

Evaluation of Forced and Smart-Lockdown against COVID-19 Hazard and its Impacts on Different Age Groups and Labor in Pakistan

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Abstract

This article is an attempt to analyze different phases of lockdown in Pakistan with the aim to know about its effectiveness against COVID-19 and seek affordable alternative. In the first phase Pakistan observed complete lockdown that was very effective, but due to its bad impacts on labor community it was not possible to continue it for a long time. In the second phase, the lockdown was relaxed to partial lockdown. Some increase in covid-19 cases was observed with more recovery and few deaths. Therefore, the lockdown was relaxed further to smart lockdown. In this phase selected shops and businesses were re-opened with the idea to allow the daily wage labor to work. The decision was welcomed, but a big increase was observed in covid-19 cases along with increase in deaths and recoveries. Data revealed that people with the age of 20-34 years were infected the most, while death rate was high in old age. As labor community was affected the most during forced lockdown, therefore, was not an affordable option. To make the smart lockdown continue in effective manner, financial assistance of Rs. 12000/- was given to the labor community. It was concluded that the smart lockdown along with financial assistance, was effective to some extent, but can't be presented as preventive measure against COVID-19. It was recommended to keep the smart lockdown continue along with force-lockdown in vulnerable areas only. Also arrange and manage quarantine and isolation facilities for the vulnerable and infected groups respectively till the arrival of proper treatment.

Keywords: Coronavirus disease, Forced Lockdown, Partial lockdown, Smart Lockdown, Self-quarantine, Vulnerable most age group (s)

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Introduction

The outbreak of COVID-19 is a worldwide problem. Due to non-availability of vaccine, it is a real challenge for the entire globe to save the humanity. At this stage only preventive measures have been adapted in the form of lockdown, self-quarantine and isolation of covid-19 cases (World Health Organization, 2020). Coronavirus is highly contagious and can attack person of any age. Researchers are with attempts to identify more and more preventive measures, such as sanitization, avoidance of crowded, and the concept of social distance with the aim to minimize COVID-19 cases and related casualties (Sanche, Lin, Xu, Romero-Severson, Hengartner, & Ke, 2020). The incubation period of coronavirus is 14 days; therefore it was suggested to observe 14 days lockdown, at least. In this way the enemy will die on its own death. So many countries observed complete lockdown and minimized the fatalities. So far no country has achieved 100% control over COVID-19. The virus is still active with fast spreading effects. It is, therefore required to increase the list of preventive measures (Lau, Khosrawipour, Kocbach, Mikolajczyk, Schubert, Bania, & Khosrawipour, 2020).

Pakistan is fighting with of COVID-19 for the last four months with its limited resources (Cakir & Savas, 2019). To tune its activities for long terms fight, it is important to identify the vulnerable most age group(s) with the idea to safeguard them. The answer can be searched by looking into the experiences of China, Italy and Iran (Abdulmir & Hafidh, 2020). In the absence of suitable information, we may also have no exact idea, for how long poor countries like Pakistan can fight against the Covid-19 with their available limited resources? One thing is clear that at present the Covid-19 related death ratio is very low in Pakistan. The hazard of Covid-19 is on the way toward increase and we have to stop it somewhere or minimize the associated hazard (Raza, Rasheed, & Rashid, 2020). China observed complete lockdown at Wuhan city for more than two months and got control over COVID-19 to some extent (Musinguzi & Asamoah, 2020). Pakistan, being a poor country was/is not in a position to go for such a comprehensive forced lockdown for such long period of time. Therefore, Pakistan has arranged and managed a forced-lockdown for 15 days. After fifteen days, the lockdown was relaxed a little and shift to partial-lockdown. In this regards some offices and shops were opened and a common person was allowed to visit their offices, shops and arrange food stuff, medicine or other basic necessities. In the third phase the lock-down was

relaxed further to smart-lockdown (Ayaz, 2020). This is how; continuous increase in covid-19 cases was observed.

At this stage, another question bubbled up for minimization of the impacts. How to identify the vulnerable group(s) and protecting them? Studies revealed that Covid-19 related death rate is high in old age people. Scientifically, we can say that immune system of old people is weak. This is why their fighting power against COVID-19 may be weak (Abdulmir & Hafidh, 2020). Besides immune system, lymphocyte composition in blood is also important (Zheng, Huang, Ying, Zhang, Ye, Hu, & Cheng, 2020). It is important to mention that B and T cell of blood has a great role in maintaining immune system (Kusunoki & Hayashi, 2008). In the present situation such analysis may be time consuming / complicated and may not serve the purpose.

To identify vulnerable group(s), analysis of demography is another available option. Population composition of one country is different from another and is affected differently. For this purpose, it is required to analyse the demography of a country and identify the vulnerable age group for protection. In this way, it will be easy to answer the question properly.

Studies conducted on covid-19 revealed that it can attack any person of any age, but old age patient will be affected more negatively in terms of fatality. This can be attributed to complication in immune system and interaction of other diseases. Such diseases include diabetic, blood pressure, cancer, obesity, and kidney diseases (Remuzzi & Remuzzi, 2020). Looking into the ongoing epidemiological trend, we can say that death ratio in Pakistanis comparatively moderate. This may be attributed to the uniqueness in immune system, partial lockdown and self-quarantine.

Awareness and education are other factors that can play important role in prevention against covid-19. Ignorance is sometime considered as blessing, but it, sometime, kill also. The lockdown and successful control over COVID-19 in China is attributed to awareness among the public and full cooperation with the government machinery (Zhong, Luo, Li, Zhang, Liu, Li, & Li, 2020). Availability of resources and on time knowledge are helpful in adopting preventive measures. For example of Germany can conduct up to 50000 tests daily. Pakistan can test up to 2000 per day. At initial stage, limited equipments were available in

Pakistan for Covid19 test. That can be attributed toward non availability resources. The less number of reported cases may be one reason attributed to available resources. Therefore, it was difficult to say that Pakistan is comparatively safe or our immune system is comparatively strong. Pakistan struggled to acquire the required resources as well as increased awareness and educated a common person against COVID-19. In this regards, the role of World Health Organization (WHO) was appreciable. By the end of March, 2020 number of total tests reached to 60,000 with the average acquired rater of 20,000 test per day (Government of Pakistan, 2020).

For the first time the entire globe is equally under trouble due to coronavirus. Therefore it is important to discuss COVID-19 in a technical and non-technical manner with the idea to find out ways and means for the protection of humanity. In this article and attempt has been made to compare the death ratio with other countries, in relation to the various phases of lockdown for batter fight against COVID-19.

Research Methods

This study is based on secondary data. To identify different age groups. Population related data was downloaded from the official site of bureau of statistics. COVID-19 related data from Pakistan were acquired from the web site of World health organization and Health Department of Pakistan.

For the sake of this study the lockdown can be divided in to three different phases

- i. Phase I; The forced lockdown period : 15th March to 30th March, 2020
- ii. Phase II: Partial Lock down period : 31st march to 5th April, 2020
- iii. Phase III: Smart Lock down period ; 6th April to 15th April 2020

Limitations

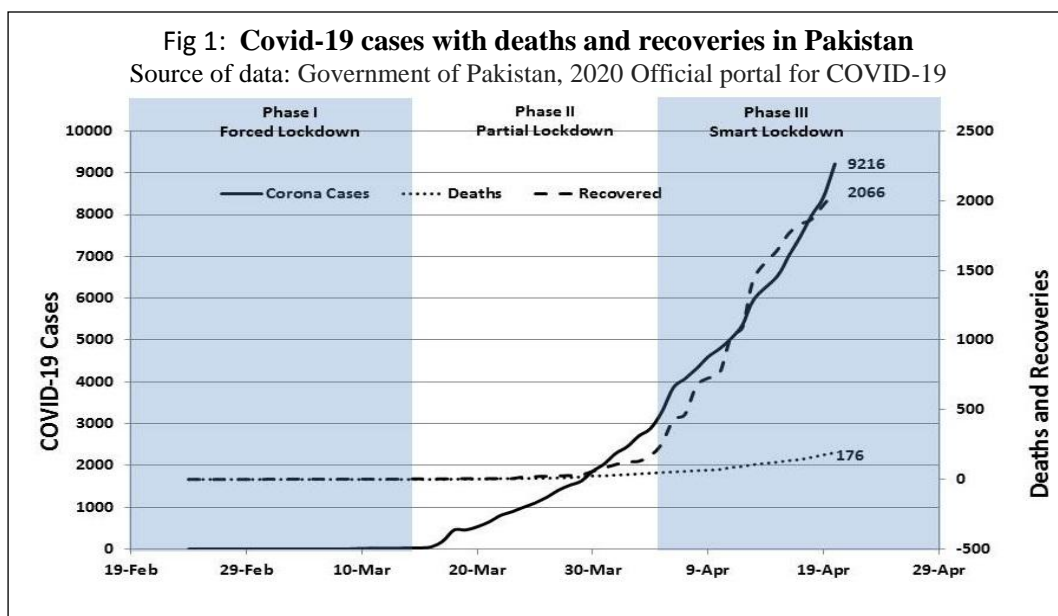
This article is based on secondary data. Due to lockdown and quarantine, it was not possible to visit hospital or quarantine center and meet the COVID-19 patients.

Results and Discussion

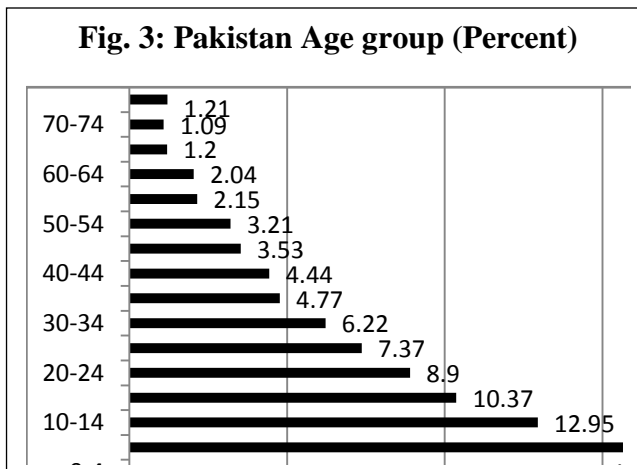
Covid-19 cases in Pakistan in comparison with other countries

COVID-19 hated Wuhan city of China badly. First case was reported on 31stDecember 2019 (Sohrabi, Alsafi, O’Neill, Khan, Kerwan, Al-Jabir, & Agha, 2020). Pakistan observed the first case of COVID-19 on 25thFebruary, 2020. During this period of time, COVID-19 was considered epidemic in China only. Therefore, Pakistan didn’t take any preventive measure (Nafees & Khan, 2020). When COVID-19 was observed in Thailand, Japan and Korea also, COVID-19 was considered as pandemic. The World Health organization declared the hazard of COVID-19 as pandemic in its first situation report on 21 January, 2020. At that time COVID-19 was limited to these four countries with 282 cases only (WHO, 2020). Pakistan also became alerted and initiated preventive measures after 10th March, 2020. This delay in preventive measures was considered one big reason behind the spread of COVID-19 hazard in Pakistan (Nafees & Farukh, 2020).

As per world meter of World Health Organization, on 10th April, 2020 COVID-19 cases reached 210 countries. Pakistan was at 33rd position with 5038 cases with lowest death rate of 0.4 per million (World meter, 2020). Till 20thApril, 2020, 192 deaths were reported in Pakistan, with an encouraging increase in recoveries of 2066 cases (Fig. 1).



According to NayaDaur TV report, young people of 20-34 years age group was the affected most group (Naya Daur TV, 2020). People with the age 20-34 years are the prime laborforce and mostly working outside of their houses. It was suggested to give proper incentive to the labor and protect them (Ahmad, 2020). 10 percent people of 60 year age or above was infected with COVID-19 (Fig. 2). This group was considered the vulnerable most group in terms of fatalities. As per



government statement, 85 percent Covid-19 related deaths were observed among people with 60 years or above age (Dawn, 2020). If we look toward the statistics of China and Italy, deaths were common among people with the age above 78 years. Research paper coming from China revealed that people die at the age of 80 years or above from COVID-19 (Whiting, 2020). In contrast, early epidemiological analysis of Italy revealed that 1.2 percent deaths were recorded on the average. This initial survey further revealed that in Italy 32.4% were died with the aged 70–79 years and 42.2% were died with the aged 80 years or above (Remuzzi, & Remuzzi, 2020). Another study conducted later revealed that fatality rate was high among the COVID-19 patient with the age of 80 years or above (Onder, Rezza, & Brusaferro, 2020). In the light of these studies, it can be said that people with 50 years or below are comparatively safe.

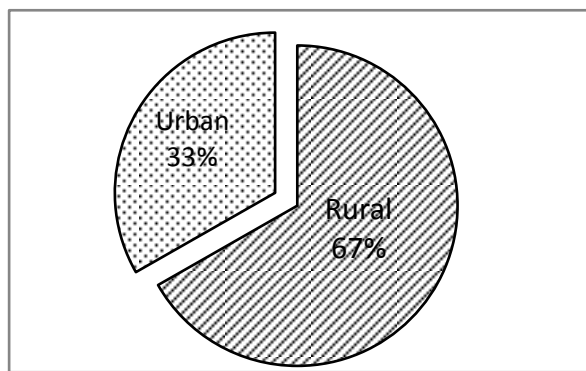
Demographic trend and affected segments of Pakistan's Population

According to 2017 census report, total population of Pakistan is 207.8 million (Wazir, Asif, Goujon, & Anne, 2019). Only 5.54 % of the total population is of 60 years or above. In Pakistan, people with 60 years of age are very less in number (Fig. 3). It is believed that such people were suffering from some other disease also, and was the main cause of fatalities. 43.4 percent (14.8 + 15.65 + 12.95) of the total population falls in the age of 5-15 years age. This was the least affected group with 8 percent. No death was reported for this group. Remaining 37.63 percent of the population composed with the age group 15-45 years (Fig. 3). This

group is the prime working group and the most exposed group to COVID-19. 22 % deaths were recorded in this group.

The demographic analysis of Pakistan revealed that the population of Pakistan mostly consists of young people and may have some resistance power to cope with COVID-19 (Government of Pakistan, 2020). Looking in to rural and urban set up, most of the population is living in rural areas with 67%. Remaining 33 Percent are living in urban areas (Fig. 2). From COVID-19, generally, urban population is more vulnerable in terms of violation of social distance. It is comparatively easy to handle urban city and force them for lockdown. In rural areas, population is scattered over a vast area and difficult to maintain the forced lockdown. As population density is high in urban area, therefore, it is difficult to observe the concept of social distance.

Fig. 2: Percent Urban and Rural Population



Labor community is another vulnerable group exposed to COVID-19 hazard. Most of the labor force falls in the age group of above 25-54 years, the prime working group in Pakistan, which is 29.54 percent. According to a study, fifty percent (2.77 million) of the age group of 60 years age or above are also labor and is considered the vulnerable most group toward COVID-19 (Nafees & Khan, 2020). Out of the total population, 4.9 million are daily wage labor and are the vulnerable most. This group earns on daily base and can't observe the forced-lockdown for a long time. To protect the daily wage labor, Government of Pakistan has announced food package and financial assistance of Rs. 12000/- for 12 million families per three months period (Abdullah, 2020; Government of Pakistan, 2020). Studies revealed that average expenditure of a family ranged from Rs. 14000/- to Rs. 17000/- (84 – 102 US\$) per month (Haq, Nazli, & Meilke, 2008). This financial assistance may not be helpful to keep a labor inside their houses for three months, but may be helpful to keep them inside their houses

for a month or so. In this way the lockdown was relaxed with the passage of time. Under smart-lockdown the labor group will be allowed to go out for earning.

Conclusion and recommendations

COVID-19 is a fast growing hazard across the globe that can affect people of all ages. In the absence of vaccine and treatment facility, quarantine was suggested as one preventive measure. The practice of quarantine is not a new concept. But technically speaking, it is very hard to put the entire country in to quarantine or self-quarantine for a long time. Pakistan observed smart-quarantine with financial assistance for the poor. Continuous increase in COVID-19 was observed during smart-lockdown and can't be presented as an effective preventive measure. People with working history outside the houses were affected the most with less fatality. Old citizen and young people with disease like asthma, diabetic, blood pressure and cardio vascular need special care during lockdown. At this stage, after the arrival of testing facility, it can be suggested, to put a small area (an area which is vulnerable) in to complete lockdown. Quarantine facility should be arranged at district level and isolation facilities should be arranged in hospital for the infected persons. Financial assistance for the whole country was not fruitful. If a vulnerable/infected person is poor, financial assistance should be given to those only. In this way Pakistan, being as a developing country will be able to continue its fight against COVID-19.

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References

- Abdulmir AS, Hafidh RR. (2020). The Possible Immunological Pathways for the Variable Immunopathogenesis of COVID—19 Infections among Healthy Adults, Elderly and Children. *Electron J Gen Med.*,17(4):em202. <https://doi.org/10.29333/ejgm/7850>
- Abdullah, M. (2020). InsafImdad Package: PM enhances amount of financial aid to Rs 12,000. In *Business Recorder*. Retrieved August 03, 2020 from <https://www.brecorder.com/2020/04/06/586697/insaf-imdad-package-pm-enhances-amount-of-financial-aid-to-rs-12000/>
- Ahmad, I. (2020). *COVID-19 and Labour Market*. Centre for Labour research. Retrieved September 09, 2020 from <https://clr.org.pk/covid-19-labour-market/>
- Cakir Z, Savas HB. (2020). A Mathematical Modeling Approach in the Spread of the Novel 2019 Coronavirus SARS-CoV-2 (COVID-19) Pandemic. *Electron J Gen Med*, 17(4):em205. <https://doi.org/10.29333/ejgm/7861>
- Government of Pakistan. (2020). *Adviser to PM on Finance and Revenue chaired a special meeting ECC*. Ministry of Finance, Government of Pakistan, Retrieved August 03, 2020 from http://www.finance.gov.pk/press_releases.html
- Government of Pakistan. (2020). Official portal for COVID-19.Ministry of National Health Services. Retrieved September 02, 2020 from <http://covid.gov.pk/stats/pakistan>
- Gul, A. (2020). Pakistan Extends Coronavirus Lockdown, Eases Curbs on Economic Activity. In *Voice of America (VOA)*. Retrieved August 12, 2020 from <https://www.voanews.com/science-health/coronavirus-outbreak/pakistan-extends-coronavirus-lockdown-eases-curbs-economic>
- Haq, Z. U., Nazli, H., &Meilke, K. (2008). Implications of high food prices for poverty in Pakistan. *Agricultural Economics*,39, 477-484. doi: <https://doi.org/10.1111/j.1574-0862.2008.00353>
- Kusunoki, Y., & Hayashi, T. (2008). Long-lasting alterations of the immune system by ionizing radiation exposure: implications for disease

- development among atomic bomb survivors. *International journal of radiation biology*, 84(1), 1-14. <https://doi.org/10.1080/09553000701616106>
- Lau, H., Khosrawipour, V., Kocbach, P., Mikolajczyk, A., Schubert, J., Bania, J., & Khosrawipour, T. (2020). The positive impact of lockdown in Wuhan on containing the COVID-19 outbreak in China. *Journal of Travel Medicine*. <https://doi.org/10.1093/jtm/taaa037>
- Low number of Covid-19 deaths in Pakistan... (2020, April, 19). In Daily Dawn . Retrieved August 02, 2020 from <https://www.dawn.com/news/1547820/low-number-of-covid-19-deaths-in-pakistan-doesnt-mean-we-stop-being-careful-zafar-mirza>
- Musinguzi G, Asamoah BO. (2020). The Science of Social Distancing and Total Lock Down: Does it Work? Whom does it Benefit? *Electron J Gen Med.*, 17(6):em230. <https://doi.org/10.29333/ejgm/7895>
- Nafees, M., and Khan, F. (2020). Pakistan's Response to COVID-19 Pandemic and Efficacy of Quarantine and Partial Lockdown: A Review. *Electron J Gen Med.*, 17(2):emXXX. <https://doi.org/10.29333/ejgm/xxxx>
- Naya Daur TV. (2020). *Young People Most Affected By Coronavirus In Pakistan*. Retrieved September 03, 2020 from <https://nayadaur.tv/2020/03/young-people-most-affected-by-coronavirus-in-pakistan/>
- Onder, G., Rezza, G., and Brusaferro, S. (2020). Case-fatality rate and characteristics of patients dying in relation to COVID-19 in Italy. *JamaNetwork*. doi:10.1001/jama.2020.4683
- Raza, S.; Rasheed, M.A.; Rashid, M.K. (2020). *Transmission Potential and Severity of COVID-19 in Pakistan*. Preprints 2020, 2020040004 (doi: 10.20944/preprints202004.0004.v1).
- Remuzzi, A and GRemuzzi, G. (2020). "COVID-19 and Italy: what next?." *The Lancet*, 395(10231): 225-1228, [https://doi.org/10.1016/S0140-6736\(20\)30627-9](https://doi.org/10.1016/S0140-6736(20)30627-9)

- Sanche, S., Lin, Y. T., Xu, C., Romero-Severson, E., Hengartner, N. W., & Ke, R. (2020). *The novel coronavirus, 2019-nCoV, is highly contagious and more infectious than initially estimated*. arXiv preprint arXiv:2002.03268.
- Sohrabi, C., Alsafi, Z., O'Neill, N., Khan, M., Kerwan, A., Al-Jabir, A., ...& Agha, R. (2020). World Health Organization declares global emergency: A review of the 2019 novel coronavirus (COVID-19). *International Journal of Surgery*.76:71-76;<https://doi.org/10.1016/j.ijssu.2020.02.034>
- Wazir, Asif, M., and Goujon, A. (2019). *Assessing the 2017 census of Pakistan using demographic analysis: A sub-national perspective*. Vienna Institute of Demography Working Papers, No. 06/2019, Austrian Academy of Sciences (ÖAW), Vienna Institute of Demography (VID), Vienna
- Whiting, K. (2020). An expert explains: how to help older people through the COVID-19 pandemic. In *World Economic Forum*. Retrieved August 02, 2020 from <https://www.weforum.org/agenda/2020/03/coronavirus-covid-19-elderly-older-people-health-risk/>
- World Health Organization. (2020). *Coronavirus disease 2019 (COVID-19): situation report, 72*. Retrieved August 12, 2020 from <https://apps.who.int/iris/bitstream/handle/10665/331685/nCoVsitrep01Apr2020-eng.pdf>
- Zheng, Y., Huang, Z., Ying, G., Zhang, X., Ye, W., Hu, Z., ...& Cheng, C. (2020). Comparative study of the lymphocyte change between COVID-19 and non-COVID-19 pneumonia cases suggesting uncontrolled inflammation might not be the main reason of tissue injury. *medRxiv*.doi: <https://doi.org/10.1101/2020.02.19.20024885>
- Zhong, B. L., Luo, W., Li, H. M., Zhang, Q. Q., Liu, X. G., Li, W. T., & Li, Y. (2020). Knowledge, attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak: a quick online cross-sectional survey. *International Journal of Biological Sciences*, 16(10), 1745.doi: 10.7150/ijbs.45221