and Wyllie, A.L., (2021). Testing Saliva to Reveal the Submerged Cases of the COVID-19 Iceberg. *Frontiers in Microbiology*, 12.

Covid 19 vaccines tracker, TrackVaccines in Pakistan. Retrieved from <https://covid19.trackvaccines.org/country/pakistan/> on Dec 2020

Kugelman M, (2020). Pakistan' Government Is Caught Between a mosques and a Hard place. Retrieved from. <https://foreignpolicy.com/2020/04/24/pakistan-ramadan-coronavirus-pandemic-mosques/>

Lu R, Zhao X, Li J, Niu P, Yang B, Wu H (2020). Genomic characterization and epidemiology of 2019 novel coronavirus: implications for virus origins and receptor binding. *The Lancet Infectious Diseases*. 395(10224) 565-574.

Rasheed M, (2020). Covid-19 and Digital Education Failure in Pakistan. Modern diplomacy. Retrieved from <https://moderndiplomacy.eu/2020/07/07/covid-19-and-digital-education-failure-in-pakistan/>

Shafi M, Liu J, Ren W (2020). Impact of COVID-19 pandemic on micro, small, and medium-sized Enterprises operating in Pakistan. *Research in Globalisation*.2, 100018.

Shehzad R, (2020) Countrywide lockdown stretched till May 9. Pakistan tribune. Retrieved from <https://tribune.com.pk/story/2206167/1-countrywide-lockdown-stretched-till-may-9>

Tran J, (2020). The latest Research on COVID-19 Treatments and medications in the pipeline. Goodrx. Retrieved from. <https://www.goodrx.com/blog/coronavirus-treatments-on-the-way/>

Track Vaccines in Pakistan. Retrieved from <https://covid19.trackvaccines.org/country/pakistan/>

WHO Coronavirus (COVID-19) Dashboard. Retrieved from. <https://covid19.who.int>