



COVID-19 Facets: Pandemics, Curse and Humanity

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ABSTRACT

We are in the middle of an unprecedented pandemic named COVID-19 by the World Health Organization (WHO) which is caused by a novel coronavirus. The novelty of the virus and its disease is so new that the entire world is experiencing its consequences on various aspects. The pandemic is still unfolding and creating some new patterns around us. Besides the buzzword, that is, the vaccine is far from our sight. So naturally, we have to look for existing solutions if they can be implemented until the vaccine arrives. From Hydroxychloroquine (HCQ) to Bacillus Calmette Guèrin (BCG) all are being used in trials whether they can be pre-vaccine medicine or not. The variable effect on individual sections of the population has to be studied to deliver a targeted response, especially in resource lacking countries. In addition to these medical problems like social distress and quarantine measures which are taking a toll on people's minds, another unwarranted problem of Infodemic has struck us. So, this paper will review the ongoing steps and challenges and how we can efficiently respond to them to conquer this pandemic.



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INTRODUCTION

None in the 21st century would have thought, with the best of the developments and health services, the new COVID-19 will arise as the world's unparalleled pandemic. It is crippling the human race, (Shah and Naqvi, 2020), over the past six months. Humans have been suffering from Covid-19. First, in China and then in other countries as the virus started its

global conquest. The experience for our species was a terrible one. To date, over six million people have been contaminated, and over 400,000 people have died, which will continue to grow steadily in the coming years (Velavan and Meyer, 2020). Humans and many species are also infected with enveloped, positive one-stranded RNA viruses that affect human beings. The coronavirus was first identified in 1966 by Tyrell and Bynoe, who cultivated virus from commonly discussed patients. Their morphology as spherical viruses with a central shell and similar surface projections was based on what was referred to as Corona-viruses (Latin: corona = crown). There are four different subfamilies, alpha, beta, and gamma.

Alpha and beta coronaviruses come from mammals, especially bats, but gamma and delta viruses come from pigs and birds. The genome is between 26 and 32 kb in size. Beta-coronavirus can cause severe diseases or deaths, while alpha-coronavirus may be responsible for asymptomatic or mild symptomatic coronavirus infections of the seven coronavirus sub-

types. SARS-CoV-2 has excellent links and is in the beta-coronavirus B family.

These include nucleocapsid protein (N), spike protein (S), low diaphragm protein (SM), and glycoprotein membrane (M) containing additional glycoprotein membrane (HE) in HCV-OC43 and HKU1 beta-coronaviruses. The SARS-CoV-2 is similar to that of a coronavirus bat in the entire genome 96 percentage. Pneumonia, as a result of case recognition, was the primary clinical symptom of COVID-19 SARS-CoV-2. Gastrointestinal symptoms and asymptomatic inflammation are also reported in recent studies, especially among young children. Comments to date show that the average incubation time is five days, and the incubation average is three days (range: 0-24). In symptomatic patients with fever, cough, nasal congestion, tiredness, and other signs of high respiratory tract infection, clinical manifestations generally begin within less than a week. Pneumonia usually occurs in the second or third week during symptomatic disease.

Significant Symptoms include reduced oxygen concentration, blood-gas variability, notable chest X-ray shifts, and other imaging techniques with ground glass irregularities, patchy convergence, alveolar exudates, and interlobular involvement (Velavan and Meyer, 2020).

Covid-19 and Comorbidities: An unfortunate relationship

When this unprecedented pandemic unfolded, a pattern between mortality and comorbidity has emerged. More deaths were observed among the infected co-morbid patients rather than healthy infected patients. There was an obvious conclusion that the already weakened immune system in co-morbid patients was unable to fight the COVID-19 infection, so much so that the countries having a higher average age of population with comorbidity were worse affected (History of South Asia, 2020).

The study done by Chinese professionals on the relation between the two in the early stages of COVID-19 confirms the assumptions. (Analysis of data from 1590 laboratory-confirmed hospitalized patients from 575 hospitals in 31 provinces/autonomous regions/provincial municipalities across mainland China between 11 December 2019 and 31 January 2020.) According to a study, the average age of affected patients examined for the study was 48.9 years. Six hundred eighty-six, which accounts for 42.7% of tested patients, were female. The severe cases amounted to almost 16% of the total examined cases. 25.1% of patients were having at least one comorbidity numbers to 399, whereas two or more comorbidities were observed in 130 patients who

are 8.2% of cases. Among patients' prevalent comorbidities were hypertension, diabetes (16.9 and 8.2 % respectively) (Velavan and Meyer, 2020).

Studies reveal that among the number of morbidities, including hypertension, diabetes, heart ailments, they all contribute to a certain proportion in mortality rate due to COVID-19. Hypertension, as stated above, was prevalent in 269 patients with cardiovascular diseases in 59 patients. They accounted for 16.9 and 3.7% respectively. In severe cases hypertension (in 32.7% cases), cardiovascular diseases (in 33.9% cases), cerebrovascular diseases (in 50.0% cases), diabetes (in 34.6% cases) was more prevalent than non-severe cases (12.6%, 15.3%, 15.3%, 14.3% respectively) (Guan et al., 2020).

Further increasing age and mortality rate have directly proportional relation. They are pointing toward the weakened immunity responses over the years (Exceptions of some peoples above 100 years old are rare, and most of them have also beaten the 1918 Spanish flu). According to the study, a report on 355 patients with COVID-19 disease pointed out that the average age of patients dying due to the above mention disease is 79.5 years. Another report on a study carried out on 4226 cases in the United States of America concluded that between the 0-54 age groups, the CFR is less than 01%. In contrast, the CFR for the age group 65-84 and age group 85 and above constituted 3-11% and 10-27% respectively. Most death cases are occurring in the age group 65 or above years (Shahid et al., 2020).

Impact of BCG vaccination on COVID-19

Bacillus Calmette-Guérin (BCG) vaccination is primarily given for tuberculosis disease. In recent studies and overall evaluation of COVID-19 affected countries there emerged some relation in the number of cases and universal BCG vaccination programs as part of government policy. Data implies that 132 countries have a BCG vaccination policy and 21 states have no BCG vaccination policy nationwide. Twenty-six of them were showing unknown status. This data is from 179 nations. The pattern is strange. The daily positive rate of COVID-19 in countries having a vaccination policy was 0.8 per one million population while it was 34.8 per million in countries having no vaccination policy. Especially in South Asia where experts were predicting the next hotspot of COVID-19 pandemic due to its high population density, there is a slightly different picture of what was predicted.

As one can see from Figure 1, in the part of the world, where around 20% population resides, the number of cases and death rates are certainly low compared to other countries. This result can be attributed to









COVID-19 pandemic in Southern Asia					
Territories	Confirmed cases	Active cases	Cases with an outcome		Population (2018)
			Recoveries	Deaths	
South Asia	301,395	177,705	116,522	7,168	1,895,813,944
 Afghanistan	14,525	12,973	1,303	249	37,171,921
 Bangladesh	44,608	34,623	9,375	610	161,376,708
 Bhutan	33	27	6	0	754,388
 India	173,763	86,422	82,370	4,971	1,352,642,280
 Maldives	1,513	1,309	197	5	515,696
 Nepal	1401	1,176	219	6	28,095,714
 Pakistan	64,028	40,406	22,305	1,317	212,228,286
 Sri Lanka	1,524	769	745	10	21,228,763

Figure 1: COVID-19 Pandemic in Southern Asia

low testing rates by some analysts, but if death rates were high, then hospital facilities should be overwhelmed like in the case of Italy and Spain. A common and very intriguing fact is that they have a Universal BCG vaccine program. Besides, the demography is also in favour as south Asia contains some of the youngest population of the world. The reason why lower rates are attributed to the BCG vaccine is that some kind of memory-based response was observed for viruses other than mycobacterium. A memory was created innately, a sort of by-product, which is claimed to fight the COVID-19 disease. But due to lack of proper evidence World Health Organization (WHO) said that for now due to lack of substantive and empirical evidence, the recommendation of BCG cannot be prescribed through some clinical trials that are underway. We should wait for the results. But yes, the fact that the number of cases and the BCG vaccine are showing some pattern is intriguing.

Impact on post-delivery immunization

In the fight against COVID-19, specific works are being delayed. One of which is immunization of children against various diseases which is generally taking place after birth within five to six years. But the World Health Organization (WHO) has advised countries to halt their immunization programs as

it is linked to more spread of COVID-19. But now concerns are raised on this decision due to its long-term consequences. Millions of children could be affected if any of the already contained diseases would reappear. Also, this has been neglected due to the shortage of health care professions, as most of them are employed against containing the COVID-19 pandemic. Besides, due to nationwide lockdown to maintain physical distancing in many countries, people with their young ones are confined to their homes, cutting off their contact with the hospitals. Henrietta Fore, executive director, United Nations Children's Fund (UNICEF) raised concern over the rise of diphtheria, cholera, measles which are already contained through available vaccination. Gains would be lost entirely if these preventable diseases reappear, she added. Further, this would be affecting resource-lacking countries of Africa, Asia more as former also saw the recent re-outbreak of Ebola and their population density. Already there have been reports of the measles outbreak in Nepal and Cambodia ([Shahid et al., 2020](#)).

After this unprecedented pandemic hits the countries, the establishments have to announce the lockdown or Cierre de emergencia in their respective countries. After revising each lockdown need of further extending it was necessary. Due to this, many immunization programs came to a halt as all health

care workers are diverted to COVID-19 pandemic. Now as countries are slowly relaxing the lockdown policymakers need to look at universal immunization programs (if they had it earlier) as a top priority. Government and health authorities need to track down the un-vaccinated children and get them vaccinated as this also has a considerable consequence on par with COVID-19 in the long run. Further, we have to think about this pandemic as an opportunity to eradicate tuberculosis by 2025 in India five years earlier than the world target and synchronize it with the SARS-CoV2 respiratory syndrome eradication.

Psychological Effects of Covid-19

Our latest online survey is presented in this report. COVID-19 outbreak has psychological effects on hospital workers in China at the epidemic peak. 6348 (57.10%) of participants said they were often anxious or panicked, and in 1 541 (13.86%) said they had never been anxious. About 4.98% of respondents reported average and high levels of anxiety, while 13.47% reported a medium and high level of depression. Patients are stressed more than physicians (Guo *et al.*, 2020).

These providers (41.5% of respondents, respectively) found substantially higher depression, anxiety, insomnia, and distress than providers who did not care about patients in a survey of 1.257 nurses and physicians who looked after patients with disease in China. The anxiety and stress levels that have hurt sleep quality and self-efficacy. Fast analysis of already existing research has shown that health workers who show symptoms of post-traumatic stress disorder, depression, stigmatization, and financial loss are self-isolated or under quarantine (Wu *et al.*, 2020).

Job stress reflects an imbalance between demand and work efficiency. About globalization and the changing factors like work, the world becomes increasingly pressurized and chaotic as people are vulnerable to rising stress.

We found specific stress-related characteristics in our study which include: ages and working-age groups; university levels; medical specialities; Average weekly number of nights; and contracts for employment. In the remained group, this figure is 2.8 per cent, $p = 0.019 > 0.05$, while the number of people under 30 who are depressed at work is 12.9 per cent. The findings of a recent meta-analysis indicate that 51.89% of the dermatology residents were burnout. This finding is clear. The work stress of young doctors and nurses could arise from depression, anxiety, and mental health in medical and nursing schools.

Night duty is a particular activity for medical personnel, and due to changes in the natural circadian human cycle, it has a significant health effect. Sleep after a night shift and before morning shift affect the majority of shifting work. Poor sleep and employment can cause severe fatigue, insomnia, difficulty with excellent working performance and increased risk of accidents and stress at a time when physical activity has declined (Ngoc *et al.*, 2018).

Use of Hydroxychloroquine (HCQ) as Prophylaxis

In the framework of extending HCQ to healthcare and other front-line staff deployed in the field of the non-COVID and COVID, the Joint Monitoring Working Group, chaired by DGHS, with members from AIIMS and ICMR, NCDC, NDMA, WHO, and experts from Central Government Hospitals explores the prophylactic use of hydroxychloroquine. The NTF checked in-vitro HCQ test data for SARS-CoV-2, HCQ protection profile submitted to the India Pharmacovigilance System, and HCQ data for SARS-CoV-2 in antiviral drugs. Health care workers' (HCWs) Prophylaxis of SARS-CoV-2 infection is given. HCQ's monitoring profile: - According to the approximate HCQ prophylaxis data from 1323 HCWs, minor adverse effects such as nausea (8.9%), stomach pain (7.3%), vomiting (1.5%), hypoglycemia (1.7%) and cardiovascular effects (1.9%) were recorded. In India, 214 cases of adverse drugs linked to prophylactic use of HCQ have been recorded. Seven of these were in 3 cases, significant person safety studies extending the QT period to ECG (Dacruz, 2020).

Infodemic aggravating the COVID-19 impact

Infodemic, as suggested by WHO is made upon information and pandemic words. While information is the excellent and very readily available post information revolution, it is found to be a double-edged sword. If properly used and targeted, it can be efficiently used to mitigate the pandemic. Nowadays, its darker side known as fake news or misinformation or quasi information has been creating anxiety and chaos among the people. Particularly in lockdown where people are pin to their phones, it is proving a hindrance in mitigating the COVID-19 impact. Several messages are circulating regarding false claims of medicines, fake testimonials of successfully treated patients which are misleading the people who are already in distress. Some messages claiming certain fruits and medicines cured the COVID-19 leading toward panic buying and undue price rise of that product which are affecting the poor people.

As we know, incomplete knowledge is always dangerous. The study pointed out that fake news

or quasi-information (distorted information) is spreading faster than the government conducted scientific research-based information and information based on evidence. Like exposing oneself to higher temperatures can deactivate the virus, mosquito bites can also spread the virus, etc. are some myths circulating which are needed to be addressed. It creates unnecessary panic and causes hindrance in the fight against the disease as authorities to have to fight on both the front of which one can be easily tackled (Dutta *et al.*, 2020). Some references are being made claiming some medicines to be the cure of COVID-19 are very dangerous and can create a whole new medical emergency if medications are taken without consulting the doctors. Straight forward blaming the cause of the disease to particular eating habits is also not justified. Sorting and identifying the right information from a false one is energy consuming, but at the least one can not share or spread such doubtful information (Pulido *et al.*, 2020).

Repeatedly World Health Organization (WHO), Indian council of medical research (ICMR), Director-general of health sciences (DGHS), Ministry of health, and family welfare (MOHFW) has been creating awareness and warnings about fake news and messages. There are legal provisions in place to deal with the nuisance of the fake news and misinformation which are spreading like wildfire. So, to deal with this Infodemic, we have to start creating awareness among masses by starting counter misinformation strategy which includes busting the myths, not to forward doubtful messages, educating the people about digital hygiene, etc. After all laws and authorities have always been there but the real onus lies with the people who are capable of doing constructive work. In this unprecedented pandemic, we need to focus on the co-operative approach rather than confronting one.

CONCLUSION

The COVID-19 pandemic is unprecedented in letters and spirit. The various and multi-faceted impacts are unfolding day by day. Therefore, we need to study the effect continually it is making. On which our response will be based. On the medicinal front we have ongoing trials of Bacillus Calmette Guèrin (BCG) and Hydroxychloroquine (HCQ) which are essential because until a vaccine is made, we have to test the efficacy of already established and approved medicines. It will save time as well as costs. On the social front, we have to deal with this post-information revolution Infodemic which is creating havoc without any reason and costing huge. We have

to educate people about digital ethics and etiquette and tell them how to maintain hygiene digitally as well as socially. In this time of situation, we also have to acknowledge the natural distress among the masses. This pandemic is taking a significant toll on the minds of people because of sudden changes in lifestyle. So, we need to address this issue as well. After all, we are all in this together, and we have to knock it out as early as possible before medicine with a universal vaccine and after with the therapeutic vaccine.

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