

# Outbreak of COVID-19 pandemic in Pakistan and the current scenario

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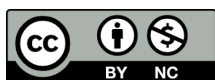
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**Abstract:** The current pandemic of COVID-19 was first observed in the Wuhan city of China in December 2019, which later appeared worldwide. World Health Organization (WHO) declares coronavirus pandemic as an international issue of a public health emergency worldwide. On 11 February 2020, WHO named this virus as Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2). Different effective preventive measures were implemented to control the transmission of COVID-19. After the COVID-19 pandemic outbreak in Pakistan, the government designed other effective protocols to fight against this zoonotic disease. This review highlighted the COVID-19 outbreak prevalence in Pakistan with their current scenario and the government response to combat the disease.

**Keywords:** coronavirus; COVID-19; Pakistan; SARS-CoV-2; WHO

## Introduction

Coronaviruses consist of seven groups, including human coronavirus NL63, 229E, OC43 & HKU1, and are known to cause mild and severe respiratory infections like pneumonia, common cold, bronchitis. But the most severe infective coronaviruses include SARS-CoV, MERS-CoV, and SARS-CoV-2 [1]. The COVID-19 outbreak happened due to a wrong prediction of the disease to be pneumonia-like and due to an unknown examination of the condition in the Wuhan city of China in December 2019, which later appeared worldwide [2]. On January 30, 2020, the World Health Organization (WHO) announced the COVID-19 pandemic is the sixth public health emergency [3]. The current pandemic of coronavirus is not the first outbreak. The earlier coronavirus epidemic that occurred was Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS). But the recent pandemic of coronavirus affected 209 countries worldwide, including Pakistan [4]. World Health Organization (WHO) declared coronavirus pandemic is an international issue of public health emergency and named the virus Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) on February 11, 2020. The current pandemic of coronavirus is due to the SARS-CoV-2, also referred to as the novel Coronavirus 2019 (nCOVID-19) [5]. The symptoms of this disease are cold, breathlessness, inflamed throat, runny

nose, haemoptysis, headache, diarrhoea, and vomiting. But the most common are pyrexia, cough, and difficulty in breathing. Patients mostly developed Acute Respiratory Distress Syndrome in case of a severe situation [6]. Centre for Disease Control and Prevention declared according to MERS-CoV viruses' incubation period during which symptoms observed may express within 2 to 14 days [7].

Transmission of SARS-CoV-2 from human to human followed much quickly [8]. According to many studies, the death rate due to COVID-19 was initially observed to 15%, but later the death rate was 2% [9]. Antarctica is the only continent that is not affected by COVID-19 because of its small population density living in separate research facilities developed by respective governments in Antarctica. The current pandemic negatively affects all the life disciplines, and their outcomes will persist for a long-term duration. Globally the developing countries like Pakistan, which is already facing economic problems affected adversely by the lockdown. Mostly the community depends on daily wages were severely affected. So, the long duration of lockdown severely impacted the economy of the community [10]. This review highlighted the COVID-19 outbreak prevalence in Pakistan with their current scenario and the government response to combat the disease and community response.

## Epidemiology of COVID-19 pandemic in Pakistan

Pakistan Federal Health Minister on 26 February 2020 reported that the first two patients of COVID-19 are detected in Islamabad and Karachi [11]. The total number of diagnosed COVID-19 patients crossed over 20 cases (14 in Sindh, 5 in Gilgit Baltistan, and 1 in Baluchistan) within



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15 days of the first report; all the reported cases had recently visited Iran, Syria, and London. Overall, 471 suspected individuals were tested, out of which 20 were confirmed positive for COVID-19 [12]. The neighbouring countries of Pakistan are significantly affected by the current pandemic in which China reported the first country of this outbreak over the whole globe. Till March 2020, China reported the highest number of deaths due to the COVID-19 outbreak (n=3162), and Iran also notified to be the third significantly affected country with COVID-19 death rate (n=291); Italy was the second extremely affected country in terms of COVID-19 death rate [13]. The WHO informed that all the countries should take adequate measures to tackle the current pandemic from the further transmission of the virus, including active status, rapid diagnosis, quarantine, medical operation, and detecting the common contact [14]. Pakistan took reasonable steps to reduce the number of cases in the passengers coming from Iran by monitoring and screening them [15]. According to the Ministry of Health, from early outbreak till 4 November 2020, the total number of reported confirmed cases was 338,875; out of which 15,317 active cases, total deaths were 6,893 (with a mortality rate of 2%), and the total number of recovered patients were 3,16,665. The recovery rate of Pakistan is 93.4%, which was better than the global average. The highest number of patients observed in the Sindh province 147,787 confirmed cases, out of which 5,380 are active cases; mortality rate 2,647 reported, and total recoveries included 139,633. Then followed the Punjab province 105,535 confirmed cases out of which 5,302 are active cases, mortality rate 2,385 and 97,532 recoveries reported. Then followed Khyber Pakhtunkhwa 40,022, Islamabad 20,694, Baluchistan 16,026, Azad Jammu & Kashmir 4,491 and Gilgit Baltistan 4,320 reported confirmed cases [16]. Table 1 shows the pandemic situation in different territories of Pakistan.

**Table 1:** The current situation of COVID-19 outbreak in Pakistan

S.No	Provinces	Infected Patients	Mortalities	Recoveries
1	Sindh	147,787	2,647	139,633
2	Punjab	105,535	2,385	97,532
3	Khyber Pakhtunkhwa	40,022	1,284	37,823
4	Islamabad	20,694	229	18,505
5	Baluchistan	16,026	152	15,633
6	Azad Jammu & Kashmir	4,491	104	3,481
7	Gilgit Baltistan	4,320	92	4,058

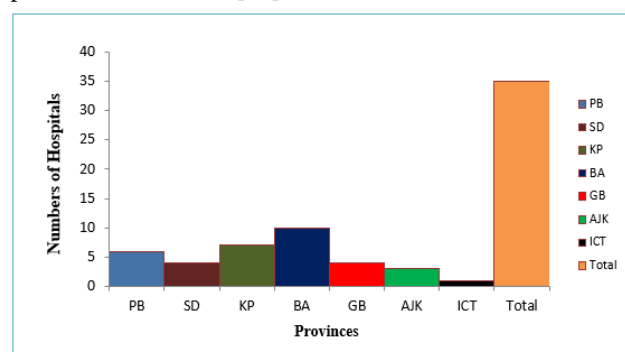
### Current situation in Pakistan

After smart lockdown, Pakistan recorded the lowest number of COVID-19 with 216 confirmed positive cases on 30<sup>th</sup> August 2020 reported by the Ministry of Health, Pakistan. There is currently no lockdown in Pakistan; the government forced the community to follow the Standard Operating Procedures (SOPs). Now Pakistan again entered the second wave of COVID-19 with an increasing number of daily positive cases. On 4<sup>th</sup> November 2020 and 08:19 am (GMT +5:00), within 24 hours, 1,313 confirmed cases with 19 critical, 18 dead, and 614 recovered patients were reported by the Ministry of Health, Pakistan. Currently, the death ratio in Pakistan is 2.0%, and the recovery rate is 93.6% [16].

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### Government response and preventive measures

After the COVID-19 pandemic outbreak in Pakistan, the government designed different practical methods to fight against this zoonotic disease. Traveling from China and Iran to Pakistan is much common, so both the countries were much affected by COVID-19, and it was expected that COVID-19 transmission could be possible in Pakistan. Firstly, with the cooperation of the Civil Aviation Authority, the Pakistan government designed a procedure to test every passenger traveling from different countries [17]. The COVID-19 cases had increased with the highest number of daily active cases and mortality rate. Hence, Pakistan's government decided to impose a severe lockdown all over the countryside to fight against the COVID-19. The imposition of lockdown caused the closure of all the markets, public places, parks, educational institutes, offices, prayer places, and international flight operations [18]. The government started the lockdown in the mid of March and ended on 9 May 2020 with the following Standard Operating Procedures (SOPs) [19]. Availability of facemask in Pakistan has been sufficient to manage the local demands. Due to increased demands and export to China, local supply became insufficient, which caused the increase in the cost of facemask. To manage this condition, National Disaster Management Authority (NDMA) informed the government to stop the export of facemask and other related materials [20]. The government established different quarantine centres, and isolation wards all over the country. PCR diagnostic kits were imported for effective results to detect the SARS-CoV-2 [21]. To reduce the fatal burden and fight against the disease, the government designed the National Action Plan [22]. During the lockdown period, the Government of Pakistan helped the needy people by donating through the COVID-19 Relief Fund. The government set up an emergency helpline in seven different regional languages. It also established Corona Relief Tiger Force Volunteers, who helped the community be aware of them against the COVID-19 preventive measures [23].



**Figure 1:** Number of COVID-19 hospitals in Pakistan. PB = Punjab, SD = Sindh, KP = Khyber Pakhtunkhwa, BA = Baluchistan, GB = Gilgit Baltistan, AJK = Azad Jammu & Kashmir, ICT = Islamabad capital territory

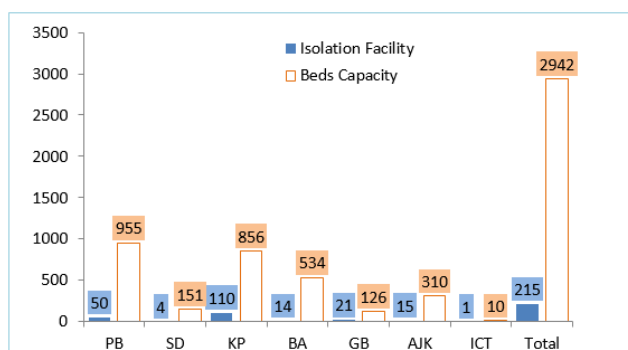
### COVID-19 tertiary care hospitals in Pakistan

The government of Pakistan took many steps to fight against the current pandemic and facilitate the community. Different tertiary care hospitals are functional in Pakistan, fighting against the COVID-19 outbreak in the country.

One single tertiary care hospital is working in Islamabad, 10 in Baluchistan, 7 in Khyber Pakhtunkhwa against the pandemic of COVID-19. While Punjab is working with six hospitals, Sindh with four, AJK with three, and Gilgit Baltistan with four hospitals (Figure 1), 35 tertiary care hospitals are working in Pakistan to fight the COVID-19 pandemic [24].

### Province-wise hospitals with isolation services for COVID-19 in Pakistan

Isolation and quarantine are two different terms; the infected individual with a contagious disease is isolated to avoid further illness or infection in the community. Various isolation hospitals are designed provincially in Pakistan, which is well equipped to fight against the COVID-19, and these hospitals are working according to their districts. There is only one isolation hospital with 10 beds capacity in Islamabad, Baluchistan works with 14 isolation centres with 534 beds capacity, and Khyber Pakhtunkhwa is functional with 110 isolation centres with 856 beds facility. In the Punjab province, total isolation hospitals are 50 with 955 beds capacity, Sindh working with 4 isolation hospitals with 151 beds to fight against the COVID-19. In Azad Jammu & Kashmir, 15 isolation centres with 310 beds are working, and Gilgit Baltistan has 21 isolation centres with 126 beds (Figure 2). Total 215 medical facility isolation hospitals work with 2942 beds facility against the COVID-19 pandemic in Pakistan [25].

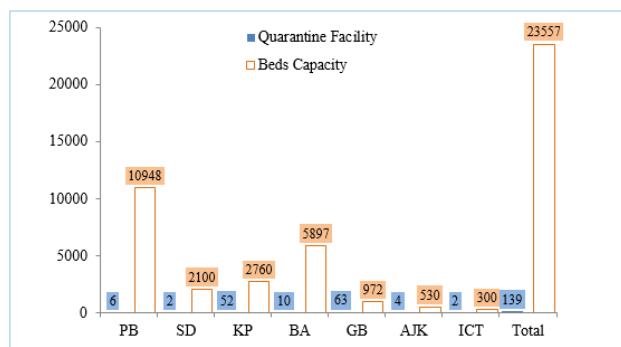


**Figure 2:** Province-wise hospitals with isolation facility in Pakistan.

### Province-wise quarantine services for COVID-19 in Pakistan

The quarantine limits the activities if a person still not ill but manifested with symptoms just like COVID-19. The government designed a lot of quarantine centres all over the provinces of Pakistan. The government developed a total number of 139 quarantine centres across the country with 23,557 beds to combat the COVID-19 pandemic in Pakistan. In Pakistan's capital, there are two quarantine centres with 300 beds capacity; in Baluchistan province, there are ten quarantine centres with 5897 beds capacity. While in Khyber Pakhtunkhwa, 52 quarantine centres are working with 2760 beds facility, and in Punjab province, there are six quarantine centres allocated with 10948 beds facility. There are two quarantine centres in the Sindh province with 2100 beds capacity; in Azad Jammu & Kashmir, four centres are functional with 530 beds capacity; in Gilgit Baltistan, 63 quarantine centres are

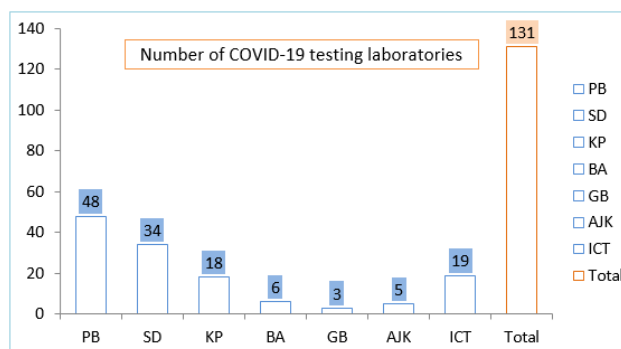
working with 972 beds capacity (Figure 3). The Pakistan government built 139 quarantine centres to combat the current outbreak of COVID-19 [26].



**Figure 3:** Province-wise quarantine facilities of COVID-19 in Pakistan.

### COVID-19 laboratory capacity in Pakistan

During the initial outbreak of COVID-19, there was an inadequate facility for diagnosing this disease in Pakistan, and samples were analysed in overseas laboratories. Then after some time, China provided test kits to Pakistan. Now, Pakistan has its facility to test the suspected cases in all the provinces with NIH accredited labs. In Pakistan, currently, COVID-19 testing magnitude ranges between 30,000 to 280,000, and this would be further increased to 900,000 [27]. Now, Islamabad has 19 laboratories, Punjab province has 48 laboratories, including 27 in Lahore, the Sindh province has 34 laboratories, including 28 in Karachi, Khyber Pakhtunkhwa has 18 testing laboratories, including 8 in Peshawar and 6 in Baluchistan, out of which 3 in Quetta. Five laboratories in Azad Jammu & Kashmir and three laboratories are functioning to diagnose COVID-19 (Figure 4) [25].



**Figure 4:** Province-wise COVID-19 testing lab capacity in Pakistan.

### Conclusion

Pakistan tackled the COVID-19 pandemic quickly, but the disease is contagious which spread all over the country. Health workers on the forefront are prone to the infection, and there is more evidence of COVID-19 cases in them due to the insufficient availability of safety equipment. The current situation of Pakistan is not well because Pakistan is one of the densely populated countries where more facilities are required to combat this pandemic. Pakistan needs to improve their health departments and trained healthcare workers not to be challenging to fight against the diseases.

Myths and gossip stop the community from following the government's planned SOPs to reduce the COVID-19 burden.

### Future recommendations

Every individual should follow personal hygiene and the Pakistan government's medical advisory, and avoiding the rumors would help eradicate this virus. The government should increase the magnitude of daily testing capacity and enforce a strict lockdown in the areas where the number of COVID-19 positive patients eventually increases to control the further transmission to the healthy community. Muslim scholars should address the community about COVID-19 preventive measures every Friday sermon until the risks get managed.

### Declarations

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