

Pandemic Coronavirus COVID-19 Spread in Pakistan in 2020

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ABSTRACT

Coronavirus associated respiratory syndrome spread very quickly in human, once the novel strain was isolated and identified in December 2019. The novel Coronavirus was recognized as COVID-19 in Wuhan city of China, which is responsible for the severe life threatening respiratory syndrome including pneumonia and death. Since, it spread out from the originating place, it starts spreading very quickly in different countries, the main reason of the current pandemic is the traveling of COVID-19 carrier individuals across the world. Pakistan also effected with this pandemic state because Pakistan have a large number of exchanged students, scientist, tourists and business community therefore, COVID-19 has been start infecting Pakistani population, Although the number of infected individuals are very less as compared to other effected regions, but statistics analysis reveals that there is significant increase pattern in number of infected positive with time. According to the WHO official record in Pakistan made at 26th March 2020, total 1130 individuals found COVID-19 positive and total death 09 death were reported.

This Pandemic must be treated as life threatening and more precautions should have to be taken in order to break or cease the outbreak of coronavirus. Furthermore, till the specific vaccine against COVID-19 will discovered, the already successful treatment against previous respiratory infectious syndrome, can be applied at least to decrease the brutality impact of the pandemic across world population (treatment clinical trials condition with WHO/ FDA approval).

Key words: Coronavirus 19; Pandemic; Statistics; Pakistan

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CORONAVIRUS BRIEF HISTORY

Coronaviruse (CoV) is associated with Coronaviridae family as subfamily member, it infect the pulmonary and enteric system and able to cause respiratory syndrome and gastrointestinal disease originally they infect the animal but since 1965 it can cross the species barrier and can infect the human population and causing mainly lethal respiratory syndrome, in addition also infect the central nervous system^[1-4]. Coronavirus is enveloped (+) strand RNA virus with largest genome among all RNA viruses. The RNA of the coronavirus is capped and polyadenylated, the genomic RNA is packed and surrounded by the nucleocapsid and additional layer of envelop. In addition, the envelop of the coronavirus is also having special types of glycoproteins including hemagglutinin-acetyesterase (HE) glycoprotein, other membrane glycoproteins and spike glycoprotein. which are emitting out of the envelop making crown like structure^[5]. The genome of coronavirus is comprising of replicase gene with overlapping open reading frame (ORF1a and ORF1b) that can encode different non-structural proteins, while its genome also is comprises on structural genes for Envelop, Spikes, membrane proteins and nucleocapsids^[6-7].

COVID-19 LIKE OTHER EPIDEMICS OF CORONAVIRUS ACROSS WORLD

Since the first discovery of human coronavirus (B814) in 1964, there

are about 30 other strains were characterized as human coronavirus^[8]. In 2002, novel coronavirus (SARS-CoV) causes severe respiratory illness called Severe Acute Respiratory Syndrome (SARS), that mostly effect Asia population^[9-10], this epidemic mostly effected China and over 8000 people in Asia with 774 deaths^[11]. Soon after this two other CoVs were discovered with sever human illness one was in 2004 in Netherlands, that virus labeled as HCoV-NL63 that cause bronchiolitis in small children while in 2005 the other Cov was isolated and named as HCoV-HKU1 in Hongkong^[12-13]. After the first epidemic in Asia other, sever situation arises when in 2012, novel respiratory coronavirus was isolated and causing pneumonia in Arab population that Cov named as Middle East Respiratory (MERS)-CoV, this virus still effected people as even in 2015 it causes outbreak in Republic of Korea, approximately 858 deaths were reported all across the world related to MERS-CoV infection^[12-16].

Unfortunately, once again new novel coronavirus strain was isolated in December 2019 when there were increase pneumonia cases were start to reported with unknown cause in Wuhan, China soon it was consider related to Huanan seafood market and the immediate epidemiological alert was released by the china local health authority on December 31, 2019. All the 59 suspected cases suffered from fever, dry cough. Different clinical testing was formed to find out the cause and then novel strain of coronavirus was isolated from the respiratory system of the effected patients. This virus named as a novel coronavirus (2019-nCoV) or COVID-19^[17]. Since January 2020 this epidemic rapidly converted into sever pandemic as about 198 countries and territories were affected. According to the recent WHO update made at 26th March 2020, 499,373 coronaviruses cases are reported all across the world with the total number of deaths 22311. Among these countries China is most effected country with 81,285 cases (3,287 death) followed by Italy with (74,386) but the death cases are much higher than China i.e., 7,503.

CORONAVIRUS HISTORY IN PAKISTAN

The following data were collected by various official reports of Pakistan and according to the recent updated of World Health Organization (WHO). The timeline case development in Pakistan also presented as graph representation (Figures 1 and 2). Very first case of coronavirus in Pakistan was suspected and then confirmed on 26th February 2020. He was the Karachi native and a student of Karachi university, the second suspected patient was belonging Islamabad premises. The common factor in both cases that both were travelled to the neighboring country Iran and recently returned. Immediately special precautions were adopted and both cases were taken very carefully, and all the educational institutes were lock down immediately. Soon the health status of first two cases became satisfactory toward recovery.

Later, within a same week three more cases from different area of Pakistan were identified. On 2nd March 2020, with the same common factor i.e. traveling from Iran, a 45-year old woman was identified as coronavirus positive she belongs to Gilgit Baltistan. On March 08, 2020 another coronavirus positive case identified. After identifying 07 cases, the health officials became highly alert and screening process had been started especially based on recent traveling history. Therefore, more news cases were started to identify and on the completion of first 10 days of the March 2020, the total number of COVID-19 positive were 19, majority of identified patients belongs to Sindh province (14 cases), it had been recorded that some had recent travel history from Syria and London. After that the number of suspected COVID-19 case from several district of Panjab was

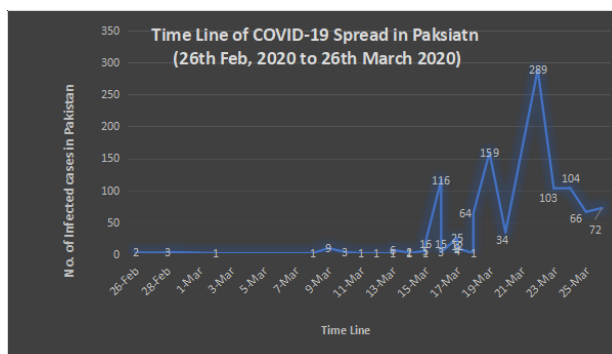


Figure 1 The number of COVID-19 positive cases reported by the Government of Pakistan.

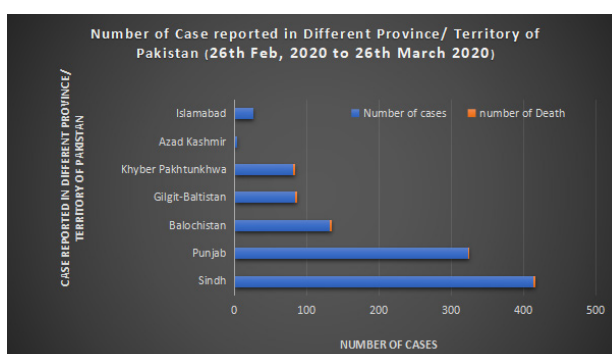


Figure 2 The number of COVID-19 positive cases and deaths in different areas of Pakistan reported by the Government of Pakistan.

increased however later on they were declared clear and COVID negative. However, two new confirmed cases of COVID-19 from Gilgit (skardu and Shigar district) with one recover case by the end of 12th March 2020. The very first case of local transmission of disease was identified after identification of a 52-year-old patient who had travelled from another city Islamabad. On the end of the same day few more cases identified thus total number of positive cases risen to 28, among these new cases some are were identified from Taftan and other were from different district of Sindh.

Later, 03 new cases on 14th March, and 05 cases were reported found COVID-19 positive on 15th March 2020 from Karachi and Islamabad among them 03 had recent travel history from Saudi Arabia. Very first case of Lahore was reported the COVID-19 who recently return from United Kingdom and was kept at isolation ward, designated as quarantine. While, the number of cases were kept increased by 53 as new cases were identified mobile lab testing at Taftan border.

Now, the situation became more alarming as on the 16th March 2020 more than 100 new positive cases were identified only from a single province, Sindh (116 cases). According to the government health officials, new 134 COVID-19 positive cases registered, rest of new cases were reported from Khyber Pakhtunkhwa (15 cases) and Baluchistan (03 cases), with this the total number of positive cases became 187 across Pakistan. The frequent increase in the disease outbreak continue like on 17th March 2020, total number crossed 237 with Punjab (new cases 25) Sindh (new cases 12) and Islamabad (new cases 04).

On 18th March 2020, the first case of COVID-19 positive was reported from Azad Kashmir with one recovery case from Hyderabad. On the same day, unfortunately in Pakistan, first two death cases (36 and 50 year old) were reported because of coronavirus both cases reported from Khyber Pakhtunkhwa, one of them had recent

travel history of Saudi Arabia, at the end of the day, total number of COVID-19 cases reached to 302 cases. On 19th March 2020, situation became further worst as in each province of Pakistan because of the aggrive outbreak the number of COVID-19 positive cases increases by 1 to 2 folds (33 to 80 in Punjab; and from 23 to 81) with total new 159 registered cases, this had cussed the quick jump in the total number of confirmed registered cases from 302 to 461, because of this worst condition, government also announce lock down in different provinces of Pakistan. Next day, i.e. on 20th March 2020, first death case was reported in coronavirus infected patient, his age was 77 and suffered from other sever medical conditions as well including diabetes and hypertension. On this day the intensity of the identifies cases (34) was less as compared to previous day however the total number of coronavirus infected patients became 495 in Pakistan.

After the little relieve of one day, on very next day i.e., 22nd March 2020 again high increase were seen in the reported cases (new 289 cases), and total number of cases reaches to 784 from 495 cases. On the same day three deaths were reported from coronavirus among them one was the doctor who were screening and treating the possible virus infected pilgrims. Further measure was taken by the government officials and more people were transfer to different quarantine places who identifying as COVID-19 positive. On 23rd March 2020 one of the Sindh official (education minister), also identified COVID-19 positive and went to self-quarantined, strict screening were continue at different check point including international airports, further lockdown were implemented in rest of the areas of Pakistan including Panjab, Baluchistan, Azad Kashmir on 24th march 2020. Three more patients were successful recovered and returned to home, however so total 8 death reported due to coronavirus in Pakistan. The COVID-19 positive cases were kept reporting and increasing the recent update figure till 26th March 2020 reach by 1130 and total death 09 death are reported. This Pandemic should be treated as life threatening and more precautions should have to be taken in order to break or cease the outbreak of coronavirus.

REPORTED PAKISTANI POSITIVE CASES OUTSIDE THE COUNTRY

Before the coronavirus outbreak in Pakistan, the first Pakistani student was registered COVID19 positive, he was studying in China, later five other cases were registered positive. All of them were successfully recovered after two weeks of treatment. Apart from China, another Pakistani was not only reported positive also die from the virus infection in Italy on 11th March 2020. Till date few other Pakistani were reported positive at different countries including Afghanistan (12th March 2020), Palestine (20th March 2020) and Gaza (21st March 2020).

CONCLUSION

After analyzing the available data and based on the previous epidemic pattern we can assume that unfortunately if further preventive precautions and measurements will not be taken immediately, the scenario may become worse. In order to avoid the further spread of this pandemic we should first break the chain of disease transmission either local or by travelling. In addition, previously successful treatment regime in coronavirus related epidemics like SARS and MERS or in other respiratory infectious disorders may be applied to achieve suppression in the spread of this pandemic or it may be helpful in completely eradication of the pathogen from the body.

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