

## SHORT COMMUNICATION

### Coronavirus Outbreak: Health Care Measures taken by Pakistan

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#### ABSTRACT

Coronavirus pandemic is affecting the whole world. The number of cases have been sharply increased in Pakistan. The Government of Pakistan have taken multiple measures in order to control the epidemic. National action plan has been designed to tackle the outbreak. Smart lockdown was imposed in many districts. Thirty-five tertiary hospitals were declared treatment centers for the corona virus patients, 2942 isolation beds were specified and 57 quarantine facilities were provided in 139 districts of Pakistan. Diagnostic facilities all across the country took up to forty-six thousand test per day. Massive public awareness campaigns regarding prevention were introduced. All these timely measures resulted in remarkable control of coronavirus cases. The purpose of this short communication is to review the healthcare measures taken at national level to combat against the pandemic.

**Key Words:** Control, Cases, Measures, Pakistan, SARS-COV-2.

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#### Introduction

Corona virus disease is very infectious disease that has affected more than twenty-five million individuals around the globe in 213 countries.<sup>1</sup> The pandemic was announced as sixth public health emergency by world health organization (WHO) in January 2020. It spreads through tinny droplets produce during sneezing and coughing and contact with contaminated surface.<sup>2</sup> The incubation period of coronavirus is from 2 to 14 days.<sup>3</sup> It presents differently among different people ranging from mild symptoms to life threatening complications.<sup>4</sup> Infected persons can be asymptomatic, which not only make diagnosis difficult but also prevention of transmission of virus becomes a real challenge.<sup>5,6,7</sup>

This was the third outbreak of coronavirus family; two coronavirus epidemics were of severe acute respiratory syndrome coronavirus (SARS-COV) and Middle East respiratory syndrome coronavirus (MERS-COV).<sup>8</sup> As per WHO statistics, total 24,822,800 confirmed cases with 838,360 mortalities have been reported.<sup>9</sup> To date, the numbers of highest cases are reported in United States of America (USA) followed by India and Brazil.<sup>10</sup>

In Pakistan, the first two cases were reported on 26th February 2020 in Islamabad and Karachi.<sup>11,12</sup> Withing two weeks, the total number reached to twenty. All cases came from Iran, Syria or London. The neighboring states of Pakistan were badly affected, while Pakistan was on sixteenth number among all the affected countries in the globe.<sup>9</sup>

In order to tackle the coronavirus outbreak, the health ministry of Pakistan gave national action plan. The aim of was to reduce the spread of virus and fortification of the national and local level readiness. The regional, national and local outbreaks can have substantial effects on the health and economy of the Pakistani nation.<sup>14</sup> Different strategies have been adopted at national and local level including designated tertiary level hospitals, quarantine centers, lab facilities, treatment guidelines, national level public awareness and smart lockdown. These steps have resulted in remarkable control of

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outbreak from 6472 cases per day on 12th June to 264 cases per day on 29th August 2020.<sup>9</sup>

The objectives of this review are to elaborate the measures taken by government of Pakistan and show the current situation in Pakistan

### Existing situation Of Pakistan

The total 295,636 confirmed positive cases have been reported till 30th August 2020 with 6,288 deaths and 8,801 active cases. The recovered cases were 280,547 and recovery rate of Pakistan was 94.9%. The highest cases of corona were reported from Sindh (129,268) followed by Punjab (96,741), Khyber Pakhtunkhwa (36,017), Islamabad (15,611), Baluchistan (12,842), Gilgit Baltistan (2,863) and Azad Jammu & Kashmir (2,294) The highest number of deaths occurred in Sindh (3,968), followed by Punjab (2,074), Baluchistan (1,000), Khyber Pakhtunkhwa (841), Islamabad (469), Gilgit Baltistan (331) and Azad Jammu & Kashmir (118). The fatality rate of Pakistan is 2.1%.

### Measures taken by Government of Pakistan

All the initial cases had an international travel history, therefore standard operating procedures were devised for all international airports across the country. In collaboration with Civil Aviation Authority, the federal government formulated a screening system for all the passengers coming to Pakistan from foreign countries specially China, Japan, South Korea and Thailand where spread of infection was at its peak. New cases with travel history to Iran were also reported, therefore flights coming from or via Iran were screened with strict SOPs. Meanwhile, rapid case identification, contact tracking and tracing, social distancing, quarantine policies and procedures were started to out in place.<sup>15</sup> National Institute of Health (NIH), Pakistan played an important part in creating awareness to general public. Epidemiology experts at NIH devised special protocols for prevention and containment of transmission of infection. The guidelines were related to adequate hand sanitization and personal hygiene; utilization of personal protective materials including facemasks, disposable gloves; screening of high-risk patients, collection of samples, and handling the suspected cases. At the start of epidemic, there was a severe shortage of diagnostic facilities in Pakistan including diagnostic centers, dedicated staff and testing kits.<sup>16</sup> Subsequently

Diagnostic kits and primers were imported and the country became self-sufficient diagnostic kits were started to import from other countries, especially China and primers imported from Japan. National Institute of Health subsequently became capable of screening a large number of patients on a daily basis.<sup>17</sup> There were seven hospitals designated to carrying out covid-19 tests country wide, including one hospital each at Islamabad, Lahore and Peshawar while two hospitals each at Karachi and Quetta.<sup>18</sup>

Another 300 bedded isolation hospital was specifically established in Islamabad. In other countries some hospitals were dedicated quarantine centers but the beds were not enough to fulfill the huge need, and these hospitals also faced shortage of equipment and testing kits. Personal protective material including facemasks, gloves and suits were ran short in the market. And a 2-3-fold rise in prices was observed.<sup>19</sup> Drug Regulatory Authority of Pakistan and National Disaster Management Authority took action against pricing, illegal stocking and middle-man profiteers to control the situation and encouraged local production of facemasks and gloves.<sup>20</sup> As the healthcare system of Pakistan is not robust to bear huge epidemic burden, many compromises noted in the service delivery. A covid-19 relief fund was established by the Pakistani government to collect donation for public well-being. At the same time, helplines were made in various languages in order to facilitate the local population to reach out for help.<sup>21</sup>

### Designated Hospitals for COVID-19 Outbreak in Pakistan

In the capital territory Islamabad, there was a single hospital functional. While in the Baluchistan, there were 10 hospitals for COVID-19. In Khyber Pakhtunkhwa (KP) 7, Punjab (PJB) 6, Sindh (SD) 4, Gilgit-Baltistan (GB) 4, and Azad Jammu and Kashmir (AJK) 3 hospitals were functional as showed in the Figure 1.<sup>22</sup>

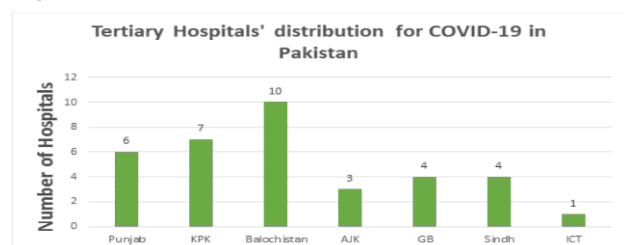
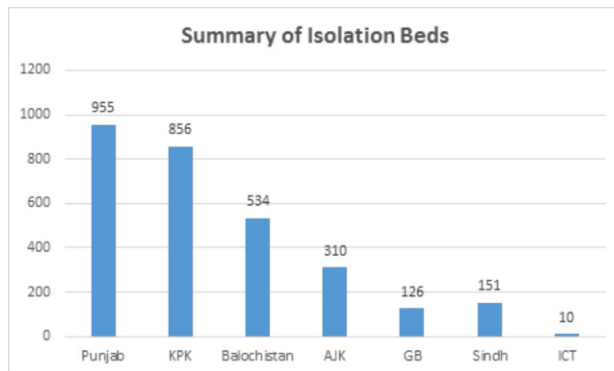


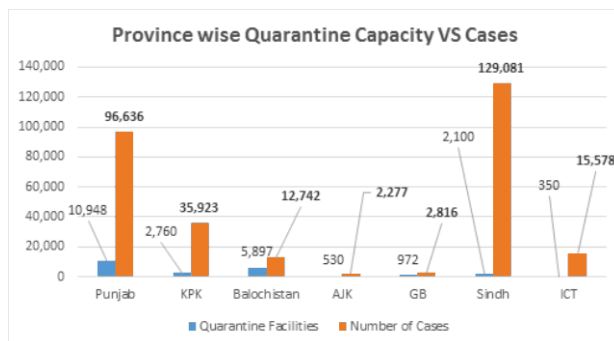
Fig 1: Distribution of hospitals in provinces<sup>22</sup>

Total 2942 isolation bed were allocated for the epidemic (figure 2). The number of isolation beds were highest in Punjab followed by KPK. The lowest number of beds was in ICT pertaining to single designated hospital.<sup>22</sup>



**Fig 2: Summary of isolation beds hospitals across Pakistan<sup>23</sup>**

Total 23, 557 quarantine beds facilities are provided in the 139 districts of Pakistan. Figure 3 shows the summary of cases in comparison of quarantine facilities in Pakistan.<sup>24</sup>



**Fig 3: Summary of province wise Quarantine capacity vs case burden in Pakistan<sup>24</sup>**

### Lab facilities for COVID-19

For COVID-19 testing polymerase chain reaction (PCR) test is used globally. Pakistan increased testing capacity up to 46,570 till 10<sup>th</sup> June 2020.<sup>25</sup>

### Clinical trials for COVID-19

Only 25 clinical trials are in progress. Even the government has not announced or dedicated any hospital or center for the clinical trials at national level. The health authorities must focus this neglected area in order to complete the paradigm of care.<sup>26</sup>

### Conclusion

The coronavirus pandemic is affecting the whole world and particularly developing country like

Pakistan. The government needs to strengthen the health system of Pakistan in order to fight deadly diseases.

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