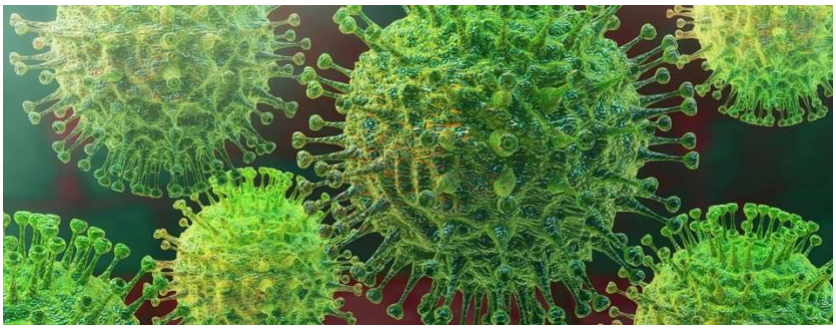


Analysis of the Spread of COVID-19 in the World

Introduction

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus.
Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness.
The coronavirus COVID-19 is affecting 218 countries and territories around the world.
2019 Novel Coronavirus (2019-nCoV) is a virus (more specifically, a coronavirus) identified as the cause of an outbreak of respiratory illness first detected in Wuhan, China. Early on, many of the patients in the outbreak in Wuhan, China reportedly had some link to a large seafood and animal market, suggesting animal-to-person spread. However, a growing number of patients reportedly have not had exposure to animal markets, indicating person-to-person spread is occurring. At this time, it's unclear how easily or sustainably this virus is spreading between people - CDC

This dataset has daily level information on the number of affected cases, deaths and recovery from 2019 novel coronavirus. Please note that this is a time series data and so the number of cases on any given day is the cumulative number.

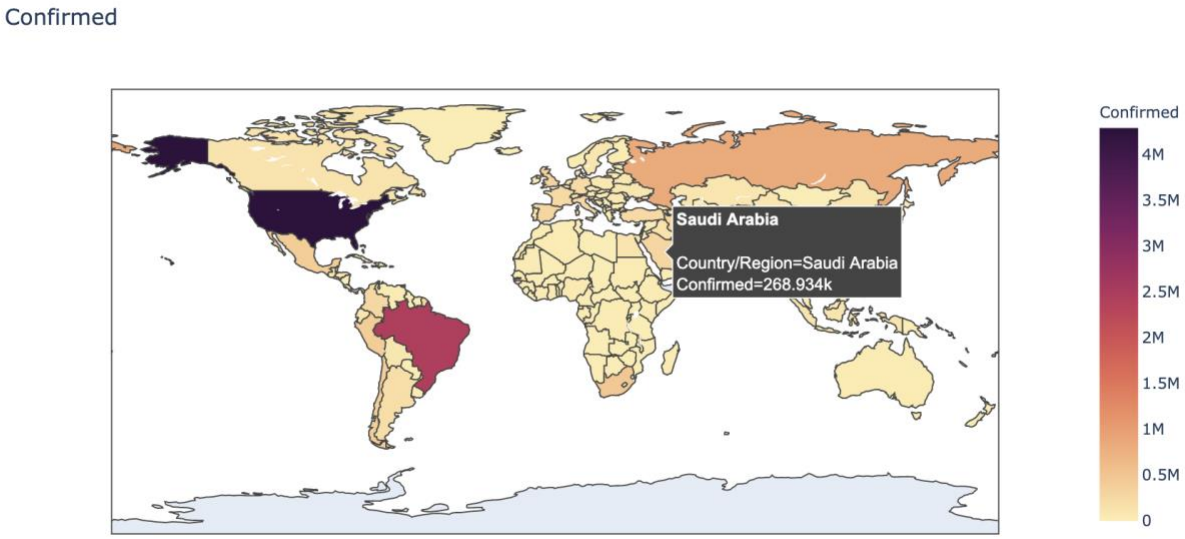
29 November 2020, there have been 61,869,330 confirmed cases of COVID-19, including 1,448,896 deaths, reported to WHO.

The Analysis

Figure 1. number of Recovered and active and death of COVID-19

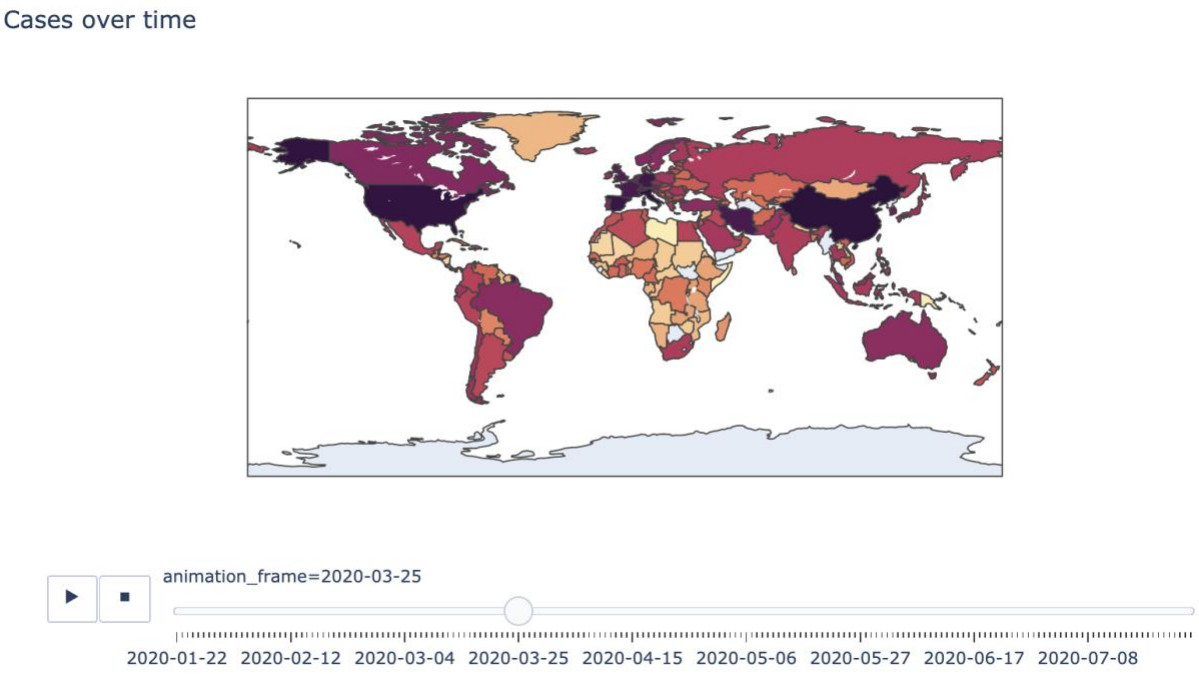
Figure 1 above shows the number of Recovered from virus 9,468,087from Covid-19 in the world and the number of a confirmed cases 6,358,362. According to the shown in figure 1 the number of death from virus are 654,036

Figure 2. Countries with confirmed cases of COVID-19



According to the map shown in figure 2 the Saudi Arabia contains 268,934K confirmed cases of covid-19, and we can see in the map US is the most confirmed cases are 4,290259M then Brazil contains 2,442375M confirmed cases of covid-19

Figure 3. Countries with confirmed cases of COVID-19 over time



According to the map shown in figure 3, We have Time plot from 22 Jan until 8 Jul in 2020.
At 25 Mar a huge increase in the number of cases is noticed, all of contries have confirmed cases of covid-19. After March 2020 and continued to increase dramatically.

Figure 4. Countries with New Recovered cases of COVID-19 over time

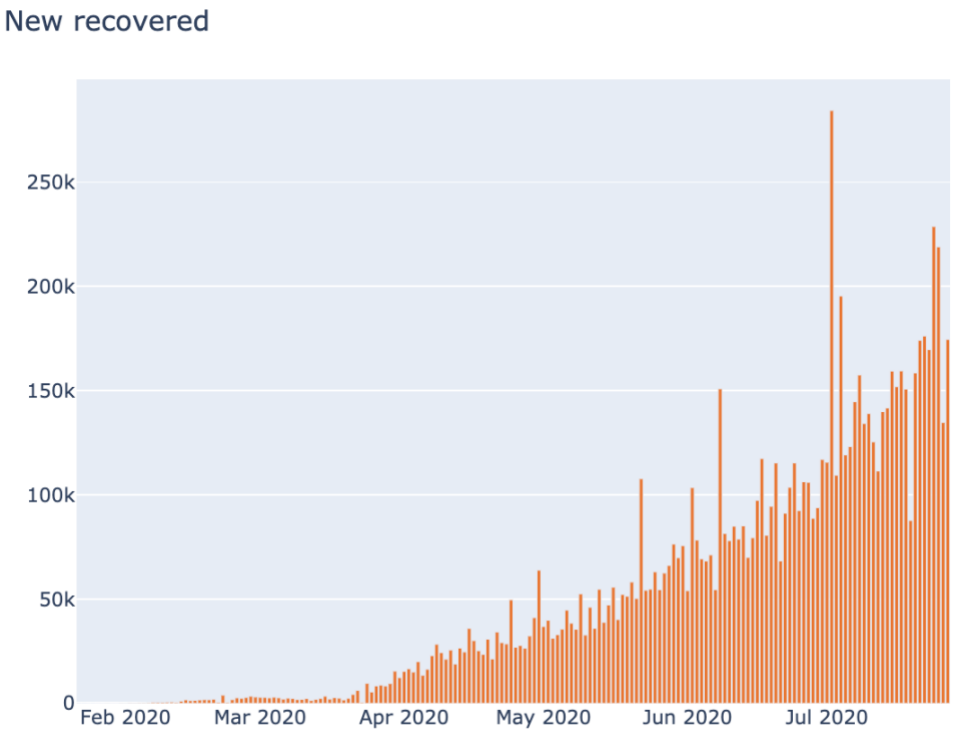


Figure 4 above shows the increased rate for recovered from covid-19, we can see in July 2020 is the most increased number of recovered cases from covid-19

Figure 5. comparison between new Recovered cases and active cases of COVID-19

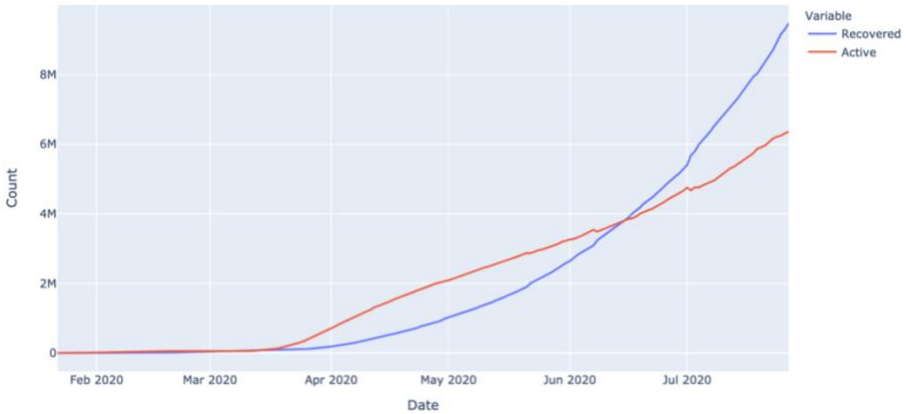
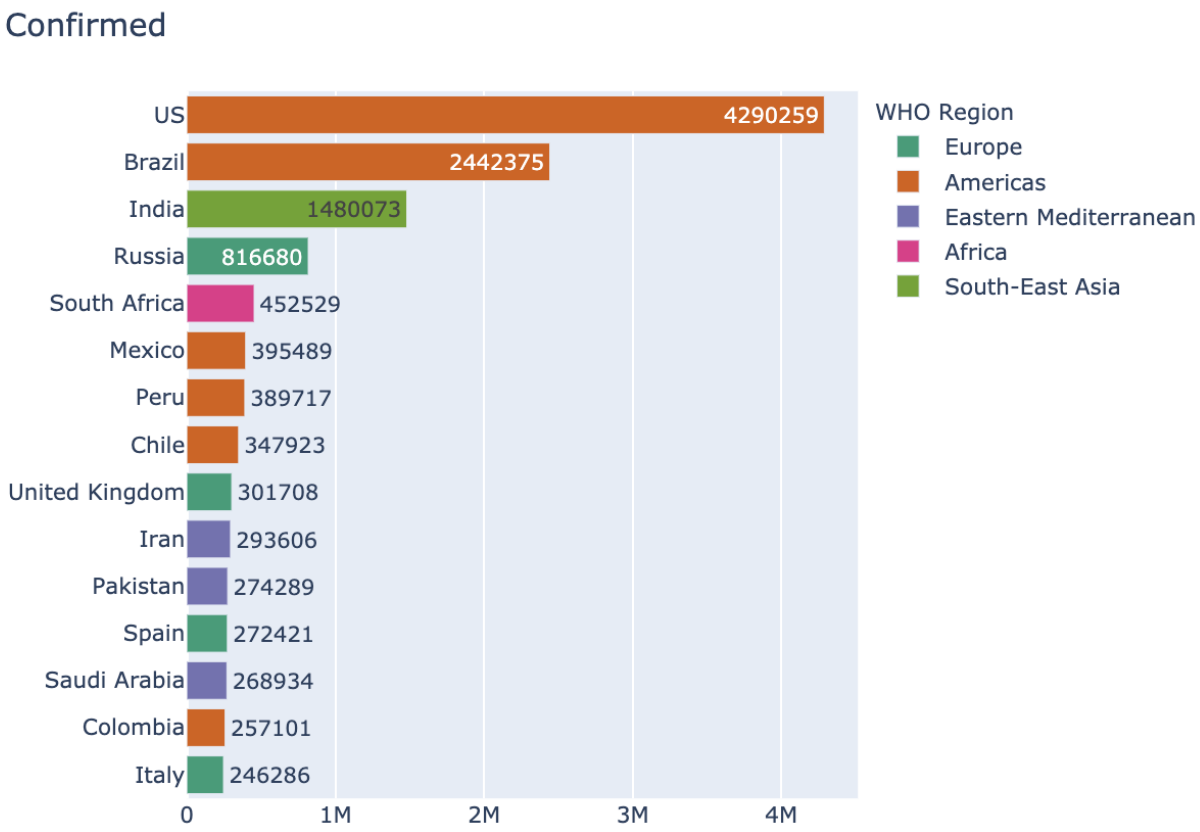


Figure 5 above shows the increased line for recovered from covid-19, we can see in July 2020 is the most increased number of recovered cases from covid-19, active cases of covid-19 increased in Mar month in 2020.

Figure 6. confirmed cases of COVID-19 in the world



As we expected, the Americas is the most confirmed cases of covid-19, maybe the reason is America is the last country did lockdown, the second country is Brazil.

Figure 6. deaths cases of COVID-19 in the world

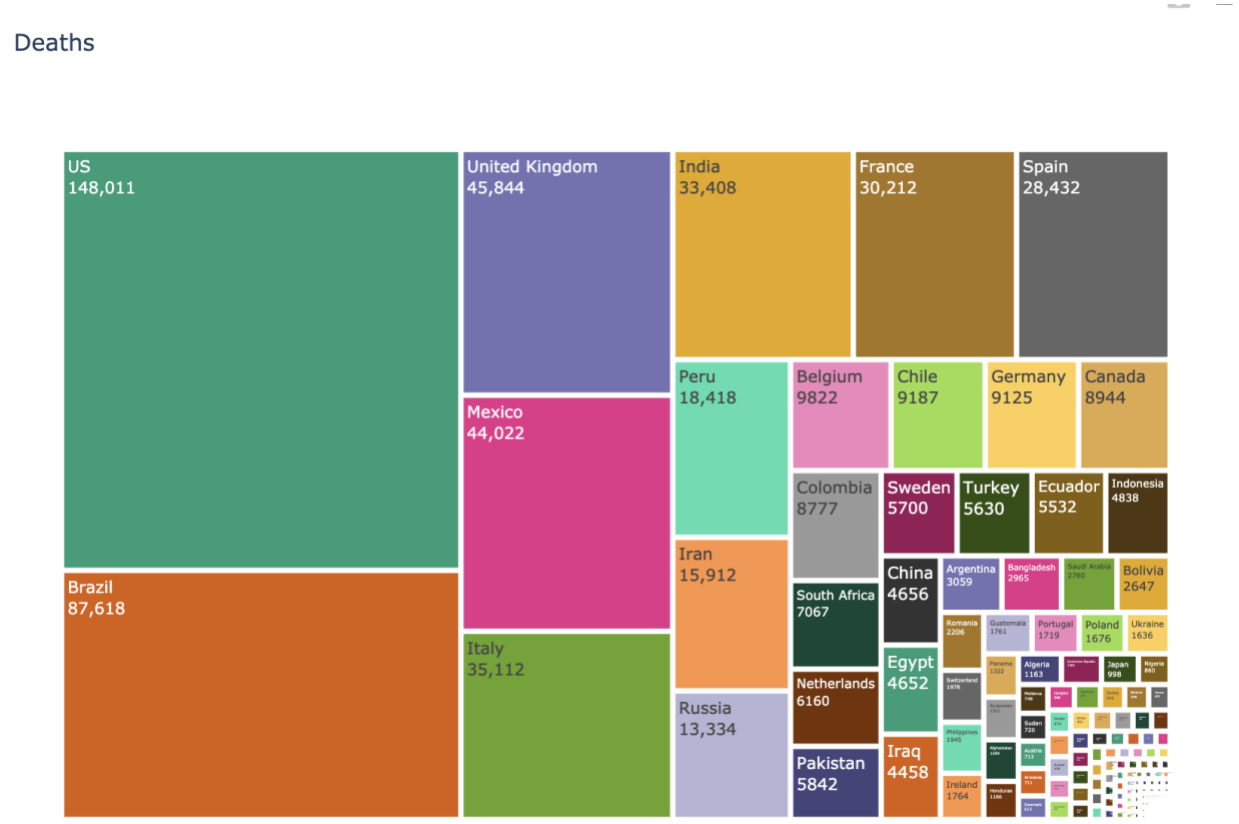
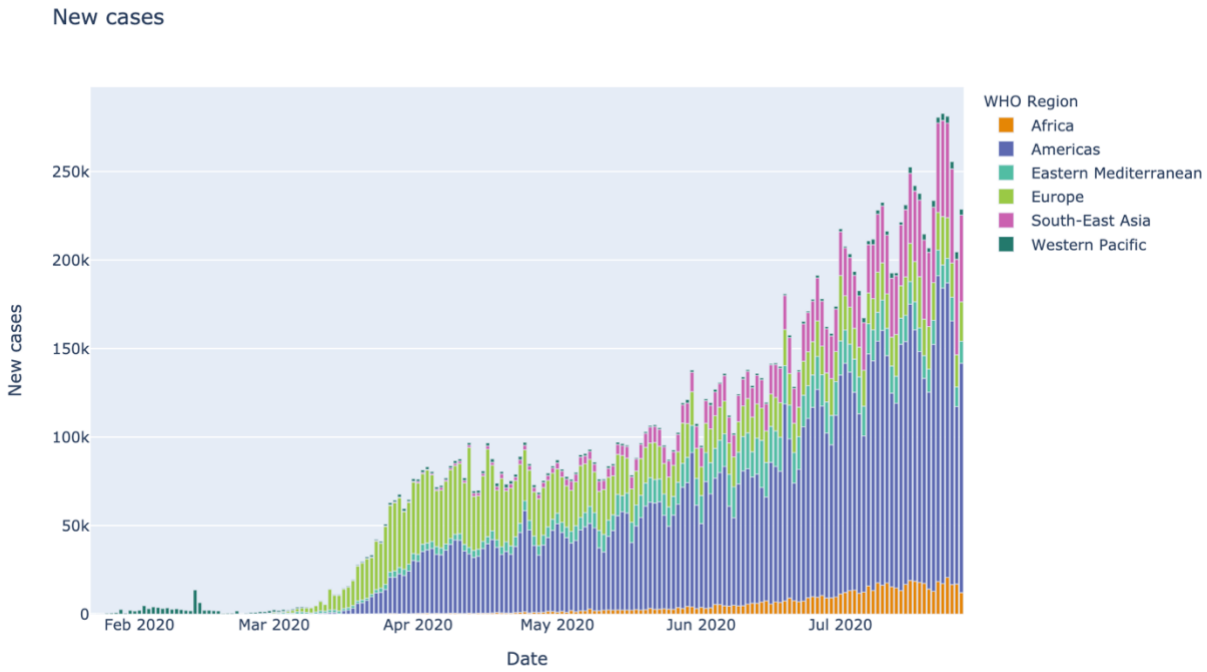


Figure 6 above shows the Treemap showing each country's contribution to total numbers. shows the number of deaths cases in different countries and their percent of total cases worldwide. The most four countries are US, Brazil, United Kingdom and Mexico

Figure 7. new cases of COVID-19 in the world



Using a bar chart, the total numbers of new cases over time.
Above in figure 7 shows the new cases of covid-19 began to rise in Mar 2020 and continued to increase dramatically. We can see South-East Asia in increase until Jul 2020, the largest spread of the virus

To sum up, based on the analysis above one can say that an earlier start leads to a flatter curve. In general, if each country applied precautionary measures such as Quarantine, curfew, etc from the early stages we could slow the spread of virus. Surely there will be

an increased in the confirmed cases and death rate, but at least they will not face the risk of the overwhelmed healthcare system.

Conclusion

Covid-19 viral spectre outbreak is spreading across different countries at an increasingly alarming rate. It requires a more focused approach on preventive measures and identification of high-risk factors such as extremes of age group and comorbidity. Precautionary measures such as compulsory practise of social distancing, self-isolation, usage of personal protective equipment, adequate hand hygiene along with respiratory hygiene and effective quarantining are required right now to prevent further community transmission. Proper screening by early detection of contacts, self-monitoring of travellers travelling from affected areas, creating awareness among the population about signs and symptoms of the disease, and promoting people to self-reportwill aid in the effective management of the spread of coronavirus. It will further help in curbing the current devastating scenario.

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I will upload python file in the attachments