COVID 19 Infodemic: An Analysis of Myths and Realities

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Abstract

Coronavirus pandemic on one hand has affected the social life and attitude of the people and on the other hand, it has given a fertile ground to the opportunists to propagate and develop novel theories. This investigation aimed to explore one of the viral theories that claim the pandemic as a sponsored plan of WHO and other donor agencies which involve the international leadership, governments and global media. It claims that coronavirus cases and deaths increased after the announcement of financial assistance for the virus-affected countries by WHO on March 11, 2020. The quantitative study analyzes the data consisting of corona-cases and corona-deaths reported from March 1-31, 2020 in Pakistan, India, Italy and America, and media coverage of the pandemic by news channels like Geo News, ARY News, Aaj Tak News and a renowned international channel CNN during the same time span. The results of the study negate the theory of global conspiracy and planted media coverage. It presents that COVID 19 is a pandemic that has nothing proportional with any proposed and sponsored plan by any organization. The study recommends a replica study by selecting a longer duration of the pandemic, increasing the number of countries and news channels to confirm the result of the study.

Keywords: COVID; Infodemic; Conspiracy; Theories; Pandemic; Media

Introduction

Coronavirus, also known as COVID 19, is the latest pandemic and the first in 21st century that has shuttered the way of our life (Rafi, n.d.) and changed it altogether by introducing a new concept of social distancing. COVID 19 started in a Chinese city, Wuhan, in December 2019 and spread across the globe within the period of two months. Almost a million people have lost their lives and other millions are suffering from it. Considering the severity in view, in February 2020, The World Health Organization (WHO) declared it a pandemic and issued instructions as well as alerts against its fast transmission.

The WHO also declared the Corona pandemic an infodemic because of the overburdened authentic and unauthentic information posted on social media. The **exponential** spread of COVID 19 was so shocking for the world that it stayed indecisive to take timely and effective measures. Even the official information provided to the public either had gaps or the information reached to the people through the social media lacked trustworthy and reliable sources (Agency, 2020). The situation provided the opportunists and rumourists with a fertile ground to develop and propagate some conspiracy beliefs (e.g., Freeman, et al., 2020). They attempted to exploit the situation by presenting the things threatening with their personal expectations (Freeman, et al, 2020) to achieve some personal gains (Miller et al., 2016). Commonly, conspiracy theories have four characteristics i.e., deceptive appearance, abusing the power, lacking evidence and acceptance only by a faction of the so-

ciety (Freeman & Bentall, 2017). The infodemic media campaign has real-world impact (Satario & Alba, 2020), and has affected the thinking and attitude of the people (e.g. Rafi, n.d.). Deniz Unay, a social media expert, argues that the subjected interpretation of the information by the people causes a wrong perception in the society (Agency, 2020). The following section reviews some of the most viral theories regarding the coronavirus.

COVID 19 and 5G Technology

One of the most viral theories on social media connects COVID 19 with 5G technology. One group of the believers in the theory directly links the **exponential** coronavirus spread with 5G technology. It claims that 5G mobile towers transmit radio waves that carry coronavirus (Cerulus, 2020). The other group claims that 5G technology can suppress the immune system of the body thus making it vulnerable to the virus (Schraer & Check, 2020) and hence accelerates the spread of coronavirus (Hamilton, 2020). These theories have attracted thousands of people. For example, an article of a physician claiming that 5G has some harmful effect on the people's health was posted on a Belgium news website and it was reached by 1.15 million people within few days (Satario & Alba, 2020). Similarly, Dr Thomas Cowan, an American doctor, claims that 5G poisons cells in the human body (Iftikhar, 2020). According to The New York Times, there were at least 487 Facebook communities, 84 Instagram accounts, 52 Twitter accounts along with dozens of other posts which have attracted almost 2 million viewers in the first two weeks of April (Satario & Alba, 2020). Similarly, 10 YouTube videos were watched by more than 5.8 million people in the month of March (Satario & Alba, 2020). According to a study (Miller, 2020), 22% of Americans considered that 5G technology has negative effects on human health. Freeman, et al.'s (2020) study claims that 78.7% of British people link the spread of coronavirus with 5G technology.

Inaccurate and unauthentic information affects the thinking of the people by creating a wrong perception (Agency, 2020). The same was observed when 60 masts were attacked in the UK, 22 arson attacks were reported in Netherland, three in Ireland, two in Cyprus, at least one in Belgium, Italy, Sweden and Finland (Cerulus, 2020). The protestors targeted several cellular broadcasting towers, set the telecommunication offices on fired and harassed the telecom technicians (see, e.g., Satario & Alba, 2020; Cerulus, 2020).

The researches show that propaganda against 5G is not a new one. Its traces can be found in 2015 and 2017 when an anti-5G appeal was presented in the UN and EU respectively claiming that its radiations would be dangerous for the human body (Iftikhar, 2020). Researchers, WHO, International Commission on Non-Ionizing Radiation Protection (ICNIRP), US Environment Protection Agency, International Telecommunications Union (ITU) (see, e.g., Cerulus, 2020; Agency, 2020: Iftikhar, 2020) dismiss these claims in strong words. They have maintained that no study has proved that radio waves transmitted by 5G masts are harmful for the human body.

Furthermore, the claims of these theorists are full of contradictions. For example, the death of 300 starlings in the Hague in October 2018 and 500 blackbirds in Beebe Arkansas in January 2020 were linked with 5G but it had not been even tested these cities. Coronavirus started in Wuhan but it was not the only city where 5G had been introduced (Iftikhar, 2020). The spread of coronavirus in the countries like Iran and Pakistan where there is no 5G technology refute the claims of these theories.

Coronavirus was engineered in a lab

Another theory regarding the virus claims that the virus was engineered in the lab as a biological weapon (see, e.g., Marshall, n.d.). Some people believed that it was spread intentionally whereas others think that the virus escaped from the lab accidentally. The results of a research (Miller, 2020) shows that 38% of the Americans are of the view that coronavirus was engineered in the lab. The study also claims that according to 49% of the Americans, it is a Chinese biological wea-

pon. Freeman, et al.'s (2020) study shows that 71.7% of the British think that coronavirus is a biological weapon made by the US, whereas, 54.6% consider it a Chinese weapon. On April 5, 2020, Mr Rehman Malik, a Pakistani Senator, wrote a letter to the UN Secretary General pleading him to probe whether COVID 19 was a man-made or a naturally-grown virus. The UN confirmed that they did not find any evidence that the virus was man-made. The US government also started investigating whether the virus had escaped from the lab accidentally (Bryner, 2020). The findings of a research report published in the scientific journal Natural Medicines on March 17, 2020, ruled out the possibility of coronavirus being engineered in a lab (see, e.g., Saey, 2020; Holland, 2020). On April 30, the US National Intelligence Director also rejected the theory (Rincon, 2020).

Bill Gates "microchip" theory

Another viral theory links coronavirus to Bill Gates and his foundation. The theory claims that coronavirus is a cover for a plan of Bill Gates to implant trackable microchip in the human body through vaccine (Goodman & Carmichae, 2020). Dr Muhammad Iqbal Adil, a senior surgeon from the UK, in his viral video supports the theory that coronavirus campaign is being funded by Bill Gate duly supported by WHO, World Bank and IMF. He also claims that the aim of this campaign is to prepare the world for the vaccine which will be carrying the microchip (Munir Hussain Mustafai Official, 2020). He further claims that through the vaccine, it would be possible to control the individuals and their activities. Miller's (2020) study shows that 46% of Americans believe in the theory. Another study (Freeman, et al., 2020) shows that 79% of the British consider the microchip theory true. However, Bill Gates has refuted this theory and claims that his foundation is not making any vaccine rather he is spending millions of dollars on the seven promising coronavirus vaccine candidates. He has further said that he is not funding on something to be more prepared rather he aims to accelerate the process (Goodman & Carmichae, 2020) of making the vaccine to save humanity from the virus. Unay, a social media expert, also calls the theory misinformation (Agency, 2020).

Planted media hype

There is another story that links the media campaign with the Bill Gate story microchip theory. The story claims that the aim of an aggressive media campaign about coronavirus is to pave a way for the vaccine by creating an atmosphere of fear. Dr Adil claims that corona-media coverage is planted because all hospitals are being paid heavily by WHO and other agencies for each case they declare as corona-positive or shift the patient to a ventilator (Munir Hussain Mustafai Official, 2020). He supports his claim by saying the number of corona-cases and their coverage was limited before March 11, 2020. When WHO and IMF announced financial support for corona-affected countries, the number of cases suddenly started mounting up across the globe and electronic media was used to create hype so that a campaign for the vaccine could be launched. According to his claim, coronavirus is not as fetal as is being presented through media and death rate in other cases is higher than that of coronavirus. A Pakistani political figure and ex-senator Faisal Raza Abdi (Syed Faisal Raza Abidi, 2020) has also made similar claims. He refers to some past incidents including a book (End of the Days) published in 2008 and Hollywood movies released in 2011 to show that COVID 19 campaign has been launched by America for multiple purposes.

There is no doubt that COVID 19 is a novel virus and has spread fear across the globe. If we see the statistics, we come to know that the death rate in other virus-based diseased is higher than coronavirus which supports the claim of Dr Adil. The mortality rate due to coronavirus is less than Spanish flu and HIV/AIDS which had caused 50 million and 7.7 million deaths in 1918 and 2018 respectively (see, e.g., Murphy, 2020). COVID 19 is a type of flu which spreads easily though it has a higher death rate than flu (Rettner, 2020). Murphy (2020) argues that influenza causes 2.9 to 6.5 million deaths every year. Here a question arises in mind, then, why more importance/coverage is

being given to COVID 19 in media than other issues. Apparently, the claim of the above theory carries a weight that governments and media are involved in the global conspiracy. The paper aimed to see if the number of corona-cases started to mounting up after March 11, 2020, under the patronization of the government and analyze the privilege of corona and its related issues in the electronic media after the date.

Methodology

According to some viral posts and videos on social media (see, e.g., Munir Hussain Mustafai Official, 2020; Syed Faisal Raza Abidi, 2020) and an Indian politician, Mr Yogendra Yadav's views (100 News. 2020), that the electronic media were part of the global conspiracy in creating hype and spreading fear among the people of the world. They claim that situation being portrayed through the media is different from the reality. According to them, this campaign aims to prepare people mentally for the vaccine. They also claim that the number of cases was reported exaggeratedly to get financial aid from WHO and other related institutions.

The paper uses a quantitative approach. The data have been grouped into two parts. The first part involves the collection of the data of coronavirus patients and deaths occurred due to the virus in the month of March 2020 in Pakistan, India, Italy and America. The data was collected from various internet sources. The second part consists of 9 pm news headlines of the two most watched news channels in Pakistan, i.e. Geo News & ARY News; 100 News headlines of one of the oldest Indian news channel, i.e. Aaj Tak News; and CNN news broadcasted from March 1, 2020, to March 31, 2020.

The rationale behind the selection of the number of corona patients from the countries was to see the ratio of corona cases in them after the announcement of financial aid by WHO, i.e., after March 11, 2020. The researchers belong to Pakistan. Both Pakistan and India are developing countries with poor health and economic conditions and are neighbours of China Whereas, Italy and America are developed countries with advanced health facilities and strong economic conditions. Furthermore, both Italy and America are the most affected countries in Europe and North America. The selection of the news channels was to see if media were the global partners of the plan and their coverage of corona and its related issues reflected the ground realities or was just meant to create hype. Three channels were selected from Pakistan and India to compare the local conditions of the pandemic. The CNN was selected because it is an American-based channel which is owned by CNN Worldwide. Microsoft Excel was used to present the data in graphs.

Results and Analysis

The results of the data have been divided into two parts. The first part presents the corona cases and deaths in Italy, America, Pakistan and India. The second part presents media coverage of the pandemic by Geo News, ARY News, Aaj Tak News and CNN news channels.

Part I

Coronavirus pandemic started in China in December 2019 and by the end of February 2020, it spread in more than 180 countries. Italy was one of the most affected countries in March 2020. The total number of confirmed cases reported in the month were 104,746 (see, Appendix A). On March 1, 2020, the number of reported cases was 566 which kept on increasing and reached to 2313 on March 11, 2020. On March 22, 2020, the highest number of cases, i.e. 5560 were reported (see, figure 1).

Figure 1 shows that before March 11, 2020, corona cases in Italy had started increasing which reached to the peak on March 22, 2020, and then started decreasing. On March, 2020 the reported cases were 4035 (see, Appendix A).
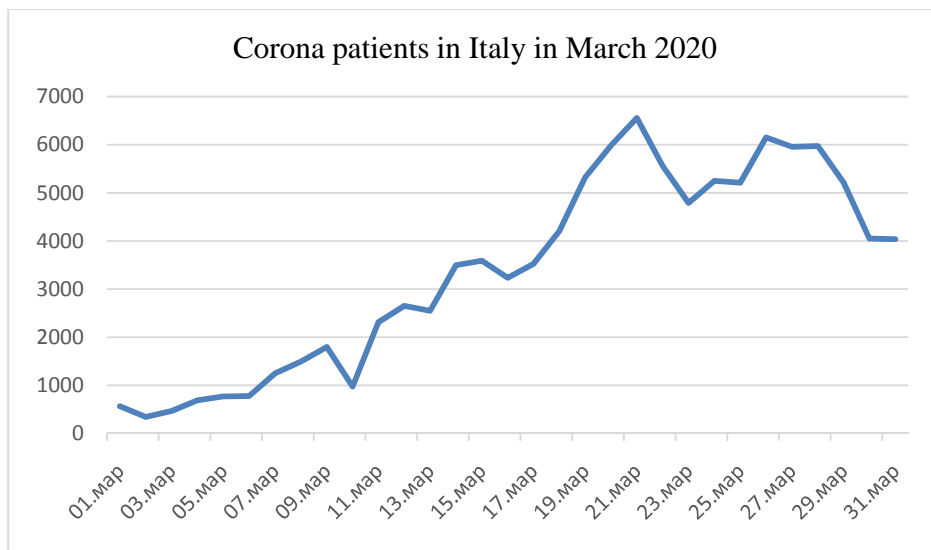
Corona patients in Italy in March 2020

Figure 1. Corona patients in Italy

During the month of March 2020, the highest number of deaths due to coronavirus were recorded in Italy. The total number of people who lost their lives to the virus were 12399 (see, Appendix B). In the month of March, the highest number of deaths recorded in a day were 919 on March 27, 2020 (see figure 2). The graph in figure 2 shows that after March 1, 2020, when there were five deaths, the number of deaths started increasing and no abrupt change can be seen after March 11, 2020. The graph also shows that the number of reported deaths due to coronavirus started decreasing and on the last day of March, they were 837.
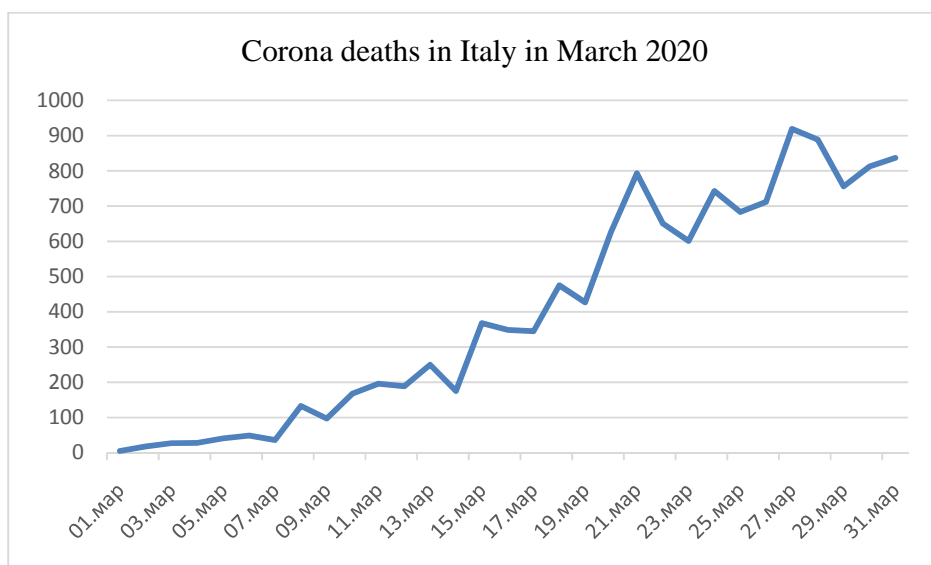
Corona deaths in Italy in March 2020

Figure 2. Corona deaths in Italy

America is the worst corona-affected country in the world. In America, more than one million people have lost their lives due to this pandemic. Initially, in the first week of March, about 260 coronavirus cases in the country were reported. The number of cases kept on increasing and on

March 31, 2020, the number of reported cases was 25,305 per day which were the highest number (see, Appendix C). By the end of March, the total number of reported cases reached 185,907. The following graph (Figure 3) shows that line showing the number of cases is almost flat till March 18, 2020, and then there is a gradual rise in it which continues till the end of the month. Though the number of the reported cases at the end of the month of March were highest in the number yet the graph does not show any sudden change after March 11.
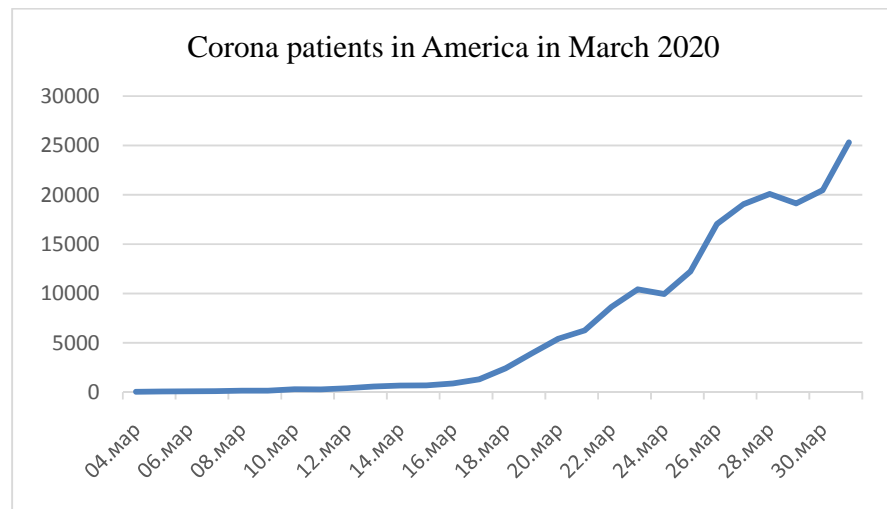

Figure 3. Corona patients in America

At present, America is the worst corona affected country of the world and more than one million deaths due to coronavirus has been recorded. The first corona death in the country was reported on March 6, 2020, and at the end of the month, the number of deaths per day reached to 821. The total number of persons who lost their lives due to the virus in March was 3795 (see, Appendix D). Figure 4 shows that line indicating corona deaths in America is linear during the first two weeks of the month. After March 19, 2020, the death ratio of the patient started rising suddenly and per day death reached to over 800.
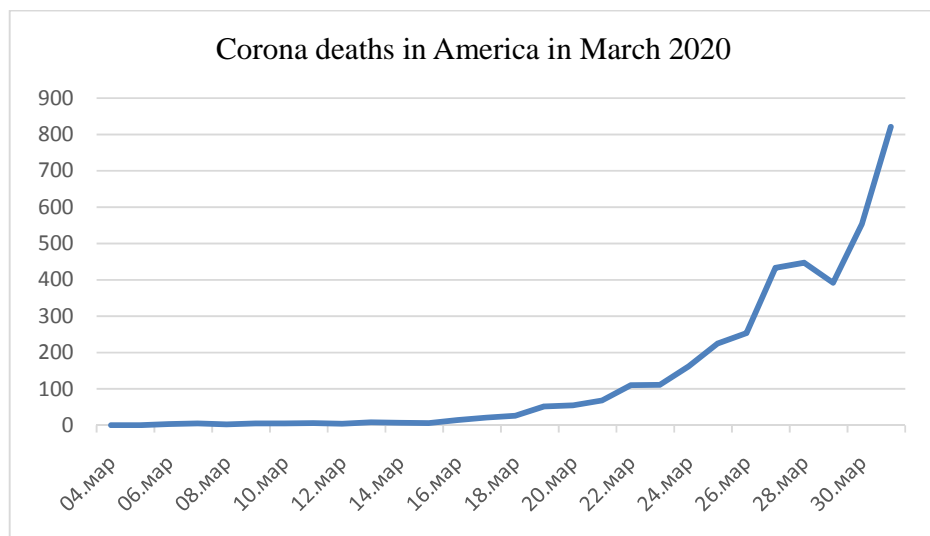

Figure 4. Corona deaths in America

Pakistan and India are the two neighbouring countries which share their borders with China. The initial corona case reported in Pakistan was on February 26, 2020. In India, the first case was registered on January 30, 2020. Till the start of March, there were only three reported cases of coronavirus in Pakistan. The highest number of cases reported in a day was 152 that were recorded on March 20, 2020. The total number of reported corona cases in the country in the month of March was 1797 (see, Appendix E). The graph (Figure 5) shows that corona cases in Pakistan started increasing after March 16, 2020. The line indicating corona cases shows fluctuation. However, this indicates that cases in Pakistan did not increase with the ratio it had been increasing in Italy and America.
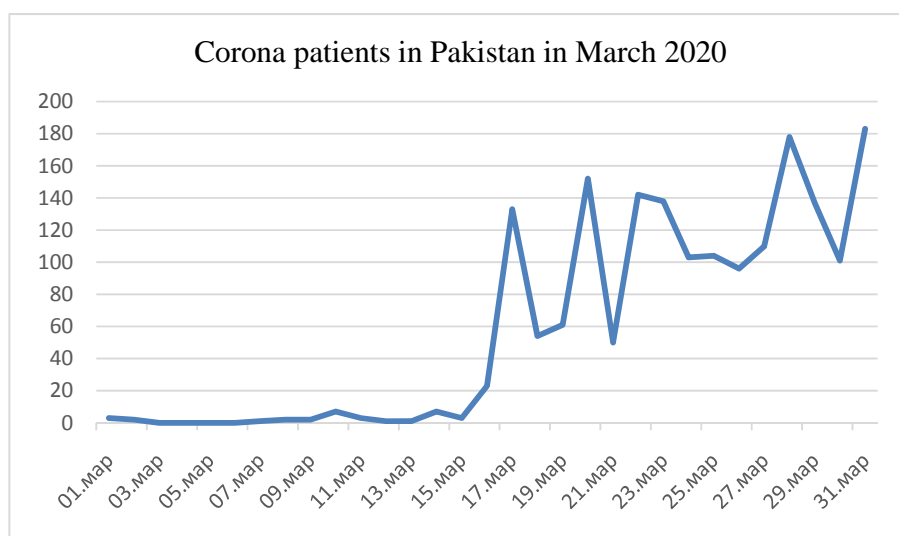

Figure 5. Corona patients in Pakistan

In Pakistan, the total number of cases reported in the month of March was 1797, however, the death ratio of the corona patients was nominal. The first corona death was recorded on March 20, 2020. By the end of March, the total number of patients who died because of coronavirus was 25.
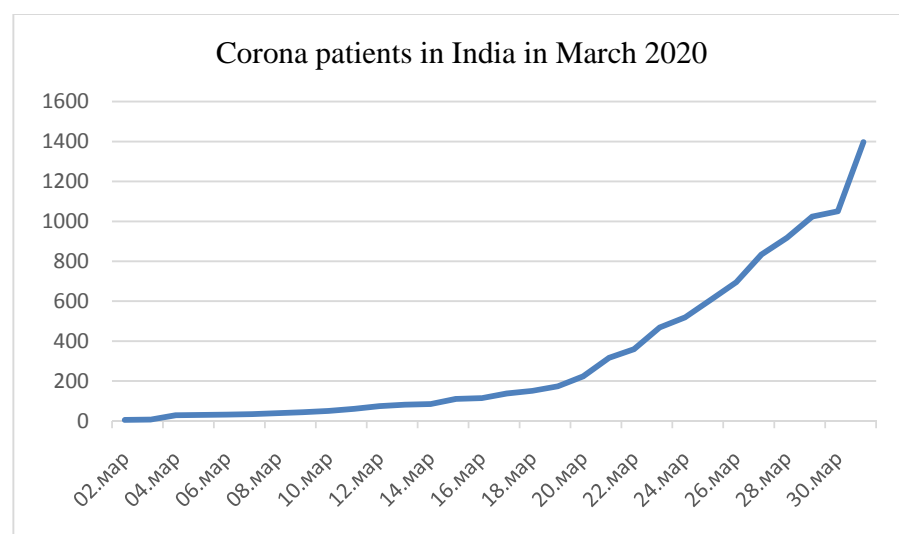

Figure 6. Corona patients in India

As mentioned in the previous lines, the first corona case in India was registered on January 30, 2020. After March 5, 2020, the cases started increasing. The number of cases which was five on March 2 reached 1397 per day by the end of the month. The total number of corona patients registered in the month of March was 9060 (see, Appendix F). The graph (Figure 6) shows that corona cases in India started increasing after March 19, 2020. The rise of the line in the graph indicating corona cases shows a considerable increase in the cases.

The first corona death registered in India was on March 11, 2020. Similar to corona cases, the ratio of the death of the patients also increased by the end of March, and this ratio was 35 patient per day (see, Appendix G). The graph (Figure 7) of the corona deaths in India shows that after March 21, the ratio of the deaths increased considerably. During the first three weeks of March, the deaths were under nine per day which reached to 35 by the end of the month.
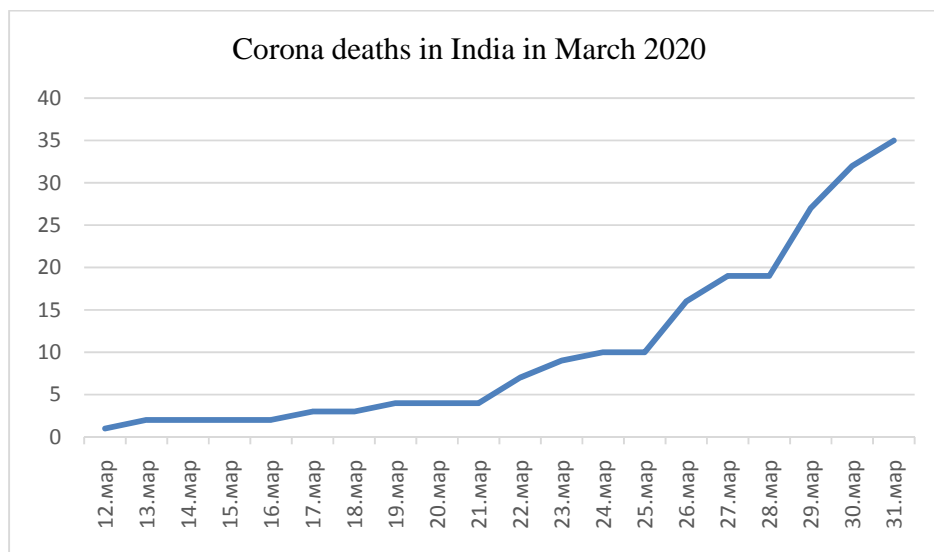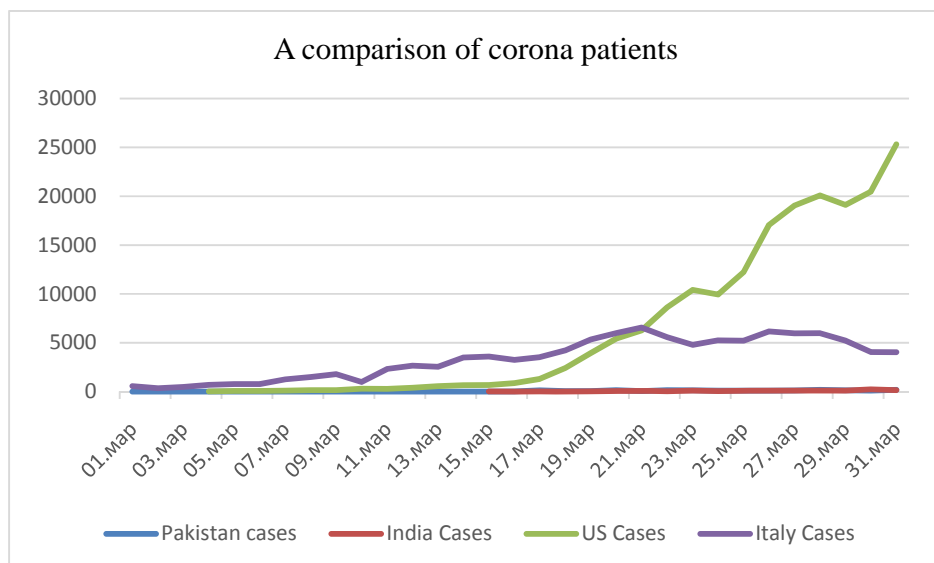

Figure 7. Corona deaths in India

Figure 8. A comparison of corona patients

The graph (Figure 8) of the corona cases of the four countries show that every country has different case history. It shows that until March 21, the cases of corona in Italy were higher than in America. After March 21, the cases in Italy started decreasing whereas the cases in America started increasing. The month of March ended with a considerable difference in the cases of both countries. The graph also shows that the cases in Pakistan and India were very limited as compared to Italy and America in the month of March.

The graph (Figure 9) of the deaths of corona patents in the four countries shows that initially, the ratio of the deaths due to coronavirus in Italy was very high. By the end of March 2020, the graph of the deaths in America went up and in Italy, it started falling, and on March 31, both had an almost equal number of deaths. However, the death rate of the patients in India was very low.
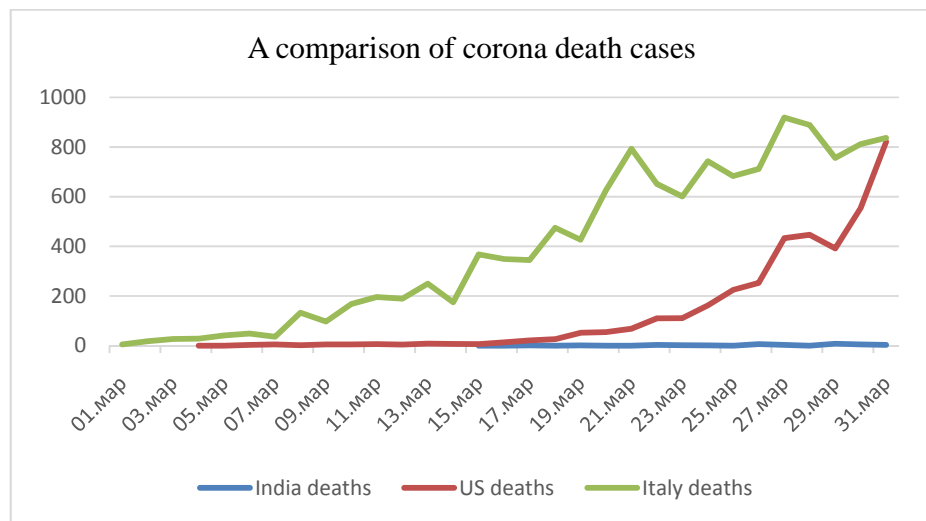
Figure 9. A comparison of corona deaths

Part 2

The novel coronavirus became a hot issue of social, print and electronic media and affected the social life of the people. In the following part, the data of media coverage by the four television channels from March 1 to March 31, 2020, have been presented graphs.
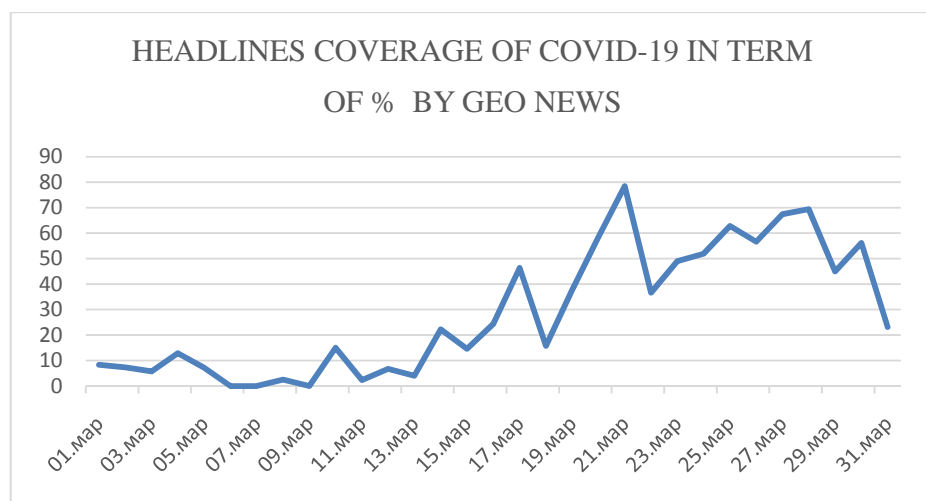
Figure 10. Geo News 9 pm headlines coverage

The graph (Figure 10) of the airtime given to corona-news shows that from March 1, 2020, to March 13, 2020, Geo News gave 20% of the total news headlines time to corona and its related issues. After March 14, corona-news airtime was increased gradually and on March 21, 2020, Geo News gave 80% of the total headlines time to corona and its related news. After that, the airtime given to corona-news was decreased and on March 31, 2020, it gave 23% of the headlines time to corona issues which were almost equal to the time it had given to them on March 14, 2020.

The graph (Figure 11) shows that ARY News gave 10% of the new headlines time to corona news on March 1, 2020. The line indicating airtime shows abrupt changes. Suddenly, the airtime given to corona related news reached to 70% plus and then fell. However, there is consistency in the airtime given to the issue. In the last week of March, ARY News gave an average 80% of its headlines time to corona related news.
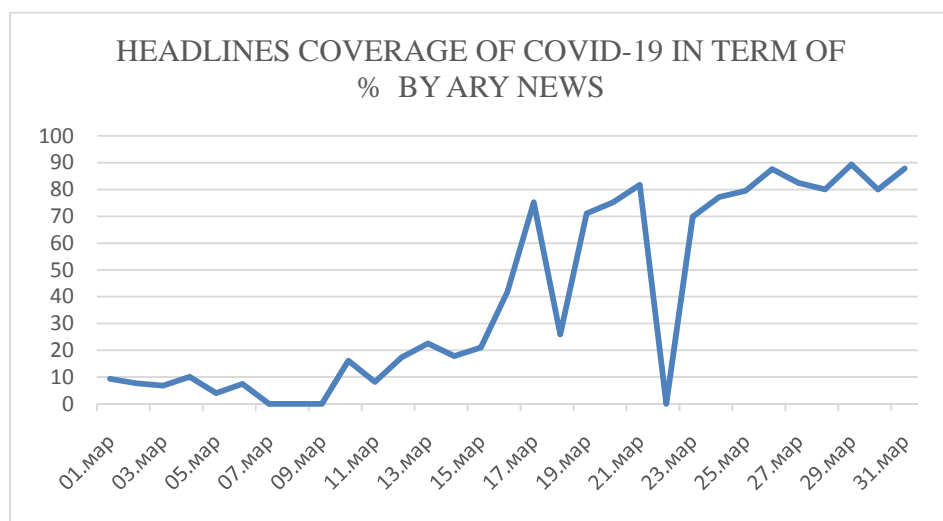
Figure 11. ARY News 9 pm headlines coverage
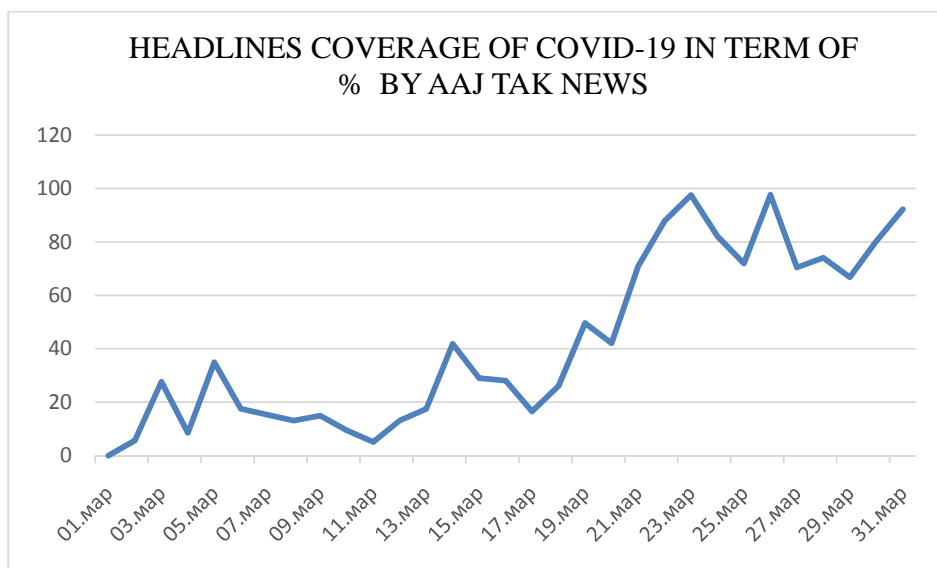
Figure 12. Aaj Tak 100 News headlines coverage

The graph (Figure 12) of the Aaj Tak News headlines shows that it gave 20% to 40% of its headlines time to corona related news in the first two weeks of March. After March 17, the ratio of time was increased and in the last ten days of the month, it was almost above 70% of the total headlines time.

The graph (Figure 13) of the CNN news data collected from its website shows that the average corona related news broadcasted during the month of March increased though with fluctuation. During the first two weeks of the month, the average ratio of corona related news was from 30% to 50%. During the last two weeks, it increased from 50% to 80%.
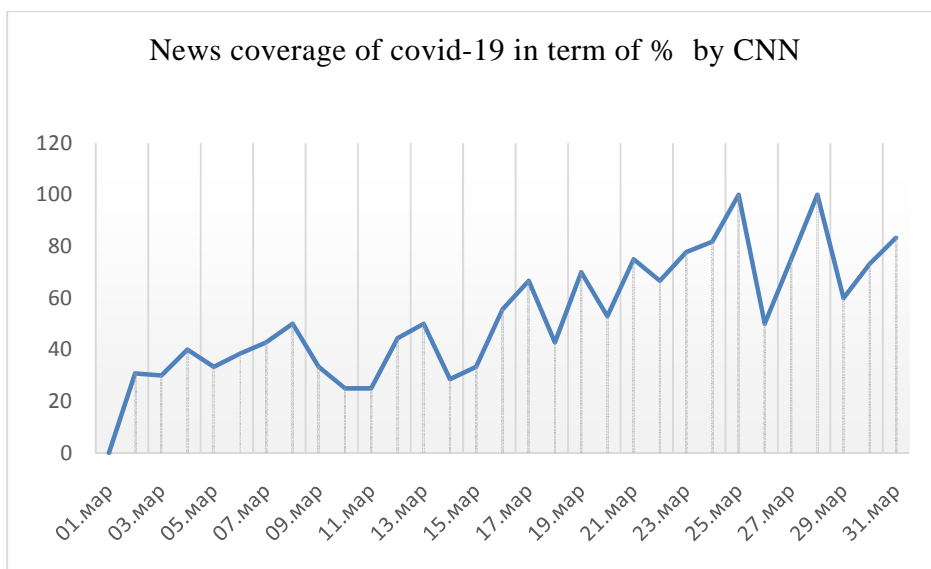
Figure 13. CNN corona news coverage
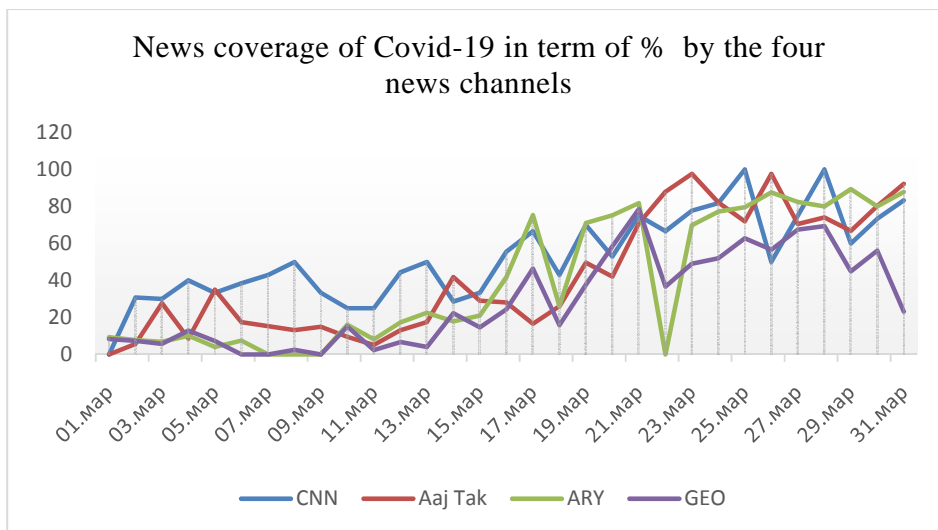
Figure 14. Corona news coverage by the four channels

The graph (Figure 14) gives a comparison of the media coverage of corona related news broadcasted by the four news channels. According to the graph, there is a certain increase in the air-

time given to the corona cases by all four channels. If we see the blue line representing CNN corona coverage is higher than that of other channels at the start of the March. The airtime of Indian news channel is also greater than that of Pakistani channels. The graph also shows that there is no consistency in the airtime of Pakistani channels given to the corona related news, however, the airtime of ARY News kept on increasing though abruptly. The lines in the graph also show that Geo News gave maximum airtime to the news from March 19-21, 2020, and then after that, the line indicating corona related news fell contrary to the other channels that kept on increasing their airtime.

Discussion

Corona pandemic not only brought forth novel theories about the creation and transmission of coronavirus but also made some old theories alive. Social media are replete with such theories. The theory that claims that the pandemic and its media coverage is planted was investigated. The results of the study show that coronavirus spread in different countries at different times. The statistics show when it was at a peak in Italy, in America it was a very initial stage. During the same period, it was spreading at very nominal speed in Pakistan and India. The results also show when in Italy, the ratio of per day patients was nearly 5000, in America, it was a few hundred. After March 21, this ratio started falling in Italy and increasing in America. By the end of March 2020, the number of registered cases per day in Italy was nearly 4000 whereas, in America, this ratio was above 25000. The results also show that the number of registered corona patients in Pakistan till the end of March were less than 200 per day whereas and the cases in India had entered in four figures.

Hence, the results of the study do not support the claim that after March 11, 2020, the number of corona cases increased speedily across the world when WHO had announced financial aid for the corona affected countries. No doubt, the number of corona patients in many countries increased with the passage of time as normally one corona patent transmits the virus to 2-3 persons ("why is COVID", 2020). Usually, it takes 5-6 days to appear its symptoms, however, it can take up to 14 days (WHO, 2020). Sometimes no symptom appears in the patient and unknowingly he/she may affect many persons ("How long is the incubation period", n.d.). There are other multiple arguments for the increase of cases in Italy and America (e.g. cold weather, availability of the infrastructure for more tests, etc.) and a low number of cases in Pakistan and India (e.g., lockdown, moderate weather conditions, lack of testing kits and testing capability). However, the results do not support the claim that governments were officially patronizing the plan to increasing the number of corona cases to get more financial aid from WHO and IMF.

The statistics of the study show that reported death cases due to coronavirus were greater in Italy than that of America in the month of March. From March 21 to March 27, there were the highest death cases in Italy. The death cases in America increased in the third week of the months. During the month of March, the death rate of the corona patients in India was very low. The maximum per day death cases reported in the month were 35 and that was reported on the last day of March. The total number of reported deaths due to coronavirus in Pakistan during March were only 25. The statistics of the study again negates the theory that hospitals were being paid heavily (see, e.g., Syed Faisal Raza Abidi, 2020; Munir Hussain Mustafai Official, 2020) for including the general patients and deaths in the category of coronavirus cases and governments were patronizing them.

The analysis of the media coverage of the corona and its related issues shows that all selected channels adopted different policies. CNN gave maximum weightage to coronas issues in the month of March, however, there seems no consistency in the policy and it varies from day-to-day. The media coverage of Aaj Tak News, the Indian channel, gave more airtime to corona related news at the end of the month. The airtime given by ARY News increased after March 15 but there was a lot of fluctuation in the day to day durations. The airtime given to the cases by Geo News after

March 15 increased but decreased at the end of the month. Overall results of the analysis of media coverage show that the channels gave maximum airtime to corona issues after March 15, 2020, and it was the time when maximum per day deaths due to coronavirus were being recorded in Italy. Again the lack of consistency in the airtime policy of the news channels deos not support the claim of the theory the media is a global partner of the plan.

The negative words used by the media leave a strong impact on the linsteners (Hussain, 2020; Rafi, n.d.). Variouas studies (e.g. Kovecses, 1990; Altheide & Michalowski, 2016; Cap, 2017; Maitlis, 2020; Rafi, n.d.) show that language used in our daiy life affect our thinking and attitude. Electronic and print media have been using war rhetoric and negative expressions during the coverage of corona related issues which has resulted in fear and depression in the general public (Rafi, n.d.). Perhaps, this fear has prepared a fertile ground for the popularity and dispersion of the negative theories and false beliefs regarding COVID 19. Usually, people with low self-esteem, poor psychological well being, anti-government, etc., are vulnerable to such theories (Freeman, et al., 2020). Some political extremists also promote such theories (van prooijen, et al, 2015; Krouwel, et al., 2017). There are reports that some hospital managements and doctors forcefully include the general patients in the corona-patients category (see, e.g. Rivaj TV, 2020; Syed Faisal Raza Abidi, 2020; Munir Hussain Mustafai Official, 2020) for increasing the number of corona patients which support the claims of such theories. Some past events, e.g., the Saddam Hussain case of Mass Destruction Weapons, World Trade Centre (see, e.g., Siddiqui, 2020) strengthen such theories. These incidents may be considered individual actions because the result do not prove that governments are officially involved in the so-called plan. The waning of WHO to the government of Pakistan for not taking proper measures to control the pandemic (Jawad, 2020) also negates the involvement of the organization.

Conclusion

During any national or international crisis, if any information gap is left by the government or concern authorities, this gap allows the opportunists to exploit the situation for their specific purposes. Perhaps, same is the case with coronavirus pandemic. The world was not prepared for such kind of crisis and governments failed to provide timely information regarding the reasons and precautions about the pandemic. The use of war rhetoric and negative expression used by electronic and print media further intesified the situation. The information gap was filled with social media through contradictory stories. The story of involving the international leadership, governments, WHO, Bill Gates, electronic and print media, etc. in the spread of coronavirus seems a continuation of the same practice. The results of the study show that coronavirus spread in different countries at different times with different speed. At one time, it was at its peak in one country and at the same time, it was at an initial stage in the other country. There seems no similarity in the reported corona-affected cases in the four countries during the month of March. Even media coverage by the four news channels of the three countries shows variation. The fluctuation in the airtime/news given to the corona related cases does not confirm the global media involvement in the discussed issue.

The study has attempted to analyze the claim of the theory but has some limitations. First, the first part of the study relied on the data available on the internet and there may be some reservations regarding the reported corona patents or deaths. Secondly, the data was limited to the four countries. Thirdly, the second part of the study analyzes the headlines/news coverage of the four news channels. For future studies, a replica study with primary data from more counties is recommended. The results of the study may also be verified by analyzing the news of more news channels.

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Appendix A

Table A1. Corona cases in Italy

Date	Italy Cases
March 1, 2020	566
March 2	342
March 3	466
March 4	687
March 5	769
March 6	778
March 7	1247
March 8	1492
March 9	1797
March 10	977
March 11	2313
March 12	2651
March 13	2547
March 14	3497
March 15	3590
March 16	3233
March 17	3526
March 18	4207
March 19	5322
March 20	5986
March 21	6557
March 22	5560
March 23	4789
March 24	5249
March 25	5210
March 26	6153
March 27	5959
March 28	5974
March 29	5217
March 30	4050
March 31	4035

Appendix B
Table B1. Corona deaths in Italy

Date	Italy deaths
March 1, 2020	5
March 2	18
March 3	27
March 4	28

Date	Italy deaths
March 5	41
March 6	49
March 7	36
March 8	133
March 9	97
March 10	168
March 11	196
March 12	189
March 13	250
March 14	175
March 15	368
March 16	349
March 17	345
March 18	475
March 19	427
March 20	627
March 21	793
March 22	651
March 23	601
March 24	743
March 25	683
March 26	712
March 27	919
March 28	889
March 29	756
March 30	812
March 31	837

Appendix C
Table C1. Corona cases in America

Date	US Cases
March 1, 2020	
March 2	
March 3	
March 4	26
March 5	64
March 6	77
March 7	101
March 8	144
March 9	148
March 10	291

Date	US Cases
March 11	269
March 12	393
March 13	565
March 14	662
March 15	676
March 16	872
March 17	1291
March 18	2411
March 19	3948
March 20	5417
March 21	6271
March 22	8631
March 23	10410
March 24	9939
March 25	12226
March 26	17050
March 27	19046
March 28	20093
March 29	19118
March 30	20463
March 31	25305

Appendix D
Table D1. Corona deaths in America

Date	US deaths
March 1, 2020	
March 2	
March 3	
March 4	0
March 5	0
March 6	3
March 7	5
March 8	2
March 9	5
March 10	5
March 11	6
March 12	4
March 13	8
March 14	7
March 15	6
March 16	14

Date	US deaths
March 17	21
March 18	26
March 19	52
March 20	55
March 21	68
March 22	110
March 23	111
March 24	162
March 25	225
March 26	253
March 27	433
March 28	447
March 29	392
March 30	554
March 31	821

Appendix E
Table E1. Corona cases in Pakistan

Date	Pakistan Cases
March 1, 2020	3
March 2	2
March 3	0
March 4	0
March 5	0
March 6	0
March 7	1
March 8	2
March 9	2
March 10	7
March 11	3
March 12	1
March 13	1
March 14	7
March 15	3
March 16	23
March 17	133
March 18	54
March 19	61
March 20	152
March 21	50
March 22	142

Date	Pakistan Cases
March 23	138
March 24	103
March 25	104
March 26	96
March 27	110
March 28	178
March 29	137
March 30	101
March 31	183

Appendix F
Table F1. Corona cases in India

Date	India Cases
March 1, 2020	
March 2	5
March 3	6
March 4	28
March 5	30
March 6	31
March 7	34
March 8	39
March 9	44
March 10	50
March 11	60
March 12	74
March 13	81
March 14	84
March 15	110
March 16	114
March 17	137
March 18	151
March 19	173
March 20	223
March 21	315
March 22	360
March 23	468
March 24	519
March 25	606
March 26	694
March 27	834
March 28	918

Date	India Cases
March 29	1024
March 30	1051
March 31	1397

Appendix G
Table G1. Corona deaths in India

Date	India deaths
March 1, 2020	
March 2	
March 3	
March 4	
March 5	
March 6	
March 7	
March 8	
March 9	
March 10	
March 11	
March 12	1
March 13	2
March 14	2
March 15	2
March 16	2
March 17	3
March 18	3
March 19	4
March 20	4
March 21	4
March 22	7
March 23	9
March 24	10
March 25	10
March 26	16
March 27	19
March 28	19
March 29	27
March 30	32
March 31	35

Appendix H
Table H1. Geo News 9 pm headlines coverage

Date	No. of News in minutes Corona time/total time	%age of the Geo News headlines
March 1, 2020	0:50/10:00	8.3
March 2	0:53/11:59	7.3
March 3	0:41/11:59	5.7
March 4	1:50/14:13	12.89
March 5	1:10/16:15	7.18
March 6		Not Available
March 7	0/32	
March 8	0:15/10:08	2.46
March 9	0	
March 10	2:00/13:18	15
March 11	0:15/10:45	2.32
March 12	0:55/13:42	6.69
March 13	0:28/11:32	4.04
March 14	2:25/10:52	22.24
March 15	1:30/10:17	14.58
March 16	3/12.18	24.34
March 17	5:29/11:50	46.34
March 18	2:50/17:58	15.77
March 19	5:46/15:19	37.65
March 20	10:28/17:49	58.46
March 21	13:00/16:34	78.47
March 22	6:09/8:48	36.63
March 23	7:54/16:07	49.02
March 24	4:40/8:59	51.95
March 25	8:50/14:04	62.80
March 26	5:42/10/04	56.62
March 27	5:44/8:30	67.45
March 28	8:08/11:43	69.41
March 29	7:12/16:01	44.95
March 30	6:34/11:42	56.12
March 31	3:20/14:25	23.12

Appendix I
Table I1. ARY News 9 pm headlines coverage

Date	No. of News in minutes Corona time/total time	%age of the ARY News headlines
March 1, 2020	0:38/6:46	9.36
March 2	0:42/9:06	7.69
March 3	0:41/10:03	6.8
March 4	1:03/10:23	10.11

Date	No. of News in minutes Corona time/total time	%age of the ARY News headlines
March 5	0:22/9:04	4.04
March 6	0:33/7:24	7.43
March 7	0:00/8:16	0
March 8	0:00/6:09	0
March 9	0:00/8:51	0
March 10	1:15/7:46	16.09
March 11	0:51/10:24	8.17
March 12	1:15/7:13	17.32
March 13	1:35/7:01	22.56
March 14	2:02/6:23	17.86
March 15	1:13/5:47	21.04
March 16	4:46/11:25	41.75
March 17	7:15/9:38	75.26
March 18	2:45/10:36	25.94
March 19	7:30/10:33	71.09
March 20	9:55/13:11	75.22
March 21	8:45/10:42	81.77
March 22		
March 23	9:00/12:53	69.86
March 24	8:45/11:20	77.20
March 25	9:55/12:28	79.55
March 26	10:14/11:41	87.59
March 27	10:29/12:43	82.44
March 28	10:10/12:42	80.05
March 29	10:20/11:34	89.37
March 30	7:04/8:50	80.0
March 31	12:30/14:14	87.82

Appendix J
Table J1. Aaj Tak 100 News headlines coverage

Date	No. of News in minutes Corona time/total time	%age of the Aaj Tak News headlines
March 1, 2020	0:00/9:40	0
March 2	0:47/13:48	5.67
March 3	1:52/6:45	27.65
March 4	1:12/14:02	8.55
March 5	3:47/10:49	34.97
March 6	2:03/11:42	17.52
March 7	1:57/12:53	15.31
March 8	1:32/11:44	13.07
March 9	1:40/11:08	14.97
March 10	1:07/11:46	9.49

Date	No. of News in minutes Corona time/total time	%age of the Aaj Tak News headlines
March 11	0:37/12:01	5.13
March 12	1:37/12:18	13.14
March 13	2:05/11:55	17.48
March 14	4:13/10:05	41.82
March 15	3:26/11:50	29.01
March 16	3:20/11:52	28.09
March 17	2:30/11:49	16.56
March 18	3:20/12:27	26.07
March 19	6:44/13:34	49.63
March 20	5:03/12:00	42.08
March 21	9:21/13:12	70.83
March 22	10:02/11:25	87.88
March 23	12:00/12:18	97.56
March 24	10:37/12:56	82.09
March 25	8:56/12:25	71.95
March 26	10:22/10:37	97.64
March 27	9:30/13:29	70.46
March 28	8:42/11:45	74.04
March 29	8:23/12:23	66.80
March 30	9:58/12:25	80.27
March 31	12:20/12:41	92.24

Appendix K
Table K1. CNN corona news coverage

Date	No. of News Corona news/total news	%age of CNN corona news coverage
March 1, 2020	0/2	0
March 2	4/13	30.77
March 3	3/10	30
March 4	4/10	40
March 5	5/15	33.33
March 6	5/13	38.46
March 7	3/7	42.86
March 8	4/8	50
March 9	3/9	33.33
March 10	2/8	25
March 11	3/12	25
March 12	4/9	44.44
March 13	6/12	50
March 14	2/7	28.57
March 15	1/3	33.33
March 16	5/9	55.55
March 17	8/12	66.66

Date	No. of News Corona news/total news	%age of CNN corona news coverage
March 18	3/7	42.86
March 19	7/10	70
March 20	9/17	52.94
March 21	3/4	75
March 22	4/6	66.66
March 23	7/9	77.77
March 24	9/11	81.81
March 25	8/8	100
March 26	4/8	50
March 27	9/12	75
March 28	6/6	100
March 29	3/5	60
March 30	11/15	73.33
March 31	10/12	83.33