Social and administrative issues related to the COVID-19 pandemic in Pakistan: better late than never

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Abstract

The study critically reviewed Pakistan's provincial updates of coronavirus disease 2019 (COVID-19) and discussed the current challenges faced by the government in a given context. The coronavirus-associated death tolls have been increasing rapidly in a country. The provincial status of confirmed cases of coronavirus is higher in Punjab, followed by the Sindh, Khyber Pakhtunkhwa (KPK), and Balochistan. The case fatality ratio shows that KPK has a higher ratio, i.e., 5.11%, followed by the Punjab, i.e., 1.82%; Sindh, i.e., 1.80%; Balochistan, i.e., 1.28%; Gilgit-Baltistan, i.e., 0.71%; and Federal territory, i.e., 0.66%. The country has a less testing capacity to identify more suspected coronavirus patients. The study calculated that if we increase five times our testing capacity from the current date, the total registered cases will be reached to 137,370 and death tolls will increase up to 3090. It is highly needed to increase testing capacity across Pakistan in order to minimize the outbreak of coronavirus. The provincial government should follow the Federal Government instructions to contain coronavirus by increasing testing capacities, tracing suspected patients, smart lockdowns, emergency relief to the poor, and vigilant monitoring system.

Keywords COVID-19, provincial updates · Challenges · Prevention · Pakistan

Introduction

Coronavirus disease 2019 is spreading all across the globe. Its effect has been remarkably different in different regions and countries to date and have been debated thoroughly. The novel virus is closely related to “severe acute respiratory syndrome (SARS)” and “Middle East Respiratory Syndrome

(MERS)” that has independently emerged from a zoonotic virus (see, Tang et al. 2020, Andersen et al. 2020, etc). The first case of the virus is from Chinese city Wuhan, Hubei in late December 2019, which officially declared this virus in 7 January 2020. Since then, it has been named “severe acute respiratory syndrome coronavirus 2 (SAR-CoV-2),” as it belongs to the severe respiratory infections that lead to causable pneumonia (She et al. 2020). Worldometer (2020) regularly updates the global figures for the number of affected patients, death rates, and details of recovered patients, which are affected by the SARS-CoV-2. The data shows that the total coronavirus cases have reached up to 4,014,436, deaths reported 276,251, and the total recovered patients are 1,387,230 in the world. This statistics is taken by Worldometer (2020) on May 09, 2020, 05:29 GMT. The number of new cases increases exponentially; thus, the given statistics regularly changed to show its susceptible outbreak across the globe. Pakistan is no exception where the coronavirus deepens its roots slowly and gradually. The first two confirmed cases of coronavirus were reported in Pakistan on 26 February 2020 and the total of infected cases is 27,474 (May 09, 2020, 05:29 GMT), the total death rates reached to 618, the total of recovered patients is 7756, and the active cases are 19,100

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(Pakistan-NIH 2020). Figure 1 shows the coronavirus update in terms of percentage in Pakistan to get more critical insights.

The given statistics in Fig. 1 shows that the share of total recovered patients in total confirmed cases is 21% whereas 77% of cases are still registered with the coronavirus and 2% share of deaths are reported in total confirmed cases. The study searched the keyword “COVID 19, Pakistan” on Google scholar and searched the words in the “title” of the previous literature and found 41 search results. Table 1 shows few of the literature related with the impacts of COVID-19 on Pakistan economy for ready reference.

COVID-19 and Pakistan’s climatic condition

Pakistan’s climatic condition is moderate, as it included both high and low temperature that can be seen in different parts of a country. The number of earlier studies largely provoked that regional climatic conditions would be helpful to access the intensity of coronavirus cases, for instance, Iqbal et al. (2020) found that COVID-19 cases are largely exacerbated in the relatively lower temperature region compared with the other countries located in the warmer climatic zone. Bukhari and Jameel (2020) argued that although few evidences related with diminishing COVID-19 cases supported in high climatic temperature zone, it is a need to use effective public healthcare interventions to reduce new cases. Dawn News (2020) updated the press release of Pakistan’s Prime Minister that is optimistic to mitigate coronavirus with socio-economic and environmental reforms. There is a high need for unified economic and environmental policies that would be helpful to mitigate virus threat across the globe.

Provincial updates of the COVID-19 pandemic

Pakistan’s provincial assessment about spreading coronavirus is very critical and it is increasing in an enormous rate. Punjab is listed in the top where the confirmed coronavirus cases are

Fig. 1 Coronavirus update (%) in Pakistan (9th May 2020). Source: Data is taken from Pakistan-NIH (2020)

10,471; the death toll has reached 191, and recovered patients are 4131. Followed by Sindh, a total of 9691 confirmed cases of coronavirus are registered till date; the death toll has reached up to 175, while the total recovered cases are higher in a country, i.e., 1940. In KPK, the total confirmed cases of coronavirus have reached up to 4327. The 1033 cases have recovered and 221 deaths have been reported till date. The total registered cases are 1876 in Balochistan. Out of the total registered cases, 222 are recovered cases and 24 people have died due to coronavirus till date. Four hundred twenty-one confirmed cases have been reported by coronavirus in Gilgit-Baltistan, the death toll is 3, and the recovered cases are 298 in number. A total of 79 cases of coronavirus have been reported in the Azad Jammu and Kashmir (AJK) and no report of any death case while 60 people have recovered from this pandemic till date (Pakistan-NIH 2020; WHO 2020). Figure 2 displays the provincial coronavirus update till 9 May 2020.

Provincial share of the coronavirus pandemic in Pakistan

The novel coronavirus picks a geometric progression while global states measures follow an arithmetic progression. Pakistan is a case where the government has projected an increase in coronavirus cases of up to 50,000, which is going towards its way. In order to analyze the total confirmed cases, death toll, and recovered cases in Pakistan, there is a high need to get insights in the provincial level. Punjab province is highly sensitive in terms of increasing confirmed cases as its share in a country is about to 38.11%, followed by Sindh that is around 35.27%, KPK shows 15.74%, and Balochistan is 6.82%. Although Punjab has a greater share in confirmed coronavirus patients, its death toll (30.90%) is less than KPK (35.76%) but more than Sindh (28.31%). Punjab is leading in terms of increasing their share in total recovered cases, i.e., 53.26%, followed by Sindh (25.01%), KPK (13.31%), and Balochistan (2.86%). This statistics would be helpful to the analysts in order to see the potential of decreasing the coronavirus pandemic at the provincial level (Pakistan-NIH 2020). Figure 3 shows the provincial share of the coronavirus pandemic in Pakistan.

Provincial challenges: case fatality ratio

The reason to increase coronavirus cases in Pakistan and majorly in many countries of the world is less epidemiological insight. The novel coronavirus is an emerging disease and it is required for polymerase chain reaction (PCR) test to identify its presence in the human body. The inadequate healthcare infrastructure, shortage of laboratories, insufficient collection

Table 1 Current literature on Pakistan's economy (COVID-19 effects)

Authors	Sector/area of research	Results
Malik et al. (2020)	Microfinance	Microfinance borrowers are unable to repay the loan on a scheduled time due to meager business activities and tight lockdown, which make them in worse condition due to the coronavirus pandemic.
Inamullah et al. (2020)	Travel and transportation	Intracountry traveling is considered the root cause to transmit coronavirus in a country.
Khan et al. (2020)	Healthcare workers, academicians and students	A cross-sectional survey confirmed the high need for spreading precautionary information of coronavirus to healthcare workers, academicians, and students, as fewer are known about the vulnerability while in majority, they are not very aware of its exposure.
Mukhtar (2020)	Psychological health for medical staff and general masses	The coronavirus pandemic puts mental stress on healthcare workers that are directly exposed to the virus in isolation centers to take care of patients, while feeling the sense of losing loved ones is higher in the general public that causes mental stress.
Yusuf (2020)	Cancer patients	Cancer patients are likely to affect from coronavirus due to low immune system, while the delay in the treatment of cancer patients due to lockdown and other issues may increase their suffering undeniably.
Hakeem and Sheikh (2020)	Nutritional supplements	Nutritional diet is important to prevent the human body from any diseases, while it is the same case with COVID-19, if the policy-makers include nutritional intervention in the COVID-mitigating policies, then there will be higher chances to minimize the risk of negative health effects of coronavirus into the human body.
Ahmad (2020)	Labor market regulations	Due to the high panic of coronavirus and its negative health outcomes, the government initiated the number of labor market regulations, including ensuring the retention of jobs, emergency relief package for the needy peoples, and refinancing schemes introduced for the enterprises, hence it is helpful to reduce labor market rigidities in a country.
Zia and Farooq (2020)	COVID-19 impact analysis	Although countries strive hard to reduce the incidence of COVID-19 with their strategic healthcare wisdom including spreading knowledge about the positivity of avoiding massive gatherings, maintaining social distancing, and increasing testing swabs, the impact of COVID is becoming more serve, which needs long-term healthcare reforms.
Muhammad et al. (2020)	COVID-19 prevention strategies	“Prevention is better than cure” is highly desirable in the case of minimizing the spread of the coronavirus pandemic in a country. The need to follow government-regulated policies and World Health Organization (WHO) guidelines would be helpful to reduce COVID-19 impacts across the country.

points, and limited test swabs increase the intensity of coronavirus in a country. The positive PCR of virus strain (SARS-CoV-2) confirmed the incidence of coronavirus in the human body. The need to increase healthcare infrastructure is desirable to reduce new coronavirus cases in a country. The study

calculated two different ratios on the basis of the given information about the total confirmed cases, total deaths, and total recovered cases in Pakistan, i.e., case fatality ratio (CFR) and case recovered ratio (CRR). The formula for calculating CFR and CRR is as follows:

Fig. 2 Provincial assessment of coronavirus cases (numbers). Source: Pakistan-NIH (2020)

Fig. 3 Provincial shares in total registered cases, death cases, and recovered cases. Source: Authors' estimation on the basis of available statistics

$$CFR = \frac{\text{Total.Deaths.Cases}}{\text{Total.Confirmed.Cases}} \times 100 \quad (1)$$

and

$$CRR = \frac{\text{Total.Recovered.Cases}}{\text{Total.confirmed.Cases}} \times 100 \quad (2)$$

Fig. 4 CFR and CRR estimates. Source: Authors' calculation.

Figure 4 shows the given CFR and CRR statistics at the provincial level and illustrated in the given figure in order to give a more critical understanding about the penetration of coronavirus in Pakistan.

Figure 4 shows that CFR in confirmed cases is higher in KPK province (i.e., 5.11%), followed by Punjab (1.82%), Sindh (1.80%), Balochistan (1.28%), Gilgit-Baltistan (0.71%), and Islamabad (0.76%). In terms of CRR in confirmed cases, AJK has a high patient's recovered rate (i.e., 70.78%), followed by Punjab (i.e., 39.45%), KPK (i.e., 23.87%), Balochistan (i.e., 11.83%), and Islamabad (i.e., 11.82%). Table 2 shows the given statistics for ready reference.

Future challenges

The study overview the data of Asia and found that Turkey has the highest registered cases of coronavirus (i.e., 635,981), followed by Iran (i.e., 104,691), China (i.e., 82,887), India (i.e., 59,765), Saudi Arabia (i.e., 35,432), and Pakistan (i.e., 27,474) (Worldometer 2020, May 092020, 05:29 GMT). Pakistan is at 6th place in terms of total registered cases; however, it does not indicate that Pakistan's performance is far better than the rest of the listed 5 countries in Asia. If we more critically analyze the given data at Worldometer, it is evident that Pakistan's economy has tested coronavirus cases far below than the rest of the listed countries. If we increase the testing ability of the country comparable to the listed five Asian countries, then the situation could be worsened. Table 3 shows the comparison in order to reach some decisive point.

Table 2 Pakistan's provincial statistics and case fatality ratios

Provinces/ capital territory	Total confirmed cases ^a	Total death cases ^a	Total recovered patients ^a	Share of provinces in total confirmed cases	Share of provinces in total death rates	Share of provinces in total recovered cases	CFR in confirmed cases	CRR in confirmed cases
Sindh	9691	175	1940	35.2733	28.31715	25.01	1.805799195	20.01857393
Punjab	10,471	191	4131	38.1124	30.90615	53.26	1.82408557	39.45181931
KPK	4327	221	1033	15.7494	35.76052	13.32	5.107464756	23.87335336
Balochistan	1876	24	222	6.82827	3.883495	2.862	1.279317697	11.8336887
Gilgit-Baltistan	421	3	298	1.53236	0.485437	3.842	0.712589074	70.78384798
Islamabad	609	4	72	2.21664	0.647249	0.928	0.65681445	11.8226601
AJK	79	0	60	0.28754	0	0.774	0	75.94936709
Pakistan	27,474	618	7756	—	—	—	2.249399432	28.23032685

Authors' estimation is on the basis of available statistics

^a The given statistics is freely available to download from Ministry of National Health Services, Government of Pakistan (<http://covid.gov.pk/stats/pakistan>)

The comparison shows that in terms of increasing testing capacity up to five times from the current date, Pakistan will be ahead of Turkey, Iran, and Saudi Arabia, while India will remain at their first slot. In terms of total registered cases, Pakistan will be ahead of Turkey, Iran, China, India, and Saudi Arabia. Further, it is a likelihood that the death tolls will reach to 3090 which will be higher than India and Saudi Arabia. Finally, Pakistan will be ahead of India and Saudi Arabia in terms of recovered cases. The given analysis predicts that the country will have more than 135,000 suspected coronavirus patients subject to given constraint, which could be invaded in the population. The higher need for increasing testing coronavirus capacity is desirable to identify the suspected coronavirus patients as early as possible so it will not infuse other healthy peoples.

Coronavirus prevention strategies

It should be clear to the world community that we have to struggle with the coronavirus, not fear this pandemic. The increased demand for preventive masks and hand sanitizer leads to a shortage, as both the protective measures get out from the market and its prices are increasing day-by-day. It is advisable to hand wash with soap and water for at least 20 s for less chance to contact with the virus. There is a need for cleaning houses, offices, and streets with antiseptic spray cleaners, so it would minimize the risk of spreading coronavirus (Omer et al. 2020). There is a need for deliberate actions to avoid those places and high touching areas in order to remain safe. Social distancing is the preventive measure that states highly provoked for the safety of humans through the coronavirus

Table 3 Comparison analysis based on available data for Pakistan

Country	Total cases	Total deaths	Total recovered	Total tests
Turkey	135,569	3689	86,396	1,298,806
Iran	104,691	6541	83,837	558,899
China	82,887	4633	78,046	Not reported
India	59,765	1986	17,897	1,523,213
Saudi Arabia	35,432	229	9,120	418,722
Pakistan	27,474	618	7756	270,025
Increasing testing capacity five times in Pakistan				
Total	Two times increases	Thrice times increases	Four times increases	Five Times increases
270,025	540,050	810,075	1,080,100	1,350,125
Total registered cases will reach to				
27,474	54,948	82,422	109,896	137,370
Total death cases will reach to				
618	1236	1854	2472	3090
Total recovered cases will reach to				
7756	15,512	23,268	31,024	38,780

Authors' estimation on the basis of available statistics from Worldometer (2020)

pandemic (World Economic Forum 2020). Although, the world has a high technological exports and the latest healthcare infrastructure, we are till date not able to introduce a vaccine against SAR-CoV-2. Coronavirus is a deadly disease and only symptomatic treatment is available for this pandemic. We have to take care of ourselves, not for over selves, but our one mistake can spread this disease across cities, countries, and across borders. There is a dire need to follow all the states' preventive measure instructions and be isolated in our homes to help the country's mission to fight against coronavirus.

Possible reasons for spreading coronavirus disproportionately among the provinces

There are a number of ways to spread coronavirus disproportionately among the provinces, i.e., Punjab is one of the four provinces of Pakistan that is highly dense and a populous area. The total area is 205,344 km². It consists of 36 districts and its largest and capital city is Lahore (Briney 2018). Due to the highly dense population residing in the province, it seems a major cause of spreading coronavirus in the city. The second-largest province of Pakistan is Sindh and its stand is in the 3rd position area wise. The total area of the province is 140,914 km² and it has 29 districts. Karachi is the largest city of a province. The city is considered as a major industrial hub and has the largest South Asia's deepest water seaport that handles approximately more than 60% of the nation's cargo. The partial lockdown and wide ignorance and misconception among the residents about coronavirus disease seem to cause the greater number of coronavirus cases in the province. The third-largest province of Pakistan is Khyber Pakhtunkhwa with a total area of 101,741 km². It consists of 35 districts. The capital city of the province is Peshawar. The literacy rate is comparatively lesser in the province and the majority starts working in the early age of their life. They are very hospitable and loving people. The coronavirus cases are comparatively less in number as compared to Punjab and Sindh; however, it seems that the virus has spread majorly due to illiteracy. Balochistan is the fourth province of the country and it has the privilege to get the largest land area in a country. The total land area is 347,190 km². Quetta is the largest and capital city of the province. The coronavirus cases are slightly less in number as compared to the remaining provinces; however, it seems that inadequate healthcare infrastructure leads to cause more coronavirus cases in the province. The numerous studies confirmed their findings in the context of Pakistan to see for detailed review (Waris et al. 2020; Muhammad et al. 2020; Ilyas et al. 2020).

Recommendations

The following recommendations are suggested to the Government of Pakistan to reduce coronavirus-associated death tolls and make national healthcare policies for the prevention of coronavirus disease, i.e., Pakistan's government should have to ensure the accessibility of basic healthcare services to all citizens, especially the people living in the slums area. The government should be putting up a concrete recommendation for controlling COVID-19 in slums. In Pakistan, health as a subject is decentralized since 2010; for the matter like national emergency such as COVID-19, consultations are being carried out regularly among the provinces for consensus building and for crafting a national coherent response to COVID-19. The government should make a strategy related to testing services in all the provinces of a country in order to timely detect the disease. The following further issues should be timely resolved in relation with the quarantine, tracing suspected contacts, and isolation procedures. Although Pakistan's government gives autonomy to the provinces to contain the coronavirus under the instructions of Federal policies, the high need for proper monitoring and coordination is required at the provincial level to control the coronavirus by efficient intervention by the federal government through collaboration and guidance. The Federal Government provoked many times against the complete lockdown of the country; however, smart lockdowns should be helpful to contain coronavirus diseases and prevent the poor community from poverty and hunger. The emergency relief package for the poor could be utilized for this purpose. In order to support business activities in a country, the Standardized Operating Procedures (SOPs) should be defined to all business entities to follow strictly and allow them to work under the guided rules. Finally, logistics activities and transportation should be allowed to get operationalized mainly the port of Qasim and Karachi in order to continue logistics movement of essential resources. SOPs to socialize and for businesses are already issued by the government. Mass awareness messages are coming on media, print, and electronic. The decision of lockdown (complete or smart) depends on the times to come, and it is the government's prerogative. These policies would be beneficial to contain the coronavirus across the country.

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