

1 *Article*

2 **Risk Management and Early Measures Taken by**
3 **Pakistan to Combat with Novel Corona Virus**
4 **(COVID-2019) in the Light of Global Health Security**
5 **Index (GHS)**

6 **Wajahat Ali Ghulam ^{1,*}, Jiuchang Wei ²**

7 ¹ Wajahat Ali Ghulam ; ali2019@mail.ustc.edu.cn

8 ² Jiuchang Wei; weijc@ustc.edu.cn

9 * Correspondence: ali2019@mail.ustc.edu.cn; Tel.: (0092-3435693853)

10 Abstract: This research paper is mainly aimed to elaborate the initial risk management and
11 measures which government of Pakistan took towards Novel Corona Virus (COVID-2019).
12 This initial response and planning was devised after the early outbreak of COVID-2019 in
13 Wuhan, China in early time of January 2020. Pakistan devised a comprehensive plan that not
14 to evacuate their student from Wuhan, China. The government of Pakistan in compliance
15 with the National Institute of Health (NIH) devised and documented comprehensive plans
16 such as the flight operations postponed related to Umerah pilgrims, which were intended to
17 go to sacred places of KSA (The Kingdom of Saudi Arabia). The process of visa, immigration
18 policy totally changed and the government of Pakistan notified it officially that, no new visas
19 of visit, student, and business would be issued in due course of uncertainty due to COVID-
20 2019. The government of Pakistan also announced medical emergency and notified through
21 the country's provinces the process of testing and treatment of COVID-2019. The
22 government of Pakistan also allocated funds for medical supplies and named out the
23 particular country's best laboratories. The government of Pakistan also locked down all the
24 cities with the emergency announcement that people should stay inside the home in
25 quarantine or self-isolation.

26 NIH (The National Institute of Health) played a vital role in executing the planning to cope
27 with COVID – 2019). The National Institute of Health responded as “The Centre for Disease
28 Control”. In aid to the government, the national army of Pakistan responded in a proactive
29 manner towards planed execution. The medical corps of Pakistan army dedicated themselves
30 to treat the suspected patients of COVID – 2019. Due to plans, policies being documented,
31 implemented in such a way productive way that from February 28, 2020 to till date there is
32 not much critical situation and issues are not present. There are much productive results as
33 there is not much boom in a rise of COVID-2019 patients. This lockdown under the authority
34 of the provinces resulted in fruitful outcomes. (1) Background: On January 02, 2020,
35 authorities of the People Republic of China elaborated that they have encountered with a
36 novel type of infectious viral disease 2019. Later on January 12, the authorities from China
37 elaborated the related sequence of Corona Virus diseases 2019 names as COVID – 2019.
38 When COVID-2019 being identified in Wuhan, Hubei China, as an early response the
39 Government of Pakistan in support of the National Institute of Health (Field Epidemiology
40 & Disease Surveillance Division) published a health advisory about novel coronavirus ; (2)
41 Methods: According to Global Health Security Index, Pakistan is ranked as 105th country

42 among 195 countries in GHS index. Overall Score of Pakistan is 35.5. The score of Early
43 Detection and Reporting for Epidemics of Potential International Concern is 41.7. A
44 Graphical depiction of the COVID-19 cases placed until April 10, 2020 as well as a graph
45 trend line of recovered as well as death rate is also depicted. According to the graphical facts
46 of Government of Pakistan and World meters, the recovery rate of COVID-19 is about 98
47 percent and 2.1 percent death rate is reported against the total cases. Trend analysis with line
48 graph was drawn based on available data from official dashboard web portal of the
49 government of Pakistan and worldometers.info. Data figures were incorporated from March
50 to August 18, 2020 in MS Excel and then subsequently deployed to draw trend analysis from
51 managing risk to recovery. (3) Results: The line graph showed a slowdown in the COVID-
52 19 cases and high rate of recoveries from COVID-19 in Pakistan. On March 11, 2020, there
53 were 20 confirmed cases of coronavirus reported in Pakistan. No death was recorded in very
54 first seven days, on March 18, 2020 only two deaths were reported. On August 18, 2020,
55 there were 272128 recoveries, 6201 deaths, total confirmed cases 290445, and total test were
56 2340072 in Pakistan. As a results, we can report that due to early measures taken by
57 government of Pakistan no mass scale destruction in terms of death and cases been recorded
58 in Pakistan. (4) Conclusions: To till date, the government of Pakistan tried its level best to
59 minimize the coronavirus cases as much as they can. However, the ending of the potential
60 attack of an outbreak would depend upon the well organized and coordinated approach at all
61 levels such as true directed decisions, fully preparedness, as well implementation and
62 evaluation of continuous decisions. As the recovery rate of the cases is 98 percent and merely
63 death rate is 2.1 percent, concluded that in future it would be a good sign to stop the potential
64 outbreak. Also, lock down as well as precautionary measurement taken by the provincial
65 governments resulted a decline number of COVID-19 cases in the country. Another good
66 sign is that merely 4 percent population of Pakistan is of more than 60 years of old it can be
67 concluded that there are less chances of mass death due to outbreak of COVID-19.

68 **Keywords:** risk management and early measures; Novel Corona Virus (COVID-2019); GHS

69 1. Introduction

70 Overview and introduction of Pandemic Situation COVID-19

71 On January 02, 2020, authorities of the People Republic of China elaborated that they have encountered with a
72 novel type of infectious viral disease 2019. Later on January 12, the authorities from China elaborated the
73 related sequence of Corona Virus diseases 2019 names as COVID – 2019. When COVID-2019 being identified
74 in Wuhan, Hubei China, as an early response the Government of Pakistan in support of the National Institute
75 of Health (Field Epidemiology & Disease Surveillance Division) published a health advisory about novel
76 coronavirus (WHO, January 20, 2020). The countries around the globe encountered with a novel viral disease
77 named as COVID-2019. However, according to many scientists of the globe, Coronavirus is not a new outbreak
78 such as it is considered as a fifth type of Coronavirus names as SARS-VOV2. It has related characteristics and
79 evolving traits of epidemiology. Coronavirus is contained on the large number of families that might cause the
80 illness and coldness phenomenon, severe level of diseases named as Middle East Respiratory Syndrome
81 (MERS-CoV) in the year of 2012. As well as Severe Acute Respiratory Syndrome (SARS – CoV) in the year of
82 2003 (NIH, March 13, 2020). Contemporary level of strain of COVID-19, is novel one which has not been
83 identified in humans in past times. As early, some people in the city of Wuhan reported some level of infections
84 might be linked from seafood, concluded as animals to human being spread. Incremental level of patients
85 reported that in the past they have not contact with animal. Both viral diseases such as MERS and SARS
86 reported as known to have the cause of severe level of illness in the people. There is also many associations
87 related to SARS – COV2 and which might be associated with COVID-2019. Even more, the results indicating
88 several deaths reported in China, Japan, South Korea and other countries of the globe. There are many research

89 studies are still going on to find out the root causes of viral infection. According to World Health Organization,
 90 such public outbreaks are considered as public level of health concern. According to WHO, advisory all
 91 countries around the globe must curb some firm policies to detect and respond towards viral infectious disease
 92 as well as prepare great care for infected and potential patients, ensure efficient facilities in the hospitals and
 93 dedicated spaces, medical supplies, complementary staff, and lifesaving medical aids.

94 **Statistics of World Wide cases to till date**

95 According to worldometers.info/coronavirus, these are the statistics of COVID-19:as per April 10, 2020 and
 96 August 18, 2020.

97 Number of affected countries: More than 180

Worldwide Cases of COVID-19	1,760,468	Pakistan Cases of COVID-19	4784
Deaths due to COVID-19	107, 625	Deaths due to COVID-19	71
Recoveries from the COVID-19	395, 404	Recoveries from the COVID-19	762

98 Source: Retrieved from covid.gov.pk and worldometers.info as per April 10, 2020

Worldwide Cases of COVID-19	22,397,244	Pakistan Cases of COVID-19	290445
Deaths due to COVID-19	786,164	Deaths due to COVID-19	6201
Recoveries from the COVID-19	15,122,104	Recoveries from the COVID-19	272128

99 Source: Retrieved from covid.gov.pk and worldometers.info as per August 18, 2020

100 **Global Health Security Index (GHS) about Pakistan**

101 The Global Health Security Index (GHS) devised out a comprehensive level of assessment, being developed
 102 with the collaboration of Nuclear Threat Initiatives, Johns Hopkins Center for Health Security, and Economist
 103 Intelligence Unit, which is covering global health security linked with capabilities in 195 countries around the
 104 globe. The index of GHS enlisted the countries, which are efficiently prepared for epidemic or pandemic
 105 situations. The average scoring of all the countries around the globe is rated as about 40.2 out of 100. However,
 106 the high level of income possessing countries reported an average score of 51.9. The collective international
 107 level of responses from the countries around the world remained much weak.

108 Overall, the scoring system of GHS Index rated much level of weaknesses in the countries' preparedness
 109 towards detection and response to emergencies related to health. Many gaps being identified in the health
 110 system, the vulnerability of the political situation, socio economic activities and lack of paying attention to
 111 international regulations. The analysis in annual reports of the GHS Index found that no country depicts
 112 preparedness for situations like epidemics and pandemics. At large, the preparedness level of international
 113 counties is considered as much weak. Many countries around the globe, depicts not much evidence of the
 114 capacities of health security and the capacity to show the response towards prevention, detection, and to
 115 respond towards infectious outbreaks. Pakistan is ranked as the 105th country among 195 countries in GHS
 116 index. Overall Score of Pakistan is 35.5. The score of Early Detection & Reporting For Epidemics of Potential
 117 International Concern is 41.7. The Score of Rapid Response to and Mitigation of The Spread of An Epidemic
 118 of Pakistan is 38.7. The Score of Sufficient & Robust Health System to Treat the Sick & Protect Health Workers
 119 of Pakistan is 19.9. The Score of Commitments to Improving National Capacity, Financing and Adherence to
 120 Norms of Pakistan is 49.7. The Score of Prevention of Emergence or Release of Pathogens of Pakistan is 24.1.
 121 The Score of Overall Risk Environment and Country Vulnerability to Biological Threats of Pakistan is 38.7
 122 (Index, 2019).

123 **Risk Management Techniques to Combat Coronavirus by Pakistan**

124 It was reported in a recent research study of results that developing countries like Pakistan has poverty,
 125 instability of the political system, the factor of terrorism as well as other epidemic and infectious diseases are
 126 present due to non-availability of healthy resources such as diagnostic and research laboratories. These are
 127 some risk management techniques to combat the corona virus (Khan, Siddique, Ali, Xue, & Nabi, 2020).

128

129 **Isolation or monitoring technique**

130 It is not feasible for Pakistan to completely lock down the country like China, because the country may face
 131 huge loss in terms of economy. Hence, is advised to enforce some primary level of prevention and isolation of

132 patients and potential suspected cases of coronavirus. According to these suggestions, the government of
133 Pakistan also not completely lock down everything instead of a partial lockdown and some preventative
134 measures (Tribune, March 20, 2020)

135 **Robust Measures Technique**

136 The research study of these authors also suggested that government of Pakistan must make robust measures
137 to limit the movement of the international people, which may be infected of coronavirus. Therefore,
138 government of Pakistan initially showed response towards coronavirus outbreak not to evacuate the students
139 from the infected area of Wuhan, Hubei province, China to fight against nCOV-19. It resulted in much
140 beneficial for Pakistan that from January 26 to February 25, 2020 that, "There were no cases of novel coronavirus
141 reported in Pakistan just because of robust measure technique" (Web, March 24, 2020).

142 **COVID – 2019 Cases in Pakistan**

143 Pakistan reported its first case of the novel outbreak of COVID-2019 in Karachi on February 26, 2020. On March
144 13, 2020, The government of Pakistan announced a country wide rapid response towards to combat
145 coronavirus such shutting down the borders with neighboring countries like Iran and Afghanistan, imposing
146 ban on public gathering and closing all the educational institutions across the country till May 31, 2020. (Web,
147 March 24, 2020). As per April 10, 2020, from 4695 cases, the death rate of the patients is 8 percent and the
148 recovery rate is 92 percent. It means that the steps taken by Pakistan are much efficient that the fatality rate is
149 much lower in comparison to the recovery rate (Pakistan, 2020).

150 **The Background of COVID-19 cases in Pakistan**

151 Major chunks of the COVID-19 patients were Shi'ite Muslims pilgrims who were returning from religious sites
152 of Iran. In Iran, it was reported the death statistics due to outbreak of coronavirus rose from 1800 and more
153 than 2300 cases. According to the Pakistani nationals returned back from countries such as Saudi Arabia, Syria,
154 Iraq, Britain and the U.S also reported as corona virus patients (VOA, March 23, 2020).

155 Around every year, a large number of Shia Muslims from Pakistan travel to Iran to visit the sacred shrine. The
156 outbreak of coronavirus happened in Pakistan just because of the majority of the pilgrims returning from the
157 Iran, Taftan border. As the pilgrim resides almost in all of the provinces of Pakistan therefore, it considered as
158 a potential risk of spread across country. In the start, the government of Pakistan sealed the 560-mile border
159 with the neighboring country Iran. For some time, the government of Pakistan lingered on the return of
160 thousands of pilgrim along the border.

161 Government of Pakistan constructed a quarantine camp in Baluchistan, but due to far distant from city facilities,
162 the government decided not to be responsible for the occurrence of health and security crisis. Therefore, to
163 keep alive the pilgrim along far long areas of the border, the government allowed the pilgrims to enter into the
164 country's quarantine centers. As per 18th amendment, the provincial governments of Pakistan act as
165 autonomous administrative units. Therefore, major counter measures to be taken by the provisional
166 governments. In the start, the provincial governments imposed a lockdown, when there has not been much
167 boom in the potential positive cases of coronavirus. The government of Pakistan was already stuck in economic
168 crisis, as it has not much financial as well as medical preparedness to deal with the outbreak, nor the capability
169 to completely lock down the country as much of the population's per capita income is not much high. In recent
170 times, the economy of Pakistan is struggling through stumbling situation. The final ending and contemporary
171 stage will have much severe impact on the economic situation of Pakistan. Might be in future, the government
172 of Pakistan report the high rate of unemployment figures. As well as, the government may face political crisis,
173 as there is not much consensus across the political parties of the country (ANALYST, April 13, 2020).

174

175

176

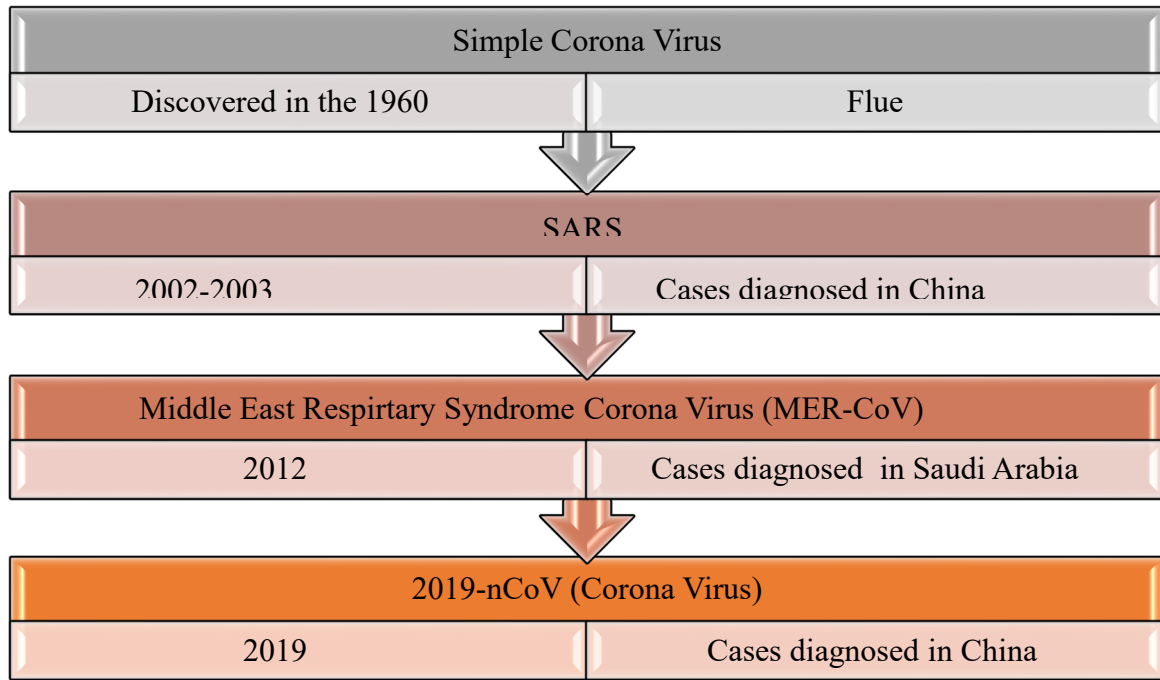
177

178

179

180

Historical Occurrence of Corona Virus



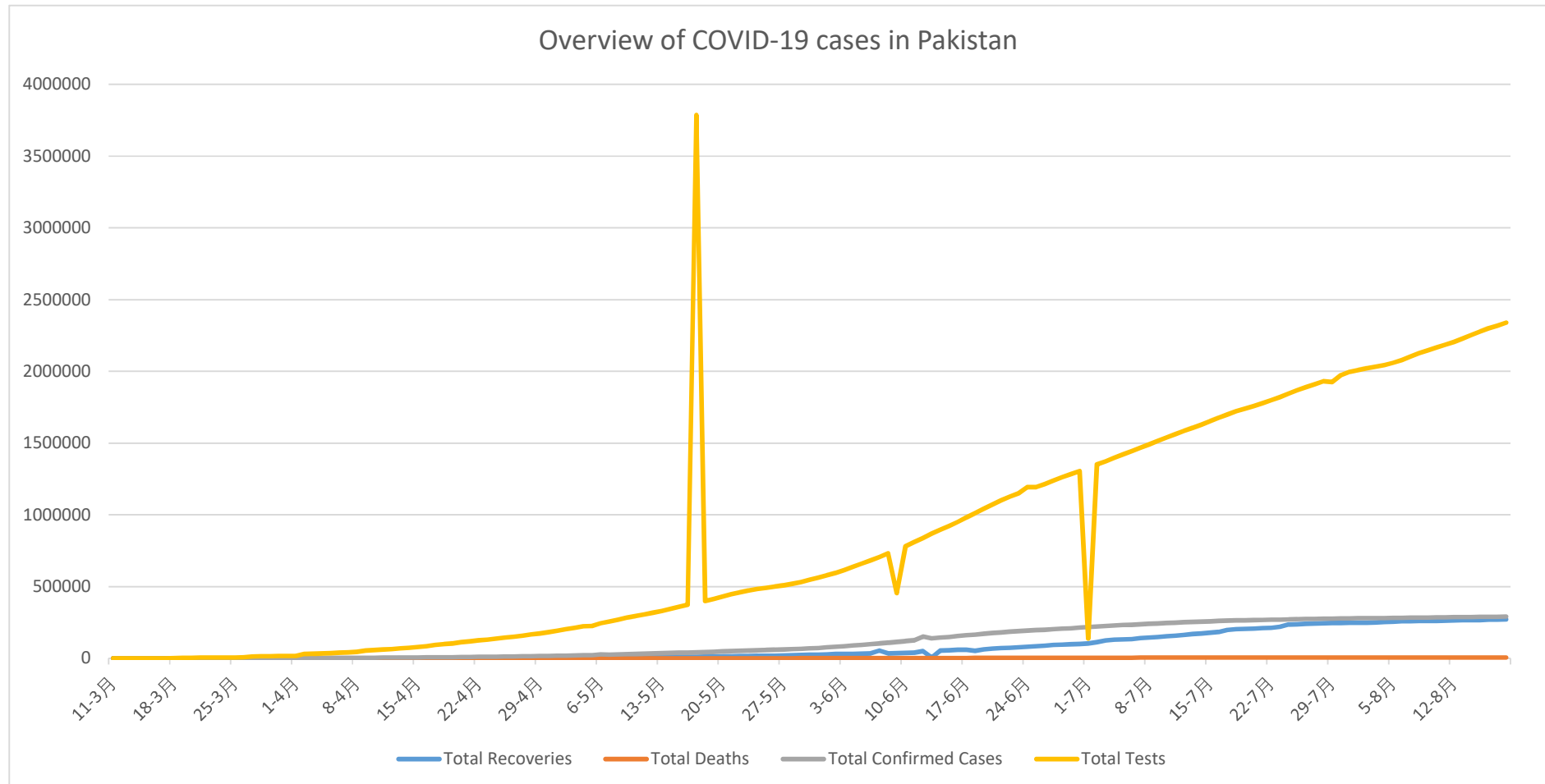
Source: Compiled by the researcher based on the historical facts.

181
182
183

2. Results

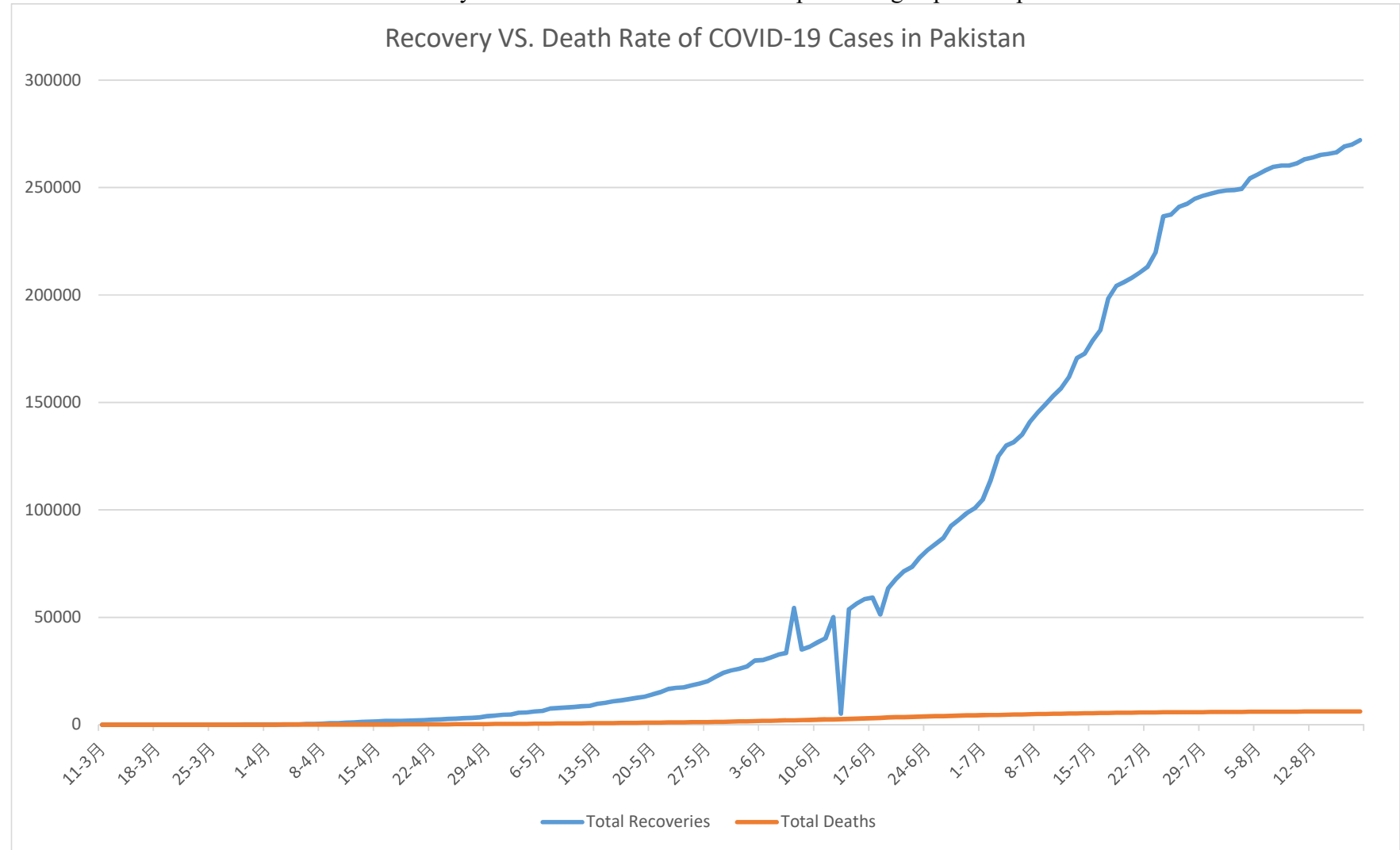
Graphical Depiction of cases in Pakistan

Source: Generated by the researcher retrieved from <http://covid.gov.pk/stats/pakistan>



Outcome of total cases in Pakistan: Recovery Rate VS. Death Rate

Source: Generated by the researcher retrieved from <http://covid.gov.pk/stats/pakistan>



1 5. Conclusions

2 The Recovery Rationale

3 Usage of antimalarial drugs

4 As new cases reported in Pakistan across different regions, the government of Pakistan in compliance with
5 other provinces cooperated in such a manner that the recovery rate is growing day by day. In recent media
6 reports and interviews of Chief Executive Officer of Mayo Hospital Lahore, elaborated that "In the various
7 hospital across the province Punjab, antimalarial drugs with the mixture of other drugs depicted the positive
8 recovery results towards coronavirus patients". In recent updates, the U.S authorities of the drug also approved
9 limited utilization of antimalarial drugs, chloroquine and hydroxychloroquine, for curing the coronavirus
10 patients. According to official figures given by Dr. Aslam, "In last fifteen day eight infected patients of
11 coronavirus have been cured by using these medicines. The doctor also elaborated briefly that after successive
12 results of usage of these medicines in China, almost all the hospital in Pakistan will use these medicines as for
13 their productive results". The spokesman of the provincial government of Punjab told that government has the
14 capacity of almost 50, 000 such medicines (G. News, April 01, 2020).

15 Restrictions Imposed

16 "The lock down and other restrictions being imposed resulted in wide control the mass spread of the novel
17 coronavirus", said by Asad Umar, the federal minister of Planning and Development. Furthermore, the
18 continuation of imposed restrictions would result in yield better productive results. In further details due to
19 these precautionary measurements, there is no evidence of the escalation of the outbreak of coronavirus in the
20 country as compared to Western countries where the number of cases as well as fatality rate is much high (T.
21 News, April 02, 2020).

22 The evolving initial response of Pakistan and risk management of COVID-19

23 Lock down Decision by the government

24 First case of coronavirus reported in Karachi, Sindh. Hence, the provincial government of Sindh imposed lock
25 down in the province. In compliance to impose the full lockdown across the cities of Sindh, the government
26 called out the military support. As due to stumbling economic situation of Pakistan, the agenda of the federal
27 government was to show the positive development towards the public health as well as to uplift the economy
28 and save it major decline. Therefore, on March 24, 2020 not to hit the public at large by hunger and poverty,
29 the federal government imposed the virtual lock down, by allowing the public to buy complementary food
30 item and medicines from stores. Furthermore, on April 01, 2020 on examining the situation government of
31 Pakistan extended the lock down till April 14, 2020 to combat COVID-19 (Web, March 24, 2020)

32 Not to evacuate students from Wuhan

33 As the novel coronavirus outbreak identified in Wuhan. The evolving response of the government of Pakistan
34 in late January was not to evacuate about 500 students from Wuhan, Hubei Province, China. Due to the
35 potential carrier of coronavirus, the government of Pakistan not evacuated its student from that city. However,
36 the situation changed on February 26, 2020, when Pakistan reported its first case as the patient travelled from
37 Iran and carried the virus (Web, March 24, 2020)

38 Border Shutdown and Suspension of Educational Institutions

39 On March 16, 2020, the government of Pakistan took the decision to shut the border with Iran, Afghanistan
40 over the virus for two weeks. All technical institutions, public and private, at all levels, Education institutions
41 across the country also closed. The federal government also announced that education institutions
42 across Pakistan would remain closed until May 31. The government also announced that "the closure would
43 be treated as summer vacation and if the coronavirus problem were resolved in the meanwhile, educational
44 institutions would reopen in June" (AA, March 16, 2020)

45 Flight, Visa and Immigration suspension measures by Pakistan during COVID-19

46 Some people from Pakistan visit neighboring country Iran for business or religious visit. In the mean hour,
47 Tehran was utilizing its efforts to combat coronavirus, the pilgrims started to return to Pakistan by air as well
48 as land routes. At that time, the government of Pakistan too decision to suspend the flight operations from Iran.
49 In addition, the screening process of the passengers started on airports. An isolation center was established
50 with basic facilities to quarantine the pilgrim at Taftan in Baluchistan. On 28th January, 2020, the NIH (The

51 National Institute of Health of Pakistan) in compliance with aviation authorities issued Advisory on an
52 outbreak due to novel coronavirus (Web, March 24, 2020)

53 **Role of the Pakistan Army to Cope with COVID - 2019**

54 The first response from The National Security Committee, an apex civil military coordination body emerged
55 on March 13, 2020. Moreover, a delegation went out to Beijing, China to checkout complementary test kits and
56 other related medical supplies to cure and stop the potential outreach of virus (Stimson, March 24, 2020)

57 **Pakistan Deploys Army to Impose Coronavirus Lockdown**

58 On March 23, 2020, the Government of Pakistan in compliance with military forces decided to deploy troops
59 to enforce the lockdown of 220 million population to prevent the potential spread of an outbreak of novel
60 coronavirus. The interior ministry of government of Pakistan deployed the troops in four provinces such as
61 Punjab, Sindh, Khyber Pakhtunkhwa and Baluchistan. Later on, the military troops deployed to Pakistan
62 Administered Kashmir, Gilgit Baltistan and in the line of control areas. In a press release issued by the media
63 office of Pakistan military it was said that along with the troops of Pakistan army, the medical staff will also
64 start its operations to combat the coronavirus (Gandhara, March 23, 2020)

65 **Pakistan Army Provided Medical Assistance**

66 Military representative, Major General Babar Iftikhar concluded in a statement "Under the instructions of
67 government, the Chief of the Army Staff gave directions of the deployment of the troops as well as medical
68 staff to combat the corona virus outbreak". Furthermore, the army chief explained that the planning of
69 government would be effectively enforced as per directions. Army will cover all the aspects of the disciplines
70 and cooperation of the public at large. Furthermore, the COVID-19 testing laboratories have been established
71 in most of the military hospital across the country and centralized laboratories at the Armed Forces Institute of
72 Pathology (AFIP). The Pakistan army also initiated the help desk for the patients to track and handle the
73 patients and potential infected people. The Pakistan army is also fully engaged in managing and assisting the
74 federal government as well as provincial governments to combat the outbreak of novel coronavirus. Chief of
75 Army Staff also gave directions to initiate maximum precautionary measures to assist and aid the civil
76 administration for safety and wellbeing of the people of Pakistan at large (Tribune, March 23, 2020)

77 **Role of Pakistan Army Scientists**

78 On March 31st, 2020, a press release issued by ISPR stating that Pakistan army soldiers, Scientists, employees
79 of the National Command Authority (NCA), Engineers and Strategic Plans Division (SPD) took part in the fight
80 against coronavirus in such a way that they contributed their salaries to COVID-2019 Relief Fund. Scientists of
81 armed forces are providing assistance to manufacture sanitizers and troops be being sent to the quarantined
82 places. Army has finalized crisis and risk management strategy to defeat the virus. The Pakistan Army
83 personnel are ensuring enforcement measures to curb the spread of the coronavirus in the country after being
84 summoned under Article 245 (ISPR, March 31, 2020):-

85 Employees of Pay Scale 11-14 - 3 days

86 Employees of Pay Scale 8-10 - 2 days

87 Employees of Pay Scale 1-7 - 1 day

88 **Three and Four star hotels to become coronavirus quarantine centers**

89 On March 04, 2020, According to NDMA, almost all the three and four-star hotel became coronavirus quarantine
90 centers. All these centers equipped with necessary measurements and aid. The National Disaster Management
91 Authority issued a letter in compliance with the federal government that all provinces of Pakistan must follow
92 these directions. In the letter, NDMA also stated that all level of administrations took precautionary and
93 measures of preventative against novel coronavirus as per guidelines of the World Health Organization. All the
94 three and four-stars hotels allocate a single room for a single coronavirus patients (Samaa, March 19, 2020)

95 **The Biggest quarantine center in Pakistan**

96 On March 04, 2020, The Government of Punjab, Pakistan established the biggest quarantine center in Pakistan
97 to combat the outbreak of novel coronavirus. Officials of the government of Pakistan concluded in statements
98 "Quarantine centers in Multan will cater about 6,000 patients in once time". The Corpse Commander of Army,
99 Lahore also responded that military troops would assist and cooperate with the government of Punjab to stop

100 the spread of outbreak (A. News, March 18, 2020). On March 22, 2020, the Government of Pakistan establishes a
101 1000-beds Quarantine Centre in Wazirabad. This big achievement was the result of the public and private
102 partnership venture. The private NGO named as Muslim Hands International (MHI) educational complex's area
103 was utilized. At a time, one thousand suspected patients of coronavirus would be kept in such quarantine center.
104 MHI also aimed that it will provide food also donate Rs. 5 million to quarantine center (Nation, March 22, 2020)

105 **The Quarantine centers in Pakistan Railways Coaches**

106 On March 30, 2020, Pakistan Railway established Quarantine Center in train coaches. Six coaches have been used
107 to set up the quarantine center. The quarantine center has the capacity of housing 50 patients at one time. The
108 Railway's minister said that train services will not start sooner as the country is in the grip of the
109 coronavirus outbreak (Recorder, March 30, 2020)

110 **Food / Medical Supplies by the government of Pakistan to the Combat COVID-19**

111 The Ministry of Food Security and Research devised a plan and present to the National Food Security to assist
112 the government of Pakistan. All the provincial government of Pakistan also depict preparedness to food security
113 plans and must ensure the timely availability of food and ration to the people. In this regard, the government of
114 Pakistan issued PKR 50 billion. The Minister of the State and Frontier Region visited Afghan refugee village in
115 Kohat, and distributed food rations to 1000 refugee families. The UNHCR provided medical supplies and
116 sanitation products (sanitary clothes, soap and disinfectants) to the health facilities in support of refugees and
117 host communities in Baluchistan, Khyber Pakhtunkhwa and Punjab (NIH, March 13, 2020)

118 **Pakistani Artificial Intelligence Company "Poulta" Developed a Portable Ventilator**

119 Many companies have submitted designs and models of their own ventilators, which will be approved by a
120 government-created committee after testing. A Pakistani startup of Artificial Facial Intelligence has also quickly
121 developed a ventilator that has been introduced to the Pakistan Engineering Council (PEC) and Pakistan Disaster
122 Management Authority (PDMA). In order to cope with the shortage of ventilators in the country, the
123 Government of Pakistan has taken rapid efforts to bring together all the relevant public and private companies
124 and technology product companies on one platform, who are instructed to present designs and models of
125 ventilators.

126 "Poulta", a Pakistani startup of Artificial Intelligence (AI), has also quickly developed a ventilator that has been
127 introduced to the Pakistan Engineering Council (PEC) and Pakistan Disaster Management Authority (PDMA).
128 He said that currently there is a shortage of ventilators worldwide and in Pakistan may not be able to get them
129 immediately from other countries. If they are ordered from overseas, such ventilators cost from \$10,000 to
130 \$12,000, while they have manufactured the same quality and similar ventilators for only \$2200 e (Recorder,
131 March 31, 2020)

132 **The Prime Minister's Corona Relief Tigers**

133 On March 31, 2020, The Prime Minister of Pakistan imitated to launch Corona Relief Tigers. This force is a
134 volunteer force, who would assist the government about the ground situation. The ministry gave a statement
135 that all community level people can be registered in force as a volunteer through Prime Minister Office by
136 registering online portal digitalized form. Interested people must provide their name, age, contact and a union
137 council on required form to be part of force. The members from each union council will be given the task to
138 deliver the food and ration to deserving people such as low wagers. These registered volunteers will work and
139 report under the deputy commissioners of each district of Pakistan. The task force will be responsible of
140 distributing the necessary food items to the needy people. This task force will also have close monitoring on
141 potential patients from union councils (Nation, March 29, 2020)

142 **Pakistan approved a financial relief package**

143 Government of Pakistan approved about Rs. 1200 billion relief package to combat the potential and recent cases
144 of coronavirus. The Economic Coordination Committee (ECC) elaborated that this financial package will be
145 utilized as relief to different areas (Standard, March 31, 2020).

146 **Conclusion**

147 To till date, the government of Pakistan tried its level best to minimize the coronavirus cases as much as they
148 can. However, the ending of the potential attack of an outbreak would depend upon the well organized and
149 coordinated approach at all levels such as true directed decisions, fully preparedness, as well implementation
150 and evaluation of continuous decisions. As the recovery rate of the cases is 98 percent and merely death rate is
151 2.1 percent, concluded that in future it would be a good sign to stop the potential outbreak. Also, lock down as
152 well as precautionary measurement taken by the provincial governments resulted a decline number of COVID-
153 19 cases in the country. Another good sign is that merely 4 percent population of Pakistan is of more than 60
154 years of old it can be concluded that there are less chances of mass death due to outbreak of COVID-19. Most of
155 the population of Pakistan is youth, therefore, it is considered as an edge. Also the month of April and May are
156 considered as having more temperature. The medical staff are indulged in curing the patients with antimalarial
157 drugs, chloroquine and hydroxychloroquine. The results are much productive. In addition, the doctors of
158 Pakistan are working on some more curing medicines such as by using the plasma of the cured patients and
159 injecting them into patients. From all the steps, the decisions it can be concluded that very soon Pakistan will be
160 in a position to say that we have controlled the new outbreak cases of COVID-19.

161 **Author Contributions:** Mr. Wajahat Ali Ghulam wrote up the paper. Jiuchang Wei validated the formulated,
162 conceptualized the idea and scenario of paper.

163 **Funding:** "This research received no external funding".

164 **Acknowledgments:** for technical support and guidance, researcher is thankful to Jiuchang Wei, professor at
165 University of Science and Technology of China (USTC).

166 **Conflicts of Interest:** "The authors declare no conflict of interest."

167 References

- 168 ANALYST, T. C. A. C. (April 13, 2020). Iran's COVID-19 and Pakistan's Vulnerability. from
169 [http://www.cacianalyst.org/publications/analytical-articles/item/13613-irans-covid-19-and-pakistans-](http://www.cacianalyst.org/publications/analytical-articles/item/13613-irans-covid-19-and-pakistans-vulnerability.html)
170 [vulnerability.html](http://www.cacianalyst.org/publications/analytical-articles/item/13613-irans-covid-19-and-pakistans-vulnerability.html)
- 171 Index, G. (2019). Global Health Security Index from [https://www.ghsindex.org/wp-](https://www.ghsindex.org/wp-content/uploads/2020/04/2019-Global-Health-Security-Index.pdf)
172 [content/uploads/2020/04/2019-Global-Health-Security-Index.pdf](https://www.ghsindex.org/wp-content/uploads/2020/04/2019-Global-Health-Security-Index.pdf)
- 173 Khan, S., Siddique, R., Ali, A., Xue, M., & Nabi, G. (2020). Novel coronavirus, poor quarantine, and the risk of
174 pandemic. *Journal of Hospital Infection*.
- 175 NIH. (March 13, 2020). National Action Plan for Corona virus disease (COVID-19) Pakistan. from
176 <https://www.nih.org.pk/wp-content/uploads/2020/03/COVID-19-NAP-V2-13-March-2020.pdf>
- 177 Pakistan, G. o. (2020). COVID-19 Recovery VS. Death Rate. April 13, 2020, from
178 <http://covid.gov.pk/stats/pakistan>
- 179 Tribune. (March 20, 2020). Pakistan cannot afford complete lockdown over coronavirus fears, says PM. from
180 <https://tribune.com.pk/story/2180055/1-live-pakistan-reports-third-covid-19-death-as-tally-tops-450/>
- 181 VOA. (March 23, 2020). Pakistan Deploys Army to Deal With Coronavirus Outbreak from
182 [https://www.voanews.com/science-health/coronavirus-outbreak/pakistan-deploys-army-deal-coronavirus-](https://www.voanews.com/science-health/coronavirus-outbreak/pakistan-deploys-army-deal-coronavirus-outbreak)
183 [outbreak](https://www.voanews.com/science-health/coronavirus-outbreak/pakistan-deploys-army-deal-coronavirus-outbreak)
- 184 Web, R. (March 24, 2020). Pakistan's evolving response to COVID-19. from
185 <https://reliefweb.int/report/pakistan/pakistan-s-evolving-response-covid-19>
- 186 WHO. (January 20, 2020). Novel Coronavirus (2019-nCoV). from [https://www.who.int/docs/default-](https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200121-sitrep-1-2019-ncov.pdf)
187 [source/coronaviruse/situation-reports/20200121-sitrep-1-2019-ncov.pdf](https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200121-sitrep-1-2019-ncov.pdf)

188
189