

COVID-19 PANDEMIC: GLOBAL SCENARIO, SOCIAL DETERMINANTS AND ITS SOCIO-ECONOMIC IMPACT

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Abstract

Background: The COVID-19 pandemic has resulted in about 75.2M cases and 1.67M deaths worldwide, as on 18th December 2020 data live updates of World Health Organizations. In response to this pandemic, this study analyzes the global issue of rising and falling of COVID-19 cases and changing scenario of economies. **Methods:** The data has been extracted from January 2020 to December 2020 from some of the reliable sources of the World like WHO Coronavirus disease (COVID-19) dashboard, Worldometer, and Centers for Disease Control and Prevention (CDC). It also represents the global scenario of the COVID-19 pandemic and its social determinants around the world. **Results:** There has been spatial heterogeneity in the number of cases and the number of deaths among regions worldwide. There is a great impact on the countries economy, both on the supply and demand side. It shows that several factors affect the determinants of health at various levels like income, healthcare system, education, etc also play a major role in it. **Conclusion:** The increasing cases worldwide have adversely affected the economy and have led to a scarcity of resources which further caused the collapse of the economy and trade.

Keywords: COVID-19, Cases, Deaths, Determinants of health, Socio-economic impact

INTRODUCTION

The life-threatening COVID-19 virus emerged in December 2019 and now has almost affected several nations around the globe, it was through the reported updates of worldometer which shows 75.2M cases and 1.67M deaths worldwide, as on 18th December 2020 data live updates of World Health Organizations (WHO) This pandemic is giving rise to every day major challenges for public health experts around the world. The WHO declared it as a pandemic in March 2020, though it took much longer from the time the transmission had occurred.¹The first case of coronavirus was reported in December 2019 in a person suffering from pneumonia from Wuhan in the Hubei provinces of China, which later on travelled to other nations.² After which more than 80,000 cases were reported in China.

The detection of the virus was a challenging task. It was detected by successful microbiologists that the on full genome sequencing and phylogenic analysis it indicated that the coronavirus that causes COVID-19 is a beta-Corona virus with the same sub-genus as Severe acute respiratory syndrome (SARS) virus and even the structure of the receptor-binding gene is very much similar to that of SARS and the virus shows the use of the same receptor angiotensin-converting enzyme for entry into a cell. It was also found COVID variant A is the ancestral type, and both A and C have been identified frequently among Americans and Europeans. Despite various researched many things are yet undocumented and have not been confirmed, so it very much challenging to assess the variation in cases and deaths among different nations.³

The transmission rates and viral load among the symptomatic and asymptomatic carriers do not show much variation. Some of the common symptoms identified under the international health organization include fever, fatigue, loss of taste respiratory (cough, dyspnea) or gastrointestinal (nausea, diarrhoea, vomiting) symptoms, and though no significant observation is found in chest imaging. The number of deaths is still at a peak in many regions of the world and most of them are caused due to respiratory distress syndrome (ARDS), leading to severe hypoxia, respiratory failure, multiorgan failure, shock, and death.⁴The number of cases has been showing a spatial heterogeneity across the globe. The changing scenario in the number of COVID positive cases and deaths has forced various economic and psychological impact, enormous with time.³There have been various studies conducted to analyze the variation between different countries, as some countries have a very high number of positive cases but low death due to COVID-19 whereas, some have less positive cases but a high number of COVID-19

deaths.¹⁻⁴

DEMOGRAPHIC HETEROGINITY OF DISEASE

The impact of COVID-19 was faced worldwide and many statistics have not yet been presented at the country level. These data show massive variation and spatial heterogeneity among themselves as seen in Figure 1 and 2, in the number of COVID deaths and positive cases till 14th December 2020. Despite limited evidence available to reach the cause for this variation. There have been some researches that show the variation is due to demographic factor, the differences in migration rates indicating the flow or transmission of disease.⁵ In some studies, it was discovered that variation in case positive and mortality data can also be due to the changes in diagnostic technique, healthcare availability, reporting, and surveillance system, and climatic factors. Some studies also pointed out that the adoption of varying case definitions can also be one of the factors for worldwide variation in cases and deaths.^{3,6}

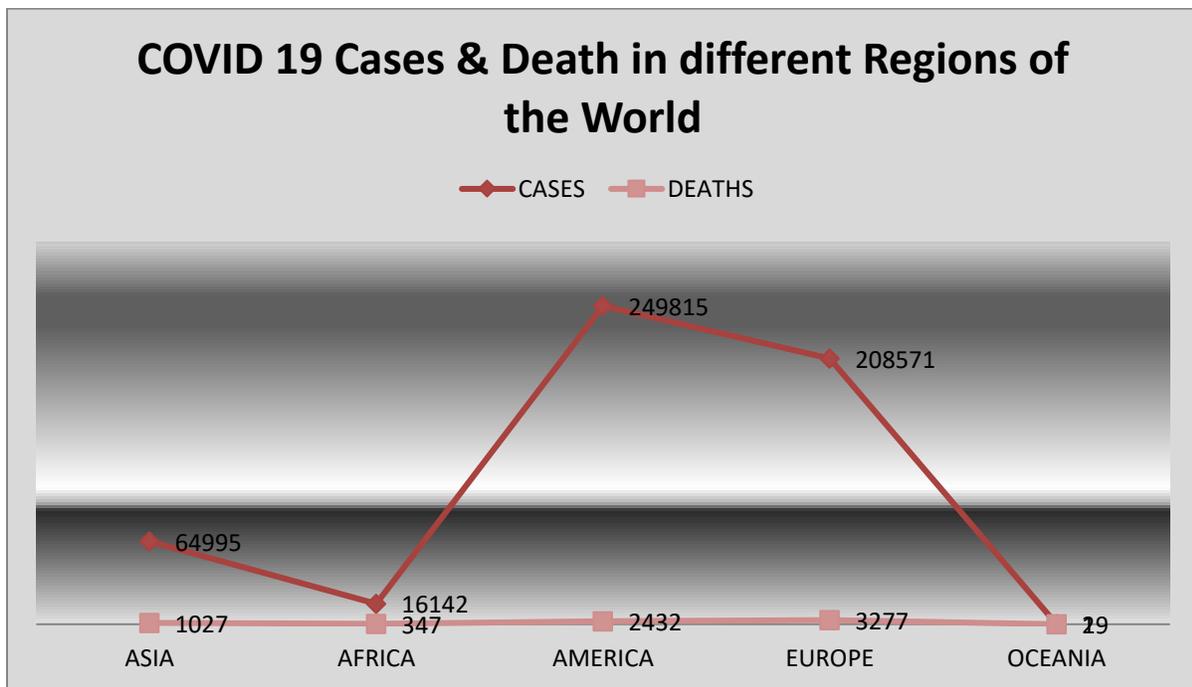


Figure 1. Shows the number of COVID -19 Cases & Deaths in different regions of the World (Source: WHO COVID-19 Dashboard updates, Author's representation)

Many countries like Europe and North America has itsreached its peak. Several nations like Germany, France, and other European countries made a quick decision of closing its frontiers. But, in a country like China where the population is a massive and major part of the population has remained unaffected, there are chances of second even after the current scenario

looks better because these unaffected people have not come in contact with the infected and the immigrants arriving from outside may cause cross-country transmission.⁵It has been observed in several studies that denser communities are at higher risk of transmitting the infection, other factors also act in like socio-economic condition, geographical variations, etc.⁷

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IMPACT OF COVID 19

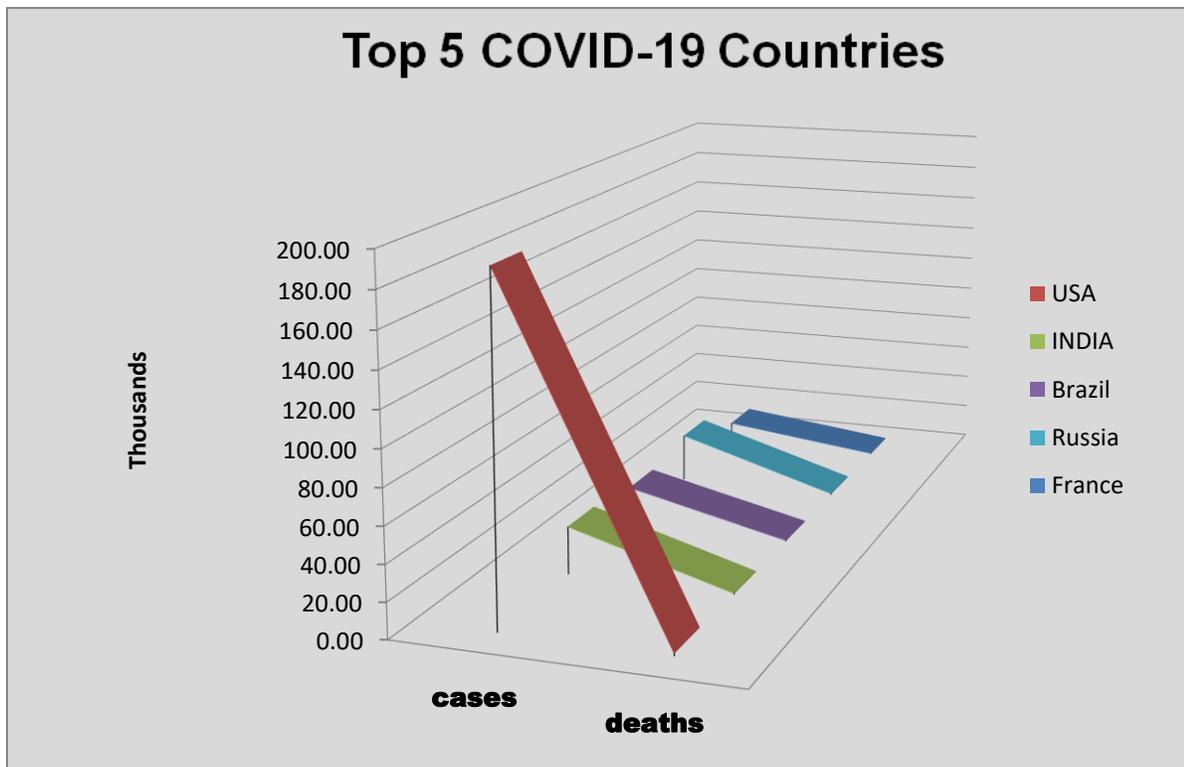


Figure 2. Shows top 5 COVID 19 affected countries and Cases and Deaths as categorised by the World Health Organization

Direct impact on health: Some nations were late rises as seen in the below figures, which later on were enlisted among the top 10 COVID-19 cases with others as of the WHO.⁸ The United

States graph in figure 2, shows it was one among them which reported the highest number of positive cases by the latter half of the year and acquired the topmost position among COVID-19 affected countries.⁹ Other countries like Italy also reported the highest number of deaths in late April 2020 which was about 26977 and 199414 cases as of 28th April 2020.⁶ These findings were very much similar to that of China and the number of positive cases was 79393 and 2838 deaths as of 29th February 2020, which was nearly similar to Italy though cases were reported much earlier and even the first case was reported from Wuhan, China, and Spain was leading in 2nd position with 11728 COVID-19 deaths and cases were 102136 on the same day.¹⁰ In this COVID-19 race Russia proved to be one of the late bloomers the cases starting rising in April and there were 2777 cases and 24 COVID-19 deaths as of 2nd April 2020 which later on reached to 995319 Cases and 17176 COVID deaths as of 31st August 2020, but the number of new cases and new deaths gradually declined by August.¹¹ Brazil has been leading since August in the 3rd rank of a WHO with 21825 cases and 279 deaths till 14th December 2020.¹² Whereas, in India, the first case of COVID-19 was reported in February 2020 and had 7 cases throughout and the number of were not even 1 as of February 2020 and is still leading in 2nd position as seen in figure 2 with 27071 cases and 336 deaths till 14th December 2020. The cases in India started rising by the end of March 2020 and reached up to 3621245 positive cases till August 31st 2020. Russia is leading fourth as it can be seen above with 28080 cases and 488 deaths, and France is on the 5th position with 11533 cases and 150 deaths.¹²

Indirect impacts on health: This pandemic not only harmed people physically but has given rise to a serious mental and economic shock. The morality was injured in professionalism, moral injury has been widely seen among medical students, who found it difficult to cope up with pre-hospital and emergency conditions, psychological symptoms have also been observed among students, workers, tourists, and those who have been prevented from going out for work, corporate offices, accessing services, attending events and are driven out of jobs.¹³ These pressures are mainly due to job security, concern about income, and fear of death.¹⁴ This pandemic has also made other health treatments challenging like treatment for oral health, diagnosis, testing of blood samples, diabetic treatment, treatment for cardiovascular diseases, other chronic diseases, other infections, and even drug administration at healthcare were restricted due to certain instruction for infection prevention and transmission, especially hospitals with COVID-19 positive cases.¹⁵

DETERMINANTS OF COVID-19 PANDEMIC

The COVID19 pandemic has been causing a positive impact on economies in both the short and long-term in different sectors. The rising incidence of positive cases has demanded some immediate public health measures.¹⁶ The formula of lockdown, social distancing, using personal protective equipment like wearing a face mask or hand gloves, avoiding social events or large gatherings, school closure, travelling restriction, practicing good hygiene such as frequent hand washing or sanitizing, staying at home or working from home, tracing and quarantining suspected cases, self-isolation and complete lockdown and shutdown which has been accepted by some nations.¹⁷ As the virus has travelled almost every nations and territory and globalization contributed to the rapid speed which impacted the entire world therefore several nations has to accept certain policy decision.³ This pandemic has caused substantial socio-economic and other health impacts as depicted in figure 3, besides its direct one.⁵

Age: It was analyzed in a study that the average age of people who have been tested positive for coronavirus lies between 47-56 years of age.¹⁸ It was also estimated that the age groups 60 years and above are at greater risk due to underlying factors like the weak immune system and compromised health conditions.¹³

Lifestyle: Normalizing wearing masks, washing hands more frequently, stepping out only when it is necessary, social distancing, travel restrictions, and the phases of lockdown and shut-down along with fear and panic. Not only this economic impact, was work from home, and going jobless not an as easy phase of life for humanity. It gave rise to many mental health issues.²

Social & Societal level: Health and well-being largely depend upon their interaction social environment.¹⁷ The physical environment affects the mental state of an individual. The effects of the pandemic were seen adversely among nations where community transmission continued.¹³

Health & Other healthcare services: Health care services were also affected as the health behavior of the population changed with time. Other health services like a regular checkup, medicine allocation, laboratory screening for other health issues were affected in the healthcare and ICU admissions increased with time, there was also a greater number of cardiac cases, and COVID19 testing being done at every healthcare was a matter of concern for many which were one of the reasons which changed the health-seeking behavior of people.²⁰

Food production/Agriculture: The imposition of lockdown and shutdown lead to stockpiling behavior among retailers and they eventually responded with short-run rationing strategies,

imposed limits in their purchase and the shutdown removal lead to grocery shopping hours for the elderly.²¹

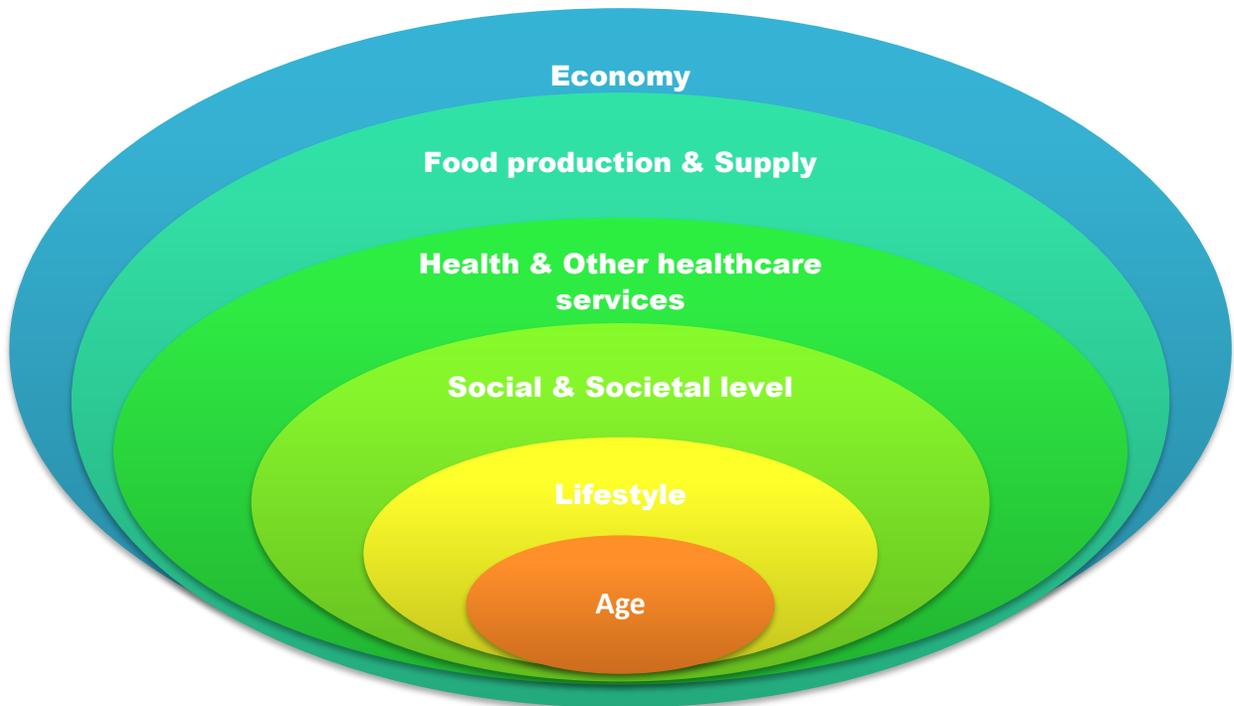


Figure 3.Shows the determinants of COVID-19 by using “Dahlgren-Whitehead ‘rainbow model’ of the determinants of health”.*Author’s conceptualization*

Economy: Amidst this lockdown, shutdown, and social distancing there have been major impacts on the social sector and economic venture/capitals were severely affected.¹⁴ The increasing demands at different sectors have left suppliers with supply-side shock,²² and consumers whose per capita income has reduced or have lost a job due to externalities also suffer the demand-side shock which would anyway rise above the supply-side shock.²³

SOCIO-ECONOMIC IMPACT

The unprecedented decline in economic activity of nations is due to preventions activities of Lockdown and social distancing, which several nations decided to follow to prevent transmission.²²The imposing of restrictions in travel, trade and social distancing, fear in the mind and heart has disrupted the functioning of the global supply chain across the World not only this, the consumers whose per capita income has reduced or have lost the job due to externalities has

disrupted the demand chain. These preventions at different levels such as primordial, primary, secondary and tertiary have affected different sectors of World both, directly and indirectly, especially causing great impact on the economic status of the nations.²⁴

Primary sectors: The sectors which are considered primary includes companies involved in production, extraction and origination of raw materials like food material cultivation, oil & petroleum, iron ore, other raw substances necessary for making a finished product. A global increase in demand and need of these raw materials for food were identified amidst pandemic, but at the same time, it was also analyzed in one of the studies that restaurants in some regions have reduced the price of agricultural product about 20% which disturbed the supply chain.¹⁷ The demand for oil and petroleum has also been reduced because people were advised to stay home and step out only when it's necessary and the oil price war between OPEC countries, has reduced the demand for Oil, the supply was even adversely affected due to cross-country travel restrictions, restrictions in trade and commerce, verification and transport of products which has also affected the flow of business at the macro level.¹⁴

Secondary sectors: The secondary sectors include all kinds of manufacturing industries, firms of small scale and large scale, venture capitals invested, start-ups for manufacturing and supply goods, etc. It was observed manufacturing companies suffered a great loss due to lack of workforce and raw materials, whereas the demand for some selective product remained high such as daily essentials, etc but this demand raised to a level when the general public decided to pile up goods and foods at home because of fear, this led to great market shock/ supply-side shock. The long-term and short-term effect of the pandemic on start-ups and job markets is drastic and the situation is going to get worsen with time and can even lead to a permanent reduction in Start-ups, growth of employment and less or least jobs in specific sectors across the globe.²⁵

Tertiary sectors: The tertiary sector comprises all the service providers, like educational institutes, health care services, transportation and trade, travel and tourism, Real e-state, media, Information technology and research. These are the main or frontline services that disseminate information and cater to all our needs.²⁶ The education system has been widely affected all across the globe. The high-income countries have also tried to implement various policies like Germany and Italy have initiated a complete closure, the United Kingdom went for selected closure and more than about 100 countries have decided complete closure. It was also estimated by

UNESCO that about 900 million learners are being affected due to the situation. It was also identified that people who have capital and resources can learn using technologies whereas people who have comprised financial condition were deprived of education during social distancing and lockdown, this makes education a luxury good. Looking at the good side, researches have been sufficiently taken as a priority and students and scholars have widely engaged in research related to COVID-19 and related topics, but the major means of dissemination of results have been restricted like conferences and seminar has been replaced or adjusted with virtual webinars. The health tourism industry has suffered the most due to the pandemic. Along with its hotels, travel agencies, tourism also has to bear a great loss. It was estimated in a study that Hilton worldwide would be borrowing a precautionary \$1.75bn under a revolving loan to preserve money and to maintain flexibility and sustainability in the global market. There is a risk of about 50 million jobs in the global travel and tourism sector, as warned by 'The World travel and tourism council'. About 50 European public and private organizations have urged to implement immediate measures. Moreover, globally the closing of the country's borders is getting common for several nations. This pandemic has been much more painful for that jobless, unpaid, hungry and abandoned swarm of workers, struggling to reach their homes and family, as seen in India as thousands and millions of workers reached from different parts of their workplace and gathered in a bus stop in Delhi, the capital of India.²⁷⁻²⁹

On over-viewing, the situation in the healthcare sector through various updates it can be understood the demand for respiratory ventilators, PPE kits, and other precautionary equipment used for COVID-19 treatment purpose has increased up to a level that has left supply chain under a great shock. Even countries like the United States and Europe have not been completely successful somehow to meet the demands.³⁰

PRESS RELEASE ON COVID 19

The Global Research on Coronavirus disease (COVID 19) started a clinical trial for COVID 19 treatments named "Soliditary trails", which has been evaluating the effect of drugs based on three outcomes in COVID 19 patients categorized as mortality, need for assisted ventilation and length of hospital stay. Another serological surveys initiative by World health organization with Global collaboration was implemented for serological surveys of SARS-CoV-2 by conducting such surveys around the World the extent of the pandemic can be known. The most important topic of these days on the press is COVID19 vaccination apart from other issues. After 1st and 2nd trails by

PFIZER and BIONTECH, in the 3rd trail, it has been concluded that the primary efficacy analysis of BNT162b2 to be 95% effective. The companies have also planned to submit data to regulatory agencies around the world.³¹⁻³⁴

CONCLUSION

The changing scenario of cases and deaths across the world has been giving some major mental challenges and increasing the risk of disease thereby increasing demands at different sectors has left suppliers with supply-side shock, and consumers whose per capita income has reduced or have lost the job due to externalities also suffers the demand-side shock which would anyway rise above the supply-side shock. This paper shows the macro-economic impact and COVID 19 cases do not depend upon the country's income level. The ongoing debate and discussion need to draw more focus towards world economy, emergency support of the government towards economic damage and more concern should be paid on long-term structural impact and recovery of small and big ventures. Decentralization of the economy will be an essential tool for the economic decision-making process in different sectors and economic recovery.

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