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COVID-19 and Bangladesh: Situation report, comparative analysis, and case study

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ABSTRACT

This paper describes different aspects of COVID-19 in Bangladesh and other countries with visualization and infographic images containing the virus's spreading, other information from the statistical format, and some case studies based on various important fields for a country educational, economic, etc. Firstly, literature review section this paper on COVID-19 related works and its type with previous virus transmission reports and its effect. Secondly, completing work describes through algorithms and methodology diagram, which contains the overall data analytics process, including data wrangling. In this phase, the total working procedure to complete further process. Thirdly, a complete situation report analysis on Bangladesh by infographics through dataset containing every perspective of COVID-19 in Bangladesh. Comparative analysis with other top infected countries visualizes through the Data Visualization process and statistical analytics and case studies based on various impacts of lockdown on Bangladesh. Finally, a discussion presents the statistical summarization of COVID-19 in Bangladesh.

Introduction

A dangerous, life-threatening virus named COVID-19 started spreading from Hubei Province's capital in the People's republic of China named Wuhan in December 2019. It is almost ten months, and the world is suffering from COVID-19. In this period, many countries had been recovered entirely while some of them are infected again. World Health Organization declared this COVID-19 as a Public Health Emergency of International Concern on the last week of January 2020. After one month, WHO (World Health Organization) declared this COVID-19 as a pandemic on the second week of March 2020. It has been nine months and two weeks we are suffering from COVID-19 since it had been started in December last year. More than 188 countries are infected with this virus. Due to its different kinds of symptoms in different regions, it's becoming harder to make vaccines recover this Pandemic into normal conditions. As of September 15, 2020, more than 29.2 million active cases have been reported in various regions worldwide. Common symptoms for this virus are fever, cough, fatigue, asthma symptoms or breathing problems, loss of smells and tastes, etc. This COVID-19 shows its symptoms like many other diseases as Pneumonia, Acute Respiratory Distress Syndrome. For this COVID-19, many countries have been locked down to reduce its transmission rate, infected rate, and death rate. As this virus spreads from China, its transmission in the Asian continental zone is very natural. As well, in Bangladesh, COVID-19's arrival date is

08th March 2020. From various news and information, it is clear that COVID-19 enters Bangladesh from tourists from various countries and immigrants who lived in other countries to do their jobs.

To reduce the transmission rate in Bangladesh, the government declared lockdown throughout the nation from March 23, 2020, to various lengths. Though Bangladesh is under lockdown condition, it is the second most affected country in South Asia yet. The government takes many steps and procedures to continue lockdown and reduce the infected rate all over the nation. Bangladesh is one of the most densely populated globally. For this reason transmission rate of COVID-19 increasing day by day. Besides lockdown conditions, the government arranges COVID-19 test lab and Facility Quarantine, where patients can be isolated till they recover. For this lockdown, shut down conditions, Bangladesh has to face many unexpected circumstances in various sectors like economic, educational, industrial, political and regular life of citizens. Citizens are passing their time at home and which is caused by their psychiatric problems in their regular life. Therefore, this paper focuses on the comparative analysis of COVID-19 in every Division of Bangladesh, comparative analysis between other top infected countries, and case studies collected from various news portal media in this Pandemic. For this, some of the applications from Data Visualizations and Analytics from Data Science have to be applied. Data resources have been collected from various authentic sources where every dataset on COVID-19 for Bangladesh has been found containing new cases, new

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Table 1
Literature review.

Other Authors	Other's Work	Our Work
Remuzzi et al.	i) Comparative analysis is done only for Italy.	i) Comparative analysis has been done along with Italy and another top affected country worldwide. ii) A case study is discussed from various news media platforms.
Fanelli et al.	i) It is hard to understand given graphs and specific information. ii) A methodology needed to be understood.	i) Every given graph has been described with specific information. ii) Working methodology along with algorithm is given.
Hellewell et al.	i) The effect of isolation and contact tracing on controlling outbreaks is visualized. ii) Simulated process of virus transmission.	i) Impact for lockdown and isolation is discussed in the case study. ii) Comparative analysis with various countries and Bangladesh is visualized.
West et al.	i) The outcome of the False-Negative result was discussed with specific solutions.	i) A case study occurs in the case of False-Negative Report, which is discussed in the case study section.
Bhuiyan et al.	i) Case study evidence was discussed based on COVID-19 related suicidal cases and economic factors.	i) Case study on political, economic, educational, suicidal, etc., is discussed, where all of them are based on COVID-19.
Anwar et al.	i) Bangladesh's response to COVID-19 is discussed. ii) Social distancing and lockdown protocol and mental health condition matters are discussed briefly.	i) Both home quarantine and facility quarantine's infographic visualizations are discussed. ii) Lockdown's impact on psychological mindset is discussed descriptively.
Alam et al.	i) COVID-19's symptoms and diagnosis have been discussed. ii) The entire infection process is declared with an infographic visual. iii) Specific challenges were declared.	i) After effected COVID-19, various districts of Bangladesh's infected infographic visual is described. ii) Current conditions from various news portal media are discussed.
Hossain et al.	i) Briefly summarized information of Bangladesh as a High-Risk Country.	i) Bangladesh's all perceptions, including political, economic, and many more in COVID-19, are discussed.
Dr. Farhana et al.	i) Survey-based statistical infographics through tables were discussed.	i) Collected data from various authentic sources are used to build a statistical model.
Ghosea et al.	i) Based on Economic factors, COVID-19's impact was described. ii) Case studies were unclear.	i) Based on every essential factor and impact from COVID-19 is described. ii) Comparative analysis and case studies are evident with well-renowned news portals.

tests, and so many more including Division wise reports. The contributions of this papers are summarized below:

1. The literature has been reviewed with other works to find different important facts of COVID-19 and its impact.
2. Data Visualizations and Data Analysis algorithms have been applied to some of the collected datasets to visualize some of the statistical views and the spread of COVID-19 in Bangladesh and other countries. Comparative analysis has been done as well.
3. Comparative Data Analysis has been done throughout Bangladesh's all divisions, male and female infections, age-based infections and daily perspectives, and other top infected countries.
4. Different cases have been discussed from various news media, and those are directly or indirectly connected with the lockdown impact and COVID-19 conditions.
5. More than the required datasets have been analyzed to make infographic visualizations to show statistical format of COVID-19 impact in Bangladesh and other countries.

There are many papers on COVID-19 which are developed based on Statistical Models and Survey Datasets. Several types of papers were published before on COVID-19. Some Authors' paperwork and their proposed work are why our work is better than their work is given in [Table 1](#).

Materials and methods

1. **Data collection:** We have collected data from authentic sources about COVID-19. Where we have country-based data of Bangladesh starts from March 8, 2020, to June 24, 2020, containing data on total tests, new tests, total cases, new cases, total deaths, new deaths, totally recovered, total cases per million, new cases per million, total deaths per million, new deaths per million, total tests per thousand and new tests per thousand. We have collected a quarantine dataset from April 17, 2020, to May 16, 2020, containing the total number of homes and facilities quarantined and released by date. We have also collected dataset on the gender-based and age-based dataset from April 21, 2020, to June 7, 2020, containing death report on Male and Female data and age-based dataset report on five various points as age (1-10), age (11-20), age (21-30), age (31-40), age (41-50), age (51-60) and age (60+). We have done comparative analysis on various divisions also, for this we have to collect data on all divisions as Dhaka, Chittagong, Khulna, Mymensingh, Rangpur, Rajshahi, Barisal, Sylhet, including infected and deaths. We have done comparative analysis on Brazil, America, Russia, Italy, and China. In this country-based comparative analysis, we have compared these Top 5 infected countries with Bangladesh. Where dataset starts from March 8, 2020, to June 24, 2020. In the case study part, we have collected data from various online and offline news media portals.

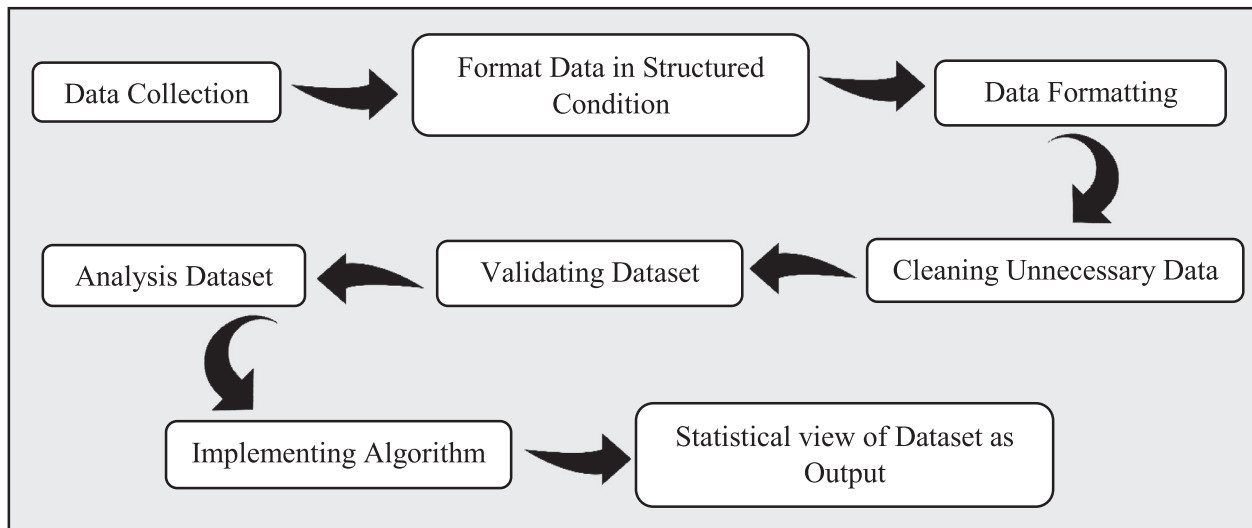


Fig. 1. Methodology diagram.

2. *Format data in structured condition:* After collecting every dataset from various sources, we format every dataset file in a structured condition.
3. *Data formatting:* After completing structured conditions for the dataset, we format these to do the other process as a pre-processing format.
4. *Cleaning unnecessary data:* Unnecessary data must need to be cleaned for further process accuracy.
5. *Validating dataset:* We had to check collected dataset is whether valid or not. For this, we have to check the validity of the dataset.
6. *Analysis dataset:* After doing every pre-processing, we have to complete our analysis to complete implementation through the selected algorithm for comparative analysis and situation report.
7. *Implementing algorithm:* In this part, we implement our Algorithm – 1 & 2, respectively, to get the expected statistical view of the given dataset as output. (Fig. 1)

Algorithms:

Algorithm 1: To Analysis Individual Report

We have used this algorithm to Analysis Individual reports, such as Test Reports Analysis.

- Step 1: Install and import necessary modules and packages,
- Step 2: Input Dataset
- Step 3: Configure Visualization format
- Step 4: Configure selected values from the dataset
- Step 5: Set Equivalent Values for both Diagram
- Step 6: Set labels and parameters for analysis
- Step 7: Reconfigure Visualized Diagram
- Step 8: Output

Algorithm 2: To Analysis Reports more than one

We have used this algorithm to analyze comparison-based reports such as Division Wise Report etc.

- Step 1: Install and import necessary modules and packages,
- Step 2: Input Dataset
- Step 3: Configure Visualization format
- Step 4: Configure selected values from the dataset for the first diagram
- Step 5: Configure selected values from the dataset for the second diagram
- Step 6: Set Equivalent Values for both Diagram
- Step 7: Set labels and parameters for analysis
- Step 8: Reconfigure Visualized Diagram

Step 9: Output

Results and discussion

Situation report on Bangladesh

COVID 19 strikes on Bangladesh from March 8. The first confirmed case was found on that day. After that, COVID 19 spreads all over Dhaka first; this virus spreads faster than before Dhaka's nearby cities. We have done a detailed analysis of each report of COVID 19 in Bangladesh. We have done some precise analyses, and those are represented as visualization reports

1. Country overview of Bangladesh

COVID 19 spreads all over the country within a short time. The first confirmed case was identified on March 8 with COVID positive. To see the spreading of COVID 19, we have done an analysis based on four points. For the convenience of analysis, we represent TCDR as Tests, Cases, Deaths, and Recovery. From Fig. 2, we find the report on TCDR. TCDR represents respectively Tests, Cases, Deaths, Recovers. Our analysis starts from the first time of COVID in Bangladesh, March 8, 2020. We have analyzed data from March 8, 2020, to June 24, 2020. After doing e detailed analysis, we COVID 19 cases reached the higher peak within May month, just as previous analysis reports.

From Fig. 3, we see many comparison analyses between Cases, Tests, Deaths, Reports, which are separated into two segments as Total and New. All of these analytics reports have been visualized in Line Plot. While analyzing this visualization report, we need to consider both axis values carefully. Where Red presents one value, there Blue represents another value. However, values occur at the same date by the x-axis value. From Fig. 3(i), we see a different type of comparison report. In this chart, the Red Colored line represents New Cases, and Blue Colored Line represents New Deaths. As we have a mass population country, so this analysis is calculated with one million perceptions. From this diagram, we see this report went up ahead after mid the month of May. Fig. 3(ii) shows another line plot diagram, which represents the comparison between New Tests and New Cases. We have noticed an exciting analysis: number values are really different from each other, but the graph represents almost the same shapes, just like the equivalent. Then respectively, all analysis reports as Fig. 3(iii) represent Total Cases Vs. New Cases, Fig. 3(iv) represents Total Cases vs. Total Deaths (per million), Fig. 3(v) represents Total Deaths vs. New Deaths, Fig. 3(vi) represents Total Deaths vs. Total Recovery, Fig. 3(vii) represents Total Recovery vs. Total Cases, Fig. 3(viii) represents Total Tests vs. New Tests,

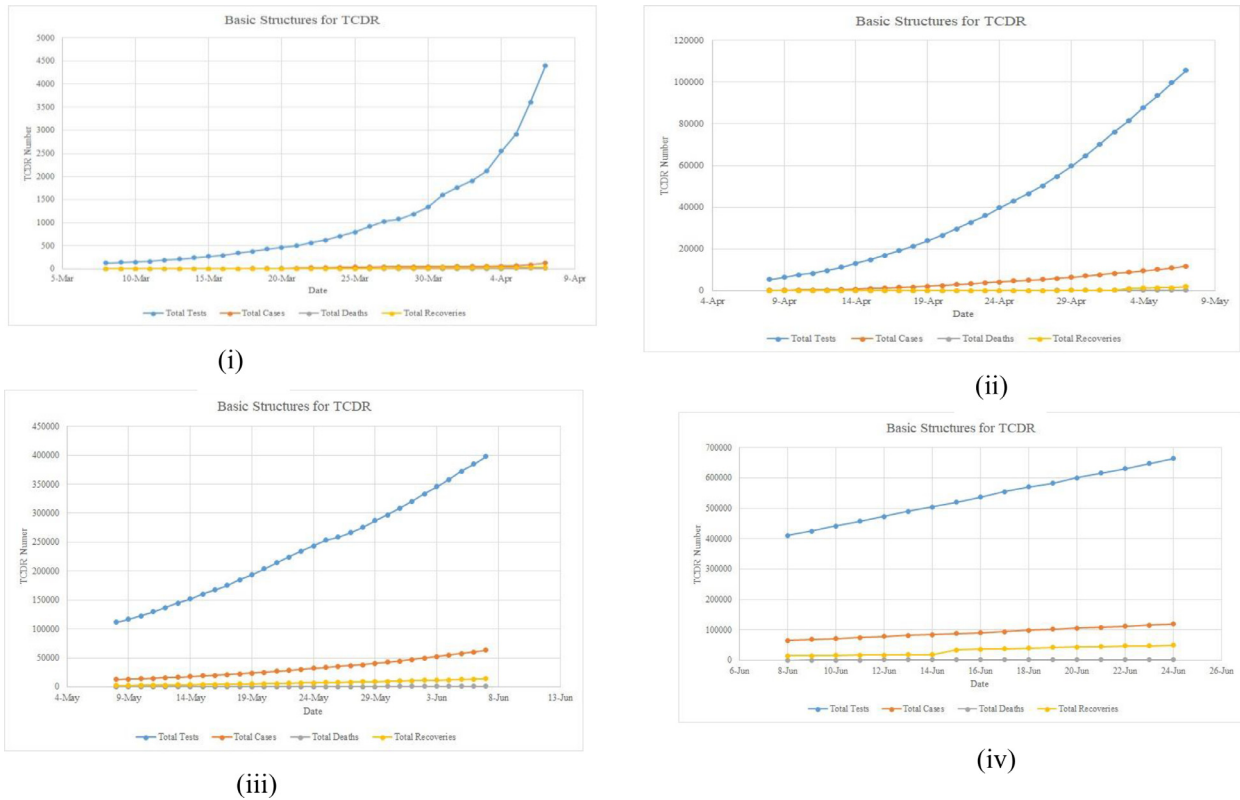


Fig. 2. Visualized report for TCDR.

Fig. 3(ix) represents Total Tests vs. Total Cases. Fig. 4(i) and 4(ii) shows a line chart from per thousand perspectives, representing Total Tests and New Tests. Total Tests is gradually increasing, but new tests have a rhythm while increasing.

2. Bangladesh division wise report

A complete analysis has been done among the eight divisions of Bangladesh, which compares Death and spread of COVID 19. We have eight divisions in Bangladesh, and all of these contain every district all over the country. By considering the population density, Dhaka is the only Division that contains the highest population density of any other divisions in our country. For economic facts, Dhaka and Chittagong are the most valuable Division than the other six divisions. Different segment of Fig. 5 shows us different Division's report in infected and Death. From Fig. 5(a), we get visualize report on Dhaka Division. We can see that COVID 19 spreads in Dhaka too much faster when we see at Infected graph. The same as the infected graph when we see at the death report graph, we on the first position death rate contain rhythm, but just after May 9, 2020; it increases gradually. Right after Dhaka Division, our analysis report shows respectively Chittagong, Khulna, Barisal, Sylhet, Rajshahi, Mymensingh, Rangpur with Figure number, respectively, Fig. 5(b)–(h). If we look at every infected graph representing (i) at every Figure, we will see Dhaka is Division is the most infected by COVID 19 due to its high population density.

Now, let us consider the lethality of COVID 19 based on Division.

From Fig. 5, we found an analytical graph for infected and the Death rate for various Divisions in Bangladesh. We have done a statistical, which represents the Death Percentage of all divisions in Table 2. If we follow the Death Percentage instead of Infected and Death, we will see a different list where Chittagong leads with a high Death Percentage. However, if we follow the highest Infected and highest Death, we will see Dhaka as leading.

Table 2
Statistical data for division wise analysis.

Division	Infected	Death	Death Percentage
Chittagong	85391	177	0.2073
Sylhet	13478	23	0.1706
Barisal	7873	10	0.1270
Rangpur	20049	21	0.1047
Dhaka	547554	401	0.0732
Rajshahi	13839	10	0.0723
Khulna	13557	7	0.0516
Mymensingh	24322	9	0.0370

3. Bangladesh's quarantine report analysis

Quarantine is strictly maintained in this COVID 19 epidemic. From a quarantine dataset analysis, we found a visualization report Fig. 5. People and government maintain the quarantine. Government-organized quarantine or "Facility Quarantine" in Fig. 6 (a) declares an isolation system. People who maintained their quarantine after being COVID positive or traveling one city to another are generally at home, declared by "Home Quarantine" in Fig. 6(b). When we analyze both of these visualization reports, we see maximum people choose "Home Quarantine" instead of "Facility Quarantine."

4. Death report

Age

In Fig. 7, an area plot presents the number of deaths in the various age range. We consider four stages of ages in human life to view the death poll. We divide all ages as Age (1–20), Age (21–40), age (41–60), and age (60+) in these four stages. When we analyze these statistics representing area plots, we see the maximum death record at 60+. Nevertheless, after May 6, 2020, it gradually increases the death rate for age

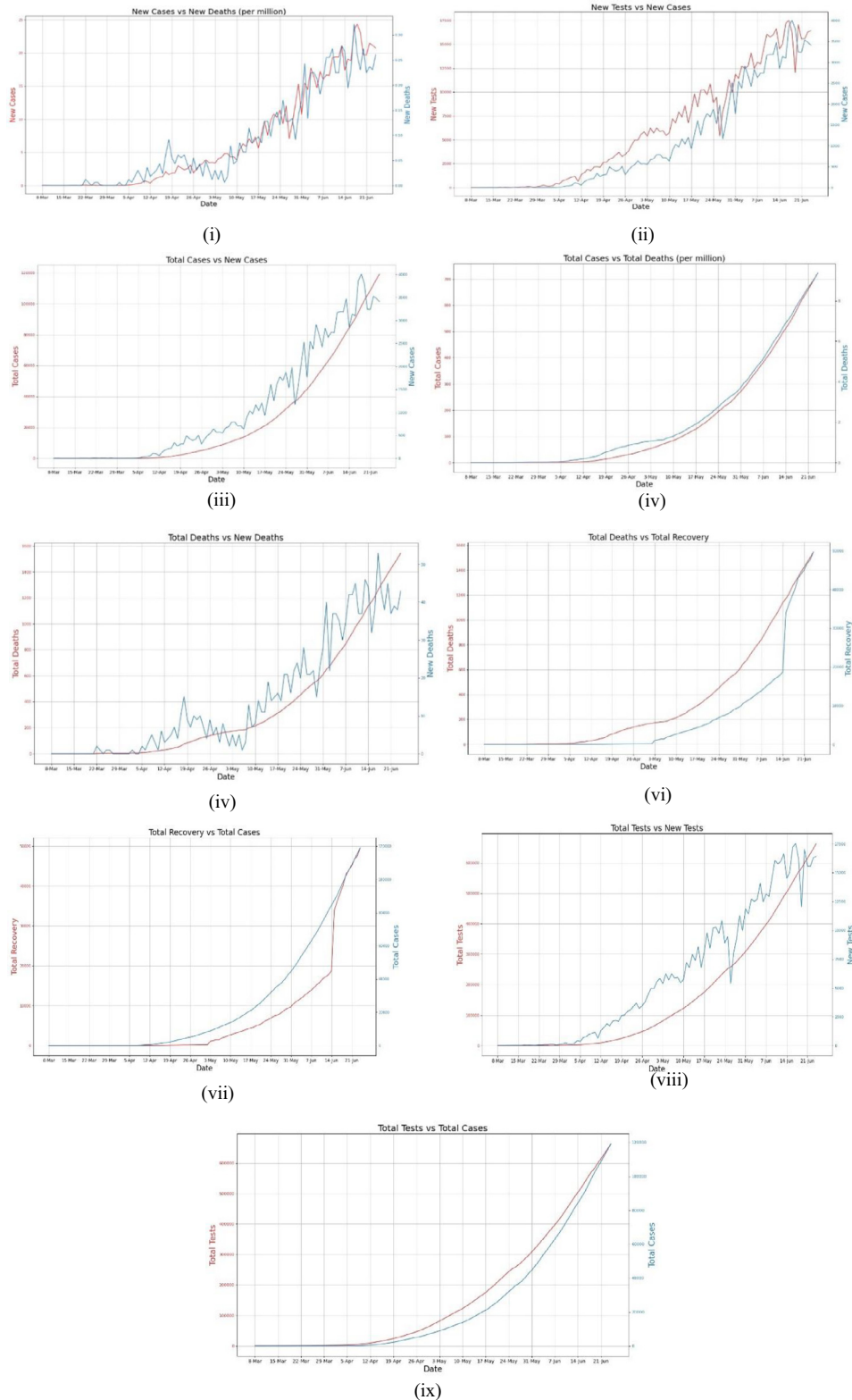


Fig. 3. Comparison between various reports.

40 to 60. Just after one week, from May 13, 2020, the middle-age death rate begins at the higher peak with age level 21-40.

Gender

In Fig. 8, a line plot presents the number of deaths between genders. In this statistical visualization analysis, we see that the Male Death Rate increases day by day, and until now, it is at the peak value. If we see this

analysis very sharply, we will see three times when Female Death Rate crossed Male Death Rate. This happens between April 19, 2020, April 29, 2020, and May 9, 2020, to May 19, 2020. However, after that Male Death Rate went to a high peak value before May 19, 2020.

Comparative analysis with other countries and Bangladesh

COVID 19 spreads all over the world like a pandemic. The whole world is under lockdown conditions due to this Pandemic. We have

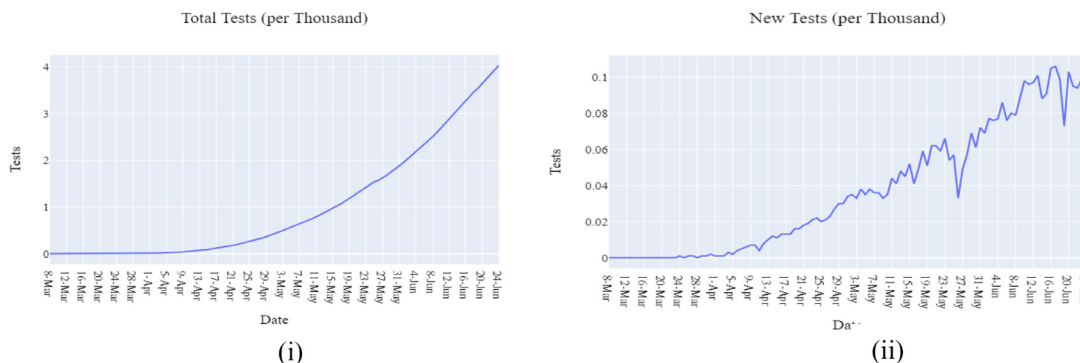


Fig. 4. Tests report analysis.

done some comparative analysis with other countries and Bangladesh. We consider five countries to compare our conditions in 4 perspectives. Every country has different populations. To solve this issue, we only analyze our report on 1 million people as constant. We have done our analysis with fixed-time data. We took data from March 8 to June 24.

1. *Bangladesh vs. Brazil*

Brazil is one the highest population density country in the world. By comparing with Brazil and Bangladesh, we found a visualized report below:

From the line diagram in Fig. 9, we see Brazil has a higher peak rate value in Total Death than Bangladesh. However, after May month, Bangladesh’s daily cases cross Brazil’s daily case shape in the graph, though their numeric numbers are different. On the other hand, daily deaths are higher than in Bangladesh in Brazil. Total Cases are higher than Bangladesh in Brazil.

2. *Bangladesh Vs. China*

COVID 19 started spreading in Wuhan, China. Therefore, we have analyzed our country report with China to see some essential facts. By comparing with China and Bangladesh, we found a visualized report in Fig. 10.

3. *Bangladesh vs. Italy*

Italy was declared a high danger zone in COVID 19 pandemic. This is why; we make a comparison analysis with Italy and Bangladesh. By comparing with Italy and Bangladesh, we found a visualized report below:

From the line diagram in Fig. 11, we see Italy has a higher peak rate value in Total Death than Bangladesh. However, from the first week of May, Bangladesh’s daily cases cross Italy’s daily case shape in the graph, though their numeric numbers are different. On the other hand, daily deaths are higher than in Bangladesh in Italy. Total Cases are higher than Bangladesh in Italy. From perspective analysis, we see Total Cases and Total Deaths are almost equivalent in Italy.

4. *Bangladesh Vs. Russia*

Russia is one of the most COVID 19 infected countries in the world. By comparing with Russia and Bangladesh, we found a visualized report in Fig. 12.

5. *Bangladesh vs. the United States of America*

Currently, America is the highest infection and death rate considered a country all over the world. Therefore, it was essential to complete an analysis with America and Bangladesh. By comparing with America and Bangladesh, we found a visualized report below:

From the line diagram in Fig. 13, we see America has a higher peak rate value in Total Death than Bangladesh. However, from the last week of May, Bangladesh’s daily cases cross America’s simple case

shape in the graph, though their numeric numbers are different. On the other hand, daily deaths from America were higher in April than in Bangladesh. Total Cases are higher than Bangladesh in America. The entire Deaths graph is an entirely different pole reaction within Bangladesh and America.

COVID 19 related case study based on media reports

1. *Educational cases*

Case 1: On May 8, 2020, a report on primary education was published on BBC. In this report, it was clear that studies are being damaged during this abnormal break for a long time. It is having the most negative impact on primary school students.

Case 2: On May 5, 2020, an Online Education system report to prevent COVID 19 was published in Daily Kaler Kantho. In this report, importance and process of Online Education system was discussed along with the problems in Online Education system such as network problem, device problem, etc.

Case 3: On June 29, 2020, an Online Education system report was published in Bangla Tribune. This report briefly discussed that Not Only Online Classes but also Online Exams and Online Evaluations are essential though.

Case 4: On April 16, 2020, a report on Online Education and Research was published on Daily Ittefaq. In this report, it was briefly discussed about the importance of Online Education System and the Research process in Pandemic. In this report, it was also discussed online education in the global context.

Case 5: On June 11, 2020, a report comparing urban and rural students were published based on online class due to COVID 19. It was a detailed report along with education processes in Pandemic such as Radio, Internet, etc. The cases were discussed in urban and rural areas. From these cases, we see a significant issue that Urban area students can continue their studies online due to network fluency and other options. However, on the other hand, rural students are lagging due to network inactivity and many more.

Case 6: On May 23, 2020, a report on university students interested in online classes was published on an online news portal named Somoy News. This report discussed that 47% of students are interested in continuing study on online process. 80% of teachers from 83 teachers are also interested in continuing online teaching platforms, and 60% believe that university authority is not ready to continue this process.

Case 7: On April 30, 2020, a UGC report was published on Daily Samakal with the title "Private universities will be able to run online education activities." In this report, it was discussed two procedures to continue the study process. The first one is that public universities will be opened just after the Pandemic is over, and private universities will continue their educational processes online. After opening Public universities, holidays and many occasional holidays will be reduced due to complete the syllabus.

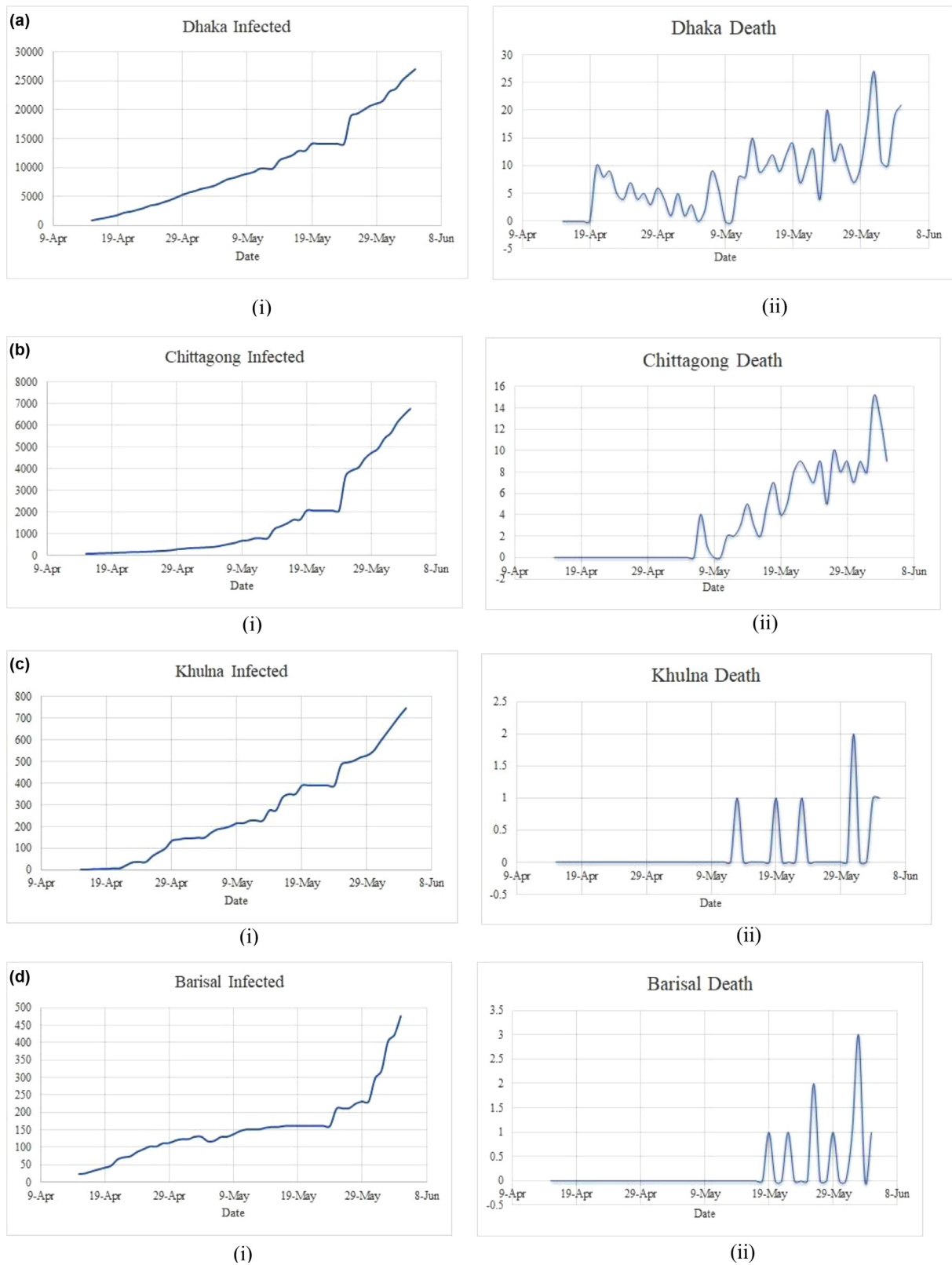


Fig. 5. (a): Dhaka Report (Infected and Death) (b): Chittagong Report (Infected and Death) (c): Khulna Report (Infected and Death) (d): Barisal Report (Infected and Death) (e): Sylhet Report (Infected and Death) (f): Rajshahi Report (Infected and Death) (g): Mymensingh Report (Infected and Death) (h): Rangpur Report (Infected and Death).

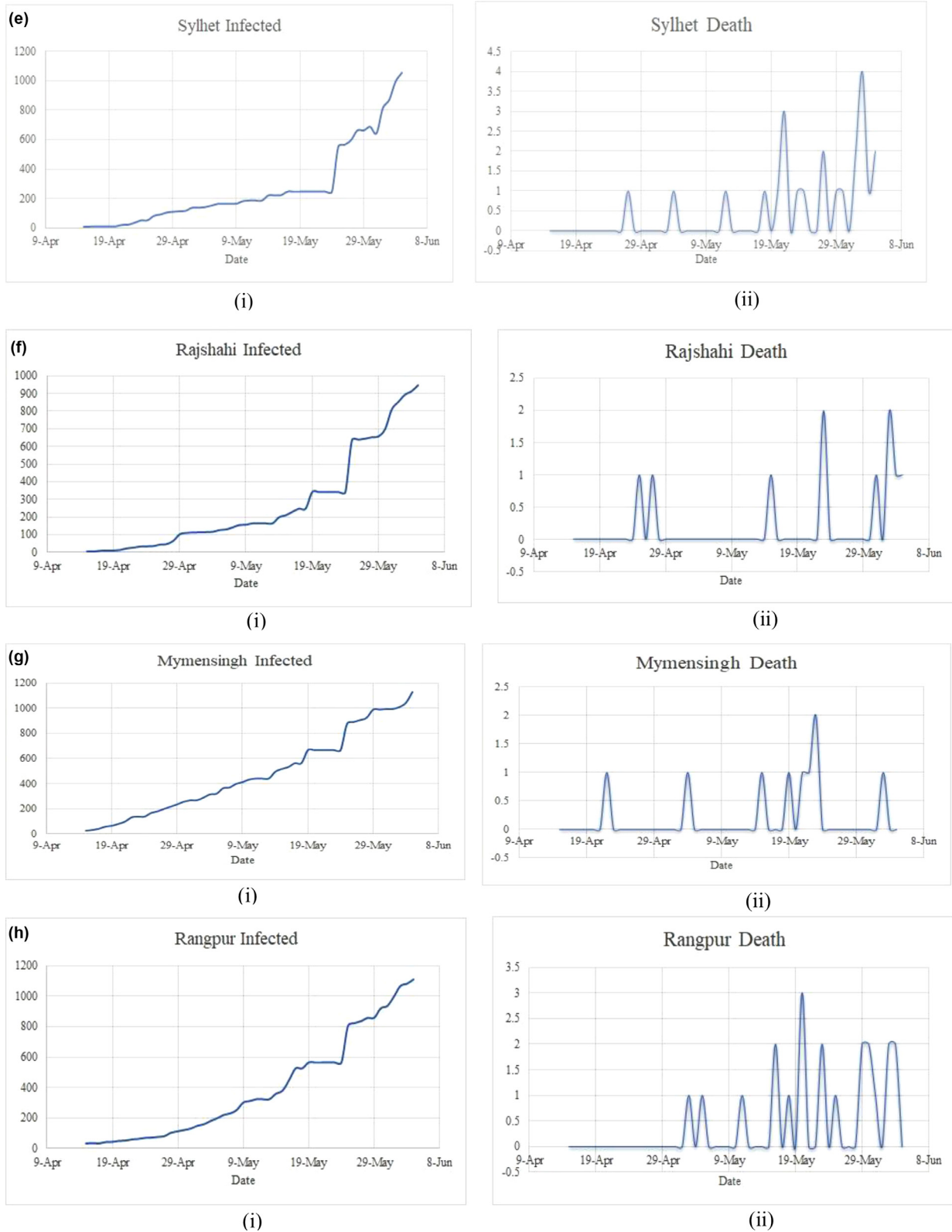
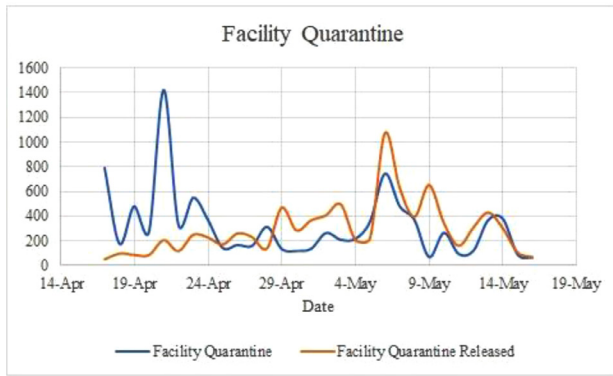


Fig. 5. Continued

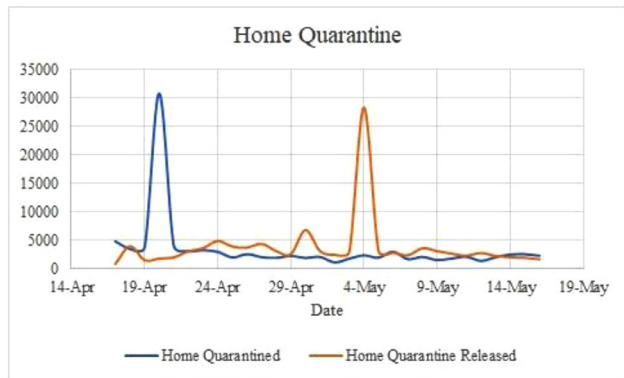
2. Economic cases

Case 1: On June 25, 2020, a report on the agricultural impact on post-COVID 19 conditions was published on Daily Samakal. In this report, it was discussed the importance of agriculture on our national economy. A statistic was shown on the report that, in 2018-19, our

country exported 100 million dollars' green vegetables, but in the first half of 2019-20 time, it crossed previous years' limit by exporting 117 million dollars' green vegetables within six months. Therefore, it is essential to look upon the agricultural field in post-COVID 19 conditions.



(a)



(b)

Fig. 6. Quarantine report analysis.

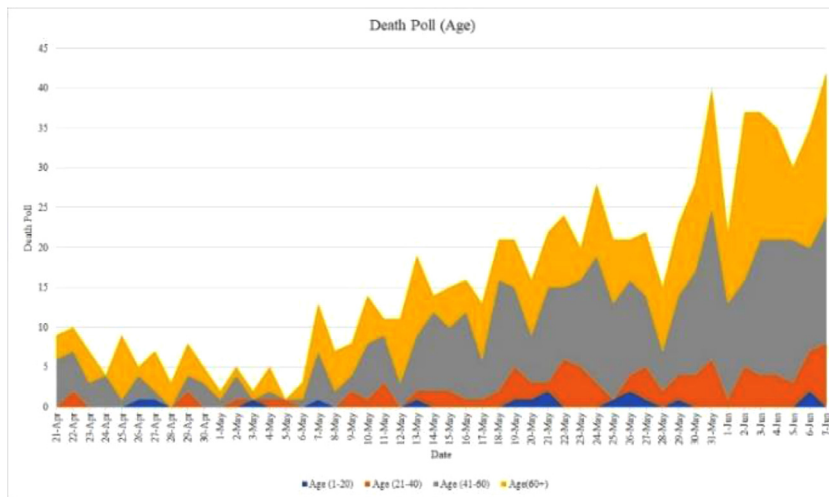


Fig. 7. Death report by age.

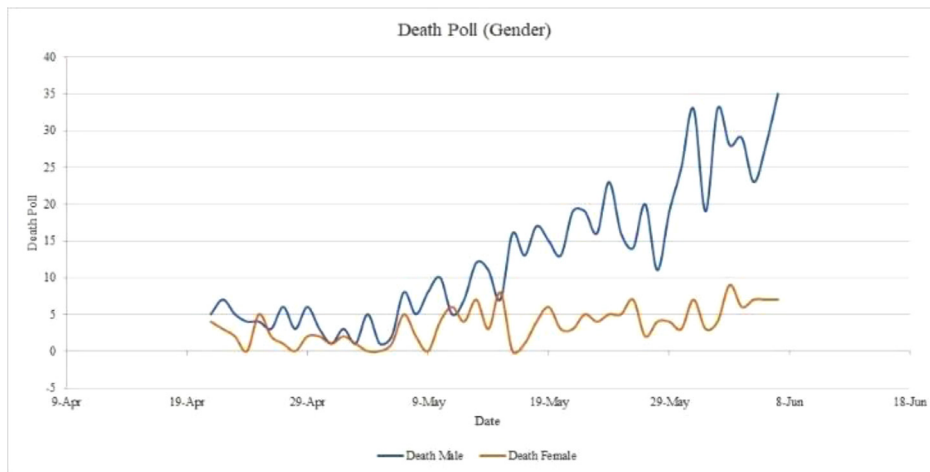


Fig. 8. Death report by gender.

Case 2: On June 14, 2020, a report on the economic field was published on an online news portal known as "The Home of Bangladesh Garments – RMG Bangladesh." In this report, it was discussed about the major disaster in our national economy due to COVID 19. This report shows these three big disasters in Export business, Import Business, and Remittance. Import and Export businesses will be hampered due to COVID 19 because they cannot produce garments items for Pandemic. A report from IMF (International Monetary Fund) was also discussed in

the report. Due to high people, density in our country COVID 19 spreads so faster.

Case 3: On July 12, 2020, a report on Bangladesh's economic post-COVID 19 situations was published in a daily newspaper Samakal. In this report, the various segment of the social, economic and national economic segment was discussed. The agricultural and non-agricultural economic fields will make a higher possibility of economic revolution. On the other hand, Bangladesh has the two most significant social assets:

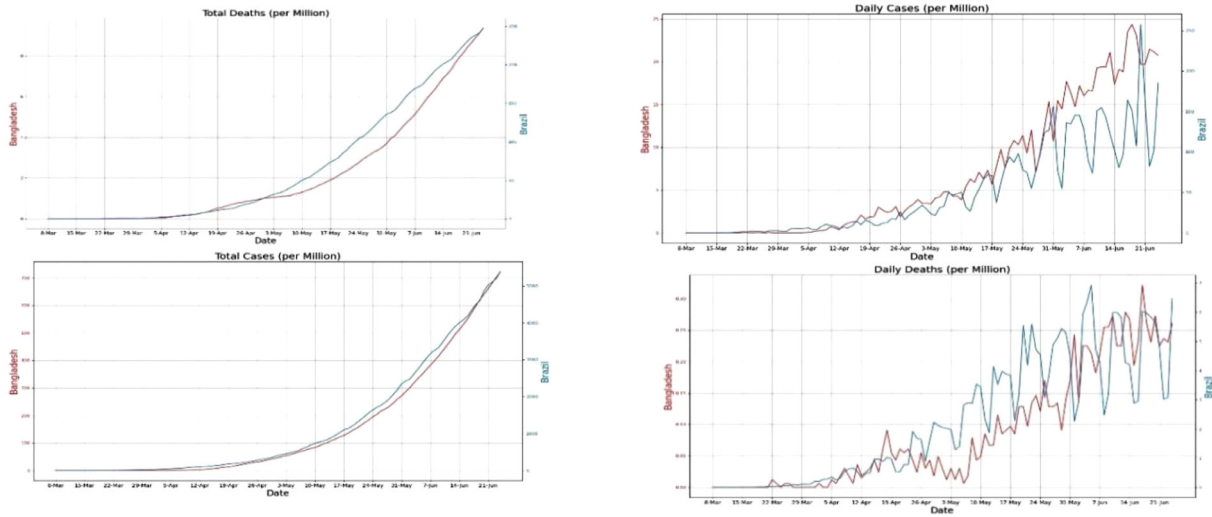


Fig. 9. Bangladesh vs. Brazil.

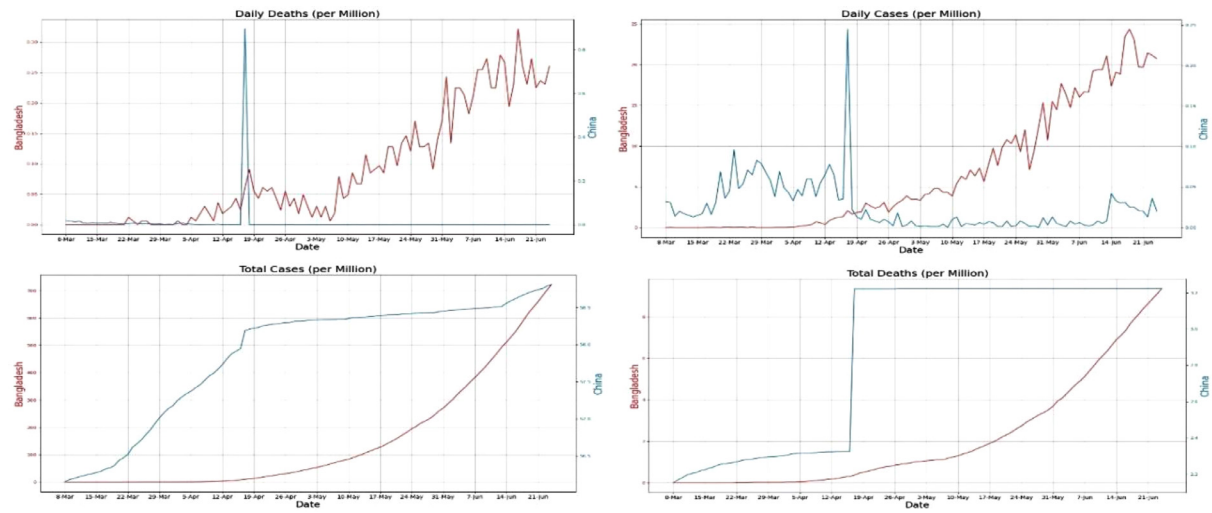


Fig. 10. Bangladesh vs. China.

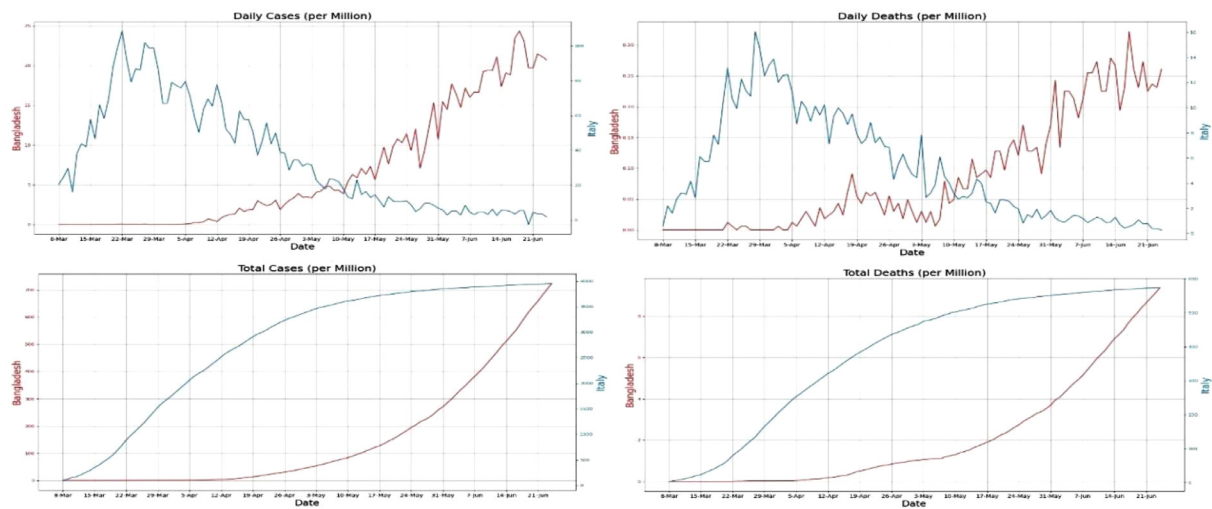


Fig. 11. Bangladesh vs. Italy.

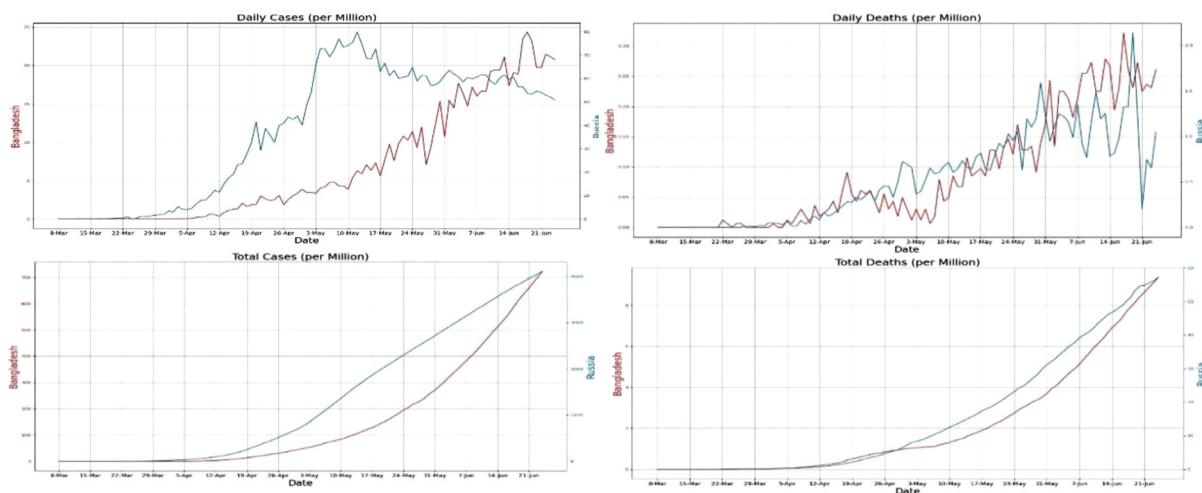


Fig. 12. Bangladesh vs. Russia.

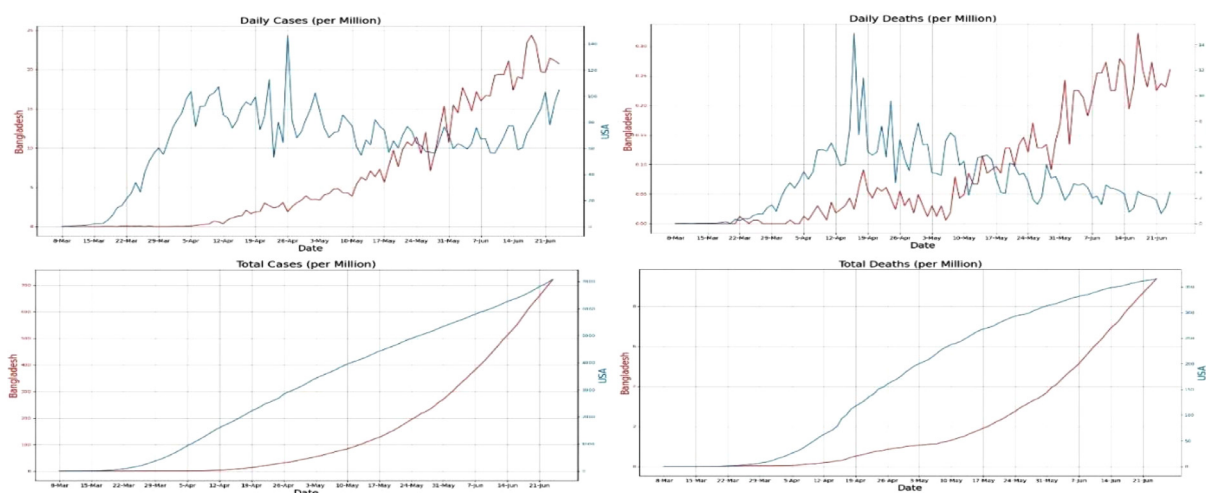


Fig. 13. Bangladesh vs. the United States of America.

people’s expenses. Both of them will make a positive impact in re-run the economics of Bangladesh in post-COVID 19 situations.

Case 4: On April 17, 2020, a report was published in "Coronavirus: Poor income drops 80% in Bangladesh". In this report, poor people’s income drops were discussed in Dhaka, Bangladesh. Lockdown impacts their regular life and income. That is why they cannot continue their regular life so much easier without income.

Case 5: On April 21, 2020, a report was published on an online news portal RisingBD. This report discussed that more than 8,917 garment workers have not yet received their salaries and allowances in March. After the government attempted this issue, it was resolved without legal actions.

Case 6: On March 15, 2020, a report was published on The Business Standard portal by analyzing the economic impact of Coronavirus in Bangladesh. In this report, it was discussed that in post-COVID 19 conditions, all sectors, including government, oppositions, NGOs, business people, all institutions, and most importantly, the people of Bangladesh, should minimize and handle the economic hamper and losses.

3. Political cases

Case 1: On March 21, 2020, a report on Coronavirus was published in Daily Jugantor. In this report, a dialogue from General Secretary of Awami League Obaidul Quader was highlighted, "We Are More Powerful Than Coronavirus." He told this to people aware of Coronavirus and not to get affected by the rumors. This report also covered that the gov-

ernment has taken enough steps to suppress the infected rate of COVID 19.

Case 2: On April 10, 2020, a report about Coronavirus and Bangladesh’s corruption was published in The Daily Star. In this report, five individual corruption and crime cases were discussed. The first case was about Rape. A UP member raped a day labor’s daughter by calling her for giving goods. The second case was about a bribe case for the testing kit, PPE, etc. The third case was about a theft case. Some dishonest leaders theft rice from goods of Coronavirus. The fourth case was about a corruption case. Some dishonest leaders capture photos while those giving goods from the government. However, right after capturing photos, they took back the goods from poor people. The last case was discussed about the misunderstanding of lockdown and public holidays. Some people attack and hit general people to go out. These cases have happened in Bangladesh. It was not good to read this case.

Case 3: On April 17, 2020, a report about COVID 19 awareness was published in the Daily Ittefaq. The report reported, "We have to build a fortress of awareness in every house" by General Secretary of Awami League Obaidul Quader. Another report was published before this report on Daily Ittefaq on April 14, 2020. On that report, it was also declared by Obaidul Quader that "Corona has to deal with it from home."

Case 4: On May 2, 2020, a report was published in the Daily Ittefaq. In this report, a speech from opposition senior joint secretary Ruhul Kabir Rizvi was discussed: "People are starving."

Case 5: On April 18, 2020, a report was published about coronavirus goods in the Daily Ittefaq. This report discussed that the government had taken four steps in goods distribution, and the fifth is ongoing. This report also discussed that "Goods will be distributed until the lockdown is over."

Case 6: On May 2, 2020, a report was published on Daily Ittefaq about laborers. In this report, General Secretary of Awami League Obaidul Quader said, "Do not labor layoff in this situation." He warned all industry owner who thinks about to pruning labors in this Pandemic. After this report, another report was published on June 8, 2020. In that report, it was almost the same as the previous news report.

Case 7: On June 4, 2020, a report was published on Daily Ittefaq about ignoring health hygiene. In this report, a statement from General Secretary of Awami League Obaidul Quader was discussed: "Ignoring health hygiene could exacerbate the crisis."

4. Suicide cases

Case 1: On July 12, 2020, a report was published in the Daily Samakal with the heading "Dismissal in Corona, suicide with status on Facebook." In this report, it was discussed that a lady named Jeny Baby Costa, Age of 40, from Baraigram village located in Natore was committed suicide due to dismissal in COVID 19 condition. From the Police Investigation Branch In-charge officer, a statement was found here, which is "she had committed suicide out of frustration at losing her job."

Case 2: On May 4, 2020, a report on an online news portal named Somoy News published a suicidal report titled "Constable committed suicide by jumping from the roof for suspecting himself as COVID positive." In this report, we found a constable named Tofazzal tested COVID, but he found his report as COVID Negative. Still, her wife suspects him as COVID Positive, which makes him frustrated. Then he started to believe that the test report was invalid. After that, he committed suicide by jumping from the rooftop of the fifth floor.

Case 3: On June 6, 2020, a suicide report was published in the Daily Samakal. In this report, a young man named Sujun Dewanjee, Age of 36, from Bowalkhali, located in Chittagong, committed suicide by suspecting himself as COVID positive. He jumped from Kadhurkhil Jalil Ambia College's fifth-floor rooftop to commit suicide.

Case 4: On June 11, 2020, a suicide report was published in the Daily Jugantor. In this report, a suicide case was discussed in Dupchapia, located in Bogra. A mother, Swarshati Barman, and her son Rabindra Chandra Barman committed suicide by taking poison. The modus operandi from this suicide case was the financial crisis. Rabindra Chandra Barman was a student of Computer Science and Engineering at Daffodil International University. His father was a thrifty person. Their family had financial collusion about giving tuition fees to the university. The Dupchapia Thana's Sub-Inspector's statement was a frustrating suicide case due to family quarrels.

Case 5: On April 8, 2020, a suicide report was published in an online news portal in Bangladesh named United News of Bangladesh. In this report, a van-puller named Wahidul from Darbhanga village in Maheshpur Upazila located in Jhenaidah committed suicide. He was failing to bear the agony of abject poverty amid the ongoing coronavirus crisis. That is why he took his own by hanging himself from the ceiling of his house.

Case 6: On April 13, 2020, a report was published in the Daily Kaler Kantho. In this report, a day laborer named Lahabur Rahman Labu, Age of 27, from Naldanga, committed suicide due to loneliness and financial crisis. He committed suicide by hanging himself in his home ceiling.

Case 7: On April 11, 2020, a suicide report was published in the Daily Kaler Kantho. In this report, a child named Afroza, Age of 10, from Belkuchi, located in Sirajgonj, committed suicide by hanging herself in the ceiling on her own home. She committed suicide because of starving, financial crisis. Her father's statement made it clear that she committed suicide from the starving and financial crisis. After the incident, that family received goods from the government. Mayor Ashanur Rahman gives his statement, "Government goods is insufficient for the jobless.

That is why it is not possible to give relief to all people at once. Food aid needs to be increased".

Case 8: On April 16, 2020, a suicide report was published in the well-known newspaper The Daily Star. In this report, a man named Topu Das, Age of 30, from Sorol union in the Bashkhali Upazila located in Chittagong, committed suicide due to the drop in income. He was frustrated due to the financial crisis and lack of food.

Case 9: On April 24, 2020, a suicide report of a couple were published in the Daily Manab Zamin. In this report, a married couple named Shamim, Age of 30, and her wife named Renoka Begum, aged 24, from Keshabpur located in Jessore, committed suicide by hanging themselves in their home ceiling due to scarcity and debt. Though the Officer In-charge Md. Jasim Uddin states that "The actual reason for committing suicide is still unclear."

5. Random cases

Case 1: On July 13, 2020, a report was published on the Daily Prothom Alo. In this paper, the psychological impact of Coronavirus was discussed. A suicidal attempt report is also discussed in this report. From Bhandargau village in Potia Upazila, located in Chittagong, Mukundo Barua killed his two daughters and tried suicide. However, after one day in Chittagong Medical College, he died. Because of his unemployment issue, he had psychological stress and frustration, which forced him to commit this crime and suicide. This is obvious that it is ultimately a psychological impact on Coronavirus.

Case 2: On July 14, 2020, a report was published on an online news portal named Bangla News 24. In this report, a cruel story was discussed where his son left an old father named Sobahan Ali Age of 70, at an abandoned bus stand at Ullapara Upazila located in Sirajgonj on the night of July 13. Police rescued that older adult from a bus stand the next day while he was fighting with Death. They admitted him to the nearest hospital, and now he is pretty better.

Case 3: On July 14, 2020, a report was published on the Daily Prothom Alo. In this report, another cruel story was discussed where an old mother, age of 50, was found in the forest in Shakhipur, Tangail. Her children left her alone in the middle of the forest. The village people near the forest locate that old mother and handover to the Police on the same night. However, she had some coronavirus symptoms, but it was utterly inhuman to leave her mother behind in the forest alone. Police sent her to Dhaka to test Coronavirus, and now she is in isolation at Dhaka Medical Hospital.

Conclusions

The Pandemic of COVID-19 occurs many hampers in Bangladesh and other countries as well. This paper contributes to explaining every detail for various divisions and sections as quarantine, all of the divisions in Bangladesh and case studies. After combining each section of this paper, the authors realize that COVID-19 is a dangerous pandemic ever seen in 20's century.

Data and code availability statement

The dataset related to this research paper is available via the GitHub repository <https://github.com/mdmosfikurrahman/Datasets>. All source codes are available upon request.

Declaration of Competing Interest

None.

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