

A Report on the Impact of Information Technology and Social Media on Covid-19

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Abstract - The destruction caused by the COVID -19 virus to the human race is beyond the imagination. This article elucidates how COVID-19 is identified as a threat to human life. The statistical report is given for the some of the countries which are highly affected by this pandemic. The medical advancements and the impact of insufficient medical facilities, are available even in the well-developed nations. The role of Information Technology (IT) in the development of various effective algorithms for the diagnosis and prevention of the disease is discussed. This research article also covers the responsibilities of the various social media along with their vulnerable efforts in carrying awareness to society.

Keywords: SARS, Pandemic, Big Data, Artificial Intelligence, Twitter, Facebook, Chat, Covid - 19

I. INTRODUCTION

COVID-19, in associate in nursing word form for Corona Virus Disease-2019, could be caused by severe respiratory metastasis along with acute coronavirus-2 symptoms (SARS-CoV-2), a contagious disease named virus which belongs to clustering of fiber, RNA with positive sense viruses termed as Corona Miridae. Similarly, respiratory illness, like various diseases attacks the entire human body's respiratory system and causes symptoms like headache, fever, diarrhea, cough, dyspnoea, and fatigue. Whereas the supply of precise unknown virus, which

mapped by the scientists for the respiratory diseases like SARS-CoV-2 order sequence and estimated that may referred to the cistron of the coronavirus categories, which usually determined the appropriate genetic sources based on the loopy to the rodents [1]. In Dec 2019, the COVID-19 initially recorded to provide an effect on human behaviour life in the appropriate city town, like China's Hubei state province. The COVID-19 has since unfolded like an inferno everywhere the globe, its presence estimated that more than 213 countries with territories based on freelance. Figure.1 shows the worst categories of affected cities, countries in the real world. The present international tally 1 of confirmed cases of coronavirus stands at 3,090,445 whereas the toll has reached 217,769, per World Health Organization. The dramatic rise within the range increased COVID-19 which outbreaks global range which had sparked, and the necessity for estimating pressing measures to the various curtail COVID-19 outbreak's devastating consequences.

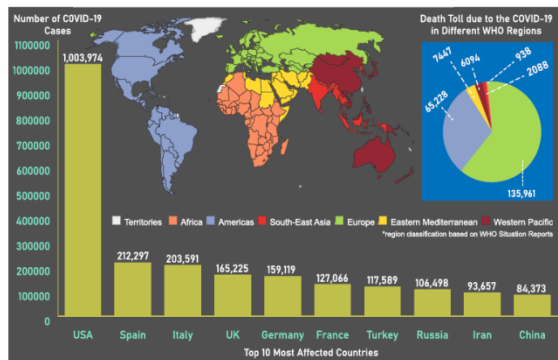


Figure 1 : Covid 19 – Statistics Report – 30th April 2020

The infections caused by a virus, particularly based on various coronaviruses, leads to continue spread a serious physical problem in terms of health condition by the public according to the WHO. Coronaviruses were positive in terms of Spherical shapes which range in diameter between 1400A to 600A based on their location its varies[2], it is also established in terms of crown shape appearance which consists of microscope electron in every surface. In the Last two decades, many viral outbreaks of multiple types of coronavirus have arisen at the forefront, referred in the year 2002 to 2004 about the epidemic SARS-CoV epidemic. In the year of 2012, the virus named as Middle East Respiratory Corona Virus syndrome (MERS-CoV) affected by virus disease. The SARS –CoV viruses originated in the Guangdong province of the county China and then it's widely spread to more than 37 countries which leads to more than 8000 people were infected and deaths increase around 774 people who lost their lives because of this viruses. Countries like Saudi Arabia reported that the first case of corona viruses infected, which widely spread in the Middle Eastern Countries eventually resulted in 871 cities was affected.[3]. Covid -19 originated into real-world on 31 December 2019, approximately 27 cases of people are affected with unknown diseases had been reported to the World Health Organization (WHO) office, China. The timeline of full events were displayed in Figure 2. The outbreak's epicenter was connected to Wuhan's seafood wholesale market and various dangerous animals may be like cats, marmots, rats, snakes, bats, etc., A highly dangerous of human life, which mainly affected by a coronavirus, SARS-CoV-2, was considered a role as COVID-19's outbreak in a rapid manner. Distinguishing features by the virus may include, highly infectious by the human being in nature, fairly incubation with a long period (1-14 days). An infected person with the virus during this time, exhibit no symptoms. Thus, these viruses will be carried modestly inside the body of the human and affected the people's respiratory system, leading by the COVID-19 virus having a high basic reproductive in numbers. While some research suggests that the SARS-CoV-2 may be susceptible to heat and Ultraviolet (UV) light, doesn't have specific treatment or precaution for this coronavirus which had been available for the current date and these diseases which provide protocol management for the evolution.

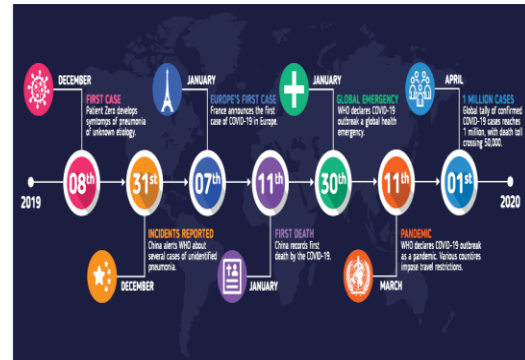


Figure 2: A Timeline Of The Covid-19 Pandemic

It has been four Months into 2020, the Crisis which leads to the Global Health of the world experience due to COVID – 19. In December 2019, the virus generated in the place of Wuhan, the Capital of Hubei Provinces of China was started distributed all over the world from 2019 to 2020 result human being in a pandemic[4][5] situation which outbreaks the novel discovered type of Corona Virus causes Respiratory disorders (COVID – 19). The increasing death rate on account of COVID- 19 is alarming as it has gone up more than the prediction. It is highly contagious. All over the world, there are 18,53,155 affected in 213 countries, 1,14,247 deaths, and only 4,23,625 have been recovered as of 14th April 2020. It is also known that COVID – 19 has a greater impact when compared to Severe Acute Respiratory Syndrome (SARS).[6]

The World Health Organization is continuously working 24/7 to investigate the data to render necessary advice and lead the countries to analyze the predicted data, which provide associated partners along with neighboring and supported countries to provide, supply, and manage the network with the experts in the same domain. On 30th January 2020 WHO organization, publicly declared to concern as International Health Emergency Concern during the period of 11th February 2020, as the New Corona Virus diseases (“ COVID-19”) announced Globally to the digital world.

At first, COVID – 19 is spread through the route of airborne, it is not known that this virus spread to cities, and communities of people were attacked in terms of air and disease control were mandatory. There is no use of spraying disinfectants and apply alcohol to the outer surface, on highways, vehicles, human outer skin surface; moreover, the quantity of alcohol content also mandatory and potentially were disinfectant with hazardous by humans and should be a concern[8][9].

Secondly, within the use of private protecting instrumentation, an attempt is made to distinguish the different risk factors, different epidemic hindrance measures, and to cut back the waste of private protecting instrumentation, as these resources are already in brief provide. though surgical masks are in widespread use by the overall population. There is no proof that these masks forestall the acquisition of COVID-19, though they may slightly cut back the unfold from associate in nursing infected patient. High-filtration masks like N95 masks and protecting venture (goggles and gowns) ought to be

employed in hospitals wherever aid employees are in direct contact with infected patients.[10]

Thirdly, the follow of block traffic and internment of villages is of no worth for the hindrance and management of COVID-19. Since the occurrence of COVID-19, some countries have suspended flights to and from China, and prevented Chinese individuals from traveling to their countries; each of those actions violates United Nations agency International Health laws.[11] Similarly, in community hindrance and management of the illness, the measures taken by individual villages and communities to seal off roads are of no worth.[12] Such measures might end in civil unrest and cut back compliance with infection hindrance and management recommendation.

In the fourth, public health education should be supported scientific proof to cut back the anxiety and distress caused by the information. Specially, epidemiologic findings perceived to be according to during a timely and objective manner so they will be accurately assessed and understood. the chance of transmission with temporary contact (less than fifteen min face-to-face contact) or infection onset when fourteen days of exposure to an illustrious infected person (the calculable most incubation period) is low and will not be exaggerated. Information spreads panic among the overall population and isn't a contribution to the implementation of epidemic management measures.[13]

In the fifth, the United Nations agency has created it clear that there are presently no illustrious effective treatments for COVID-19 and doesn't advocate the employment of antiviral medication, antibiotics, glucocorticoids, or ancient Chinese medication. Despite this, there are reports of the employment of oseltamivir, lopinavir/ritonavir, prednisone, antibiotics, and ancient Chinese medication for the treatment of patients with COVID-19.[14] . Care should be taken to not to offer patients medication of unknown effectiveness, which could be critically unwell patients with COVID-19; clinical trials are desperately needed during this context.[15]. Likewise, the event of immunology is an associate in nursing imperative public health priority.

All the countries are treating this situation as war and making the utmost efforts to save the people. It is a great challenge in the identification of affected persons and keeping them isolated. The services of doctors, nurses, cleaning people, and others working for the entire affected people are sacrificing their own life. The police department is with the common people in regularizing in maintaining the law and order. Social Media and Technology play a significant role to handle, prevent, and protect people all over the world [41].

II. BACKGROUND STUDY

Li et al [16] throughout the continued irruption of coronavirus unwellness (Corno Virus -19), folks utilize the media based on social which accumulate and spread the various numerous sorts by information. Back to the epidemic, solely the situational info is vital to the general public and authorities. This article mainly describes an

article that tried to fill out this empty gap based on victimization information provided by Weibo and techniques with the process to classify the information relevant to COVID-19 into seven classes of state of affairs information. Specific options were found in predicting the quantity repositied for every variety of info. The Result based on Covid 19 from the given data leads to the public information for their improvement.

Lyu et al [17] mentioned the 2019 novel coronavirus worldwide growth, whereas WHO formally named the unwellness as COVID-19, a disputed word-" Chinese Virus "is still being employed by an outsized range of individuals. Meanwhile, international online media coverage over racial attacks associated with COVID-19 is steadily increasing, most of that square measure either Non-Chinese or Non-Asian. This pandemic situation may gets ever an additional problem to discuss the platform-based on social media like Facebook, Instagram or Twitter. There is square measure primarily 2 ways in which after they seek advice from COVID-19: Victimization disputed terms like "Chinese Virus" by victimization terms as "Coronavirus" decide to characterize the users of Twitter victimization disputed terms, and people victimization based on the irrelevant terms. The Tweepy API which used to retrieve the information about the authors and associated with more than 17 million information. There square measure vital variations across their demographics between these 2 teams of Twitter users, level of the user options such as followers range, standing based on politics, moreover as locations based on GEO to be found. Models based on classification for characteristic users based on Twitters that square measure additional possible to use controversial words. It's the fundamental wide area with media based on social analysis to classify customers in terms of their use of dissentious words throughout the world crisis.

Table 1.
SURVEY REPORT ON THE COVID – 19
PANDEMICS (As of 24Jun, 2020)

Name of the Country	Total population	No. of persons affected		No. of Death		No. of persons Recovered		Still under Treatment	
		Nos	%	Nos	%	Nos	%	Nos	%
USA	330,965,224	2,441,788	0.74	123,705	5.07	1,020,499	41.79	1,297,584	53.14
Brazil	212,529,324	1,152,653	0.54	52,805	4.58	613,345	53.21	486,503	42.21
Russia	145,933,426	614,057	0.42	8,667	1.41	368,822	60.06	236,568	38.53
India	1,379,715,223	474,991	0.03	14,785	3.11	264,542	55.70	195,664	41.49

- a) **USA:** The percentage of the number of deaths is 5.07 and the average recovery is 41.79% is lesser than the number of people under observation/treatment which is 53.14% is high. It has to be seen after the completion of the treatment.[18]
- b) **BRAZIL:** The number of deaths is 4.58%. But the average recovery is 53.21%, which is better and the people under treatment is 42.21%[19]
- c) **RUSSIA:** The average number of deaths is 1.41%, but the average recovery is 60.06, which is appreciable, and the average of people under treatment is 38.53%.[20]
- d) **INDIA:** The average number of deaths is 3.11%, but the average recovery is 55.70, which is appreciable and the average number of people under treatment is 41.49% is appreciable.[21]

Every Indian can feel proud that India is fighting hard against this highly dangerous virus by providing more effective and presently available medicines, to other countries including America, the most powerful and developed nation.

All the Indians are maintaining the self-discipline of "Stay home, Stay safe," which is the powerful and effective slogan given by the government to the people of India.

III. IMPACT OF TECHNOLOGY ON COVID – 19:

In the battle against the Covid – nineteen outbreaks, several technologies like Distributed Computing focused on Cloud, computing based on Artificial Intelligence (AI), Block Chain and improved 5th Generation Network has the potency to all nations by efforts within the observance of pandemics, virus following, prevention, management focused on treatment, allocation.

There are possible ways to bring out, however, Information Technologies (IT) play an important role within the handling of Covid–19 (Figure 3):

First, to determine the COVID 19 pandemic situation of the people, a platform focused on IoT to designed and developed to access the information of public health agencies under observances. A sample mobile app, named 'Worldometer' offers to a period of updated time on a particular range to an individuals accordingly possessed by COVID-19 in the worldwide, together with day to day new diseases cases, distribution to illness in several countries, and illness severity (recovered, vital condition, or death).

The University named by Johns Hopkins Center for System Science and Engineering was designed and developed an application to determine the period of the time which following map to ease accesses of the cases of COVID-19 across the globe world, victimization to use the information collecting from the U.S Centers to the illness management, interference (CDC), WHO Center for illness interference, and management. The Center for Chinese

illness management and interference China CDC and also the particular website DXY[22].

Following, massive knowledge, additionally renders numerous potentialities to hold out studies based on modelling an infective agent activity and handling for the policy manufacturers of individual country health care thus on improving precaution of pandemics. Three Guide based Official Aviation are based on the location services such as Tencent(Shenzhen, China), Transporation based on the Municipal Bureau-Wu et.al, described the study of sculptured of nowcasting related with statement COVID19 activities illness focused on in and out doors. The Health authorities to develop the public sector and also manage worldwide were utilized by the Government of China.[23]

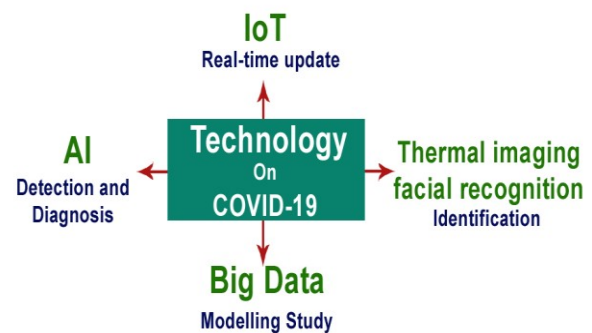


Figure 3: Impact Of Technologies In Covid-19

Recognition focused on FACE corporations (for example, Sense Time, Sunell application) introduced imaging-enabled automatic face recognition using thermal to acknowledge individuals at numerous screening points in China with elevated temperatures.[24]

At last, computing and Deep Learning will improve the method of prediction and identification of the COVID-19. The requirement would produce access, correct, and tests based on low priced for various identification of the COVID-19 may provide a great challenge. China build several hospitals and alternative developing countries like Asia, the Middle-East, continent would not have to test or the resource which accurately differentiates a COVID 19 still the Common flu. China had massive data sets of positive cases may lead to an increase of 70000 cases approximately. Dataset appears to be ideal to be employed in techniques like AI and deep learning. Hence this AI algorithms will be used as associate degree screening tool for positive cases initially, for example, Travel history of Asian Countries, China and Asian Nation which may expose or to the cases confirmed so that high risk by the patients which might be a corroborative based test on the laboratory or isolated.[25]An Algorithm focused on AI may be built to the physician triage three potential groups of COVID-19: 80% of patients with mild disease; 15% of patients with severe disease; and 5% of patients with the disease, which include a risk at high morality. At last, AI can discover the facilitate with novel drugs during the COVID-19[26].

Apart from technology, awareness should be created for people. The media has the responsibility and carry the

entire happenings to the mass. All the vulnerable areas and presenting the actual happenings through videos and thus making the people know about the situation.

IV. COVID 19 - IMPACT BASED ON SOCIAL MEDIA

The media focused on social aspects with various types involved in terms of communication and also with an interaction involving an aspect with social terminology, including social media of information such as email, social instant messaging, and texting, communication over multimedia formats such as audio, video conference, blog and even interactions between face, meetings focused on business, texture, and posture of the human body depicted in Figure 4. Social network plays an important part in every company because people need to connect to get work done. As technology adapts to human-friendly which incorporate with various dimensions, like OS based on social aspects, software application mainly focused on communication-oriented and media of interaction through a social network which becomes more and more relevant.

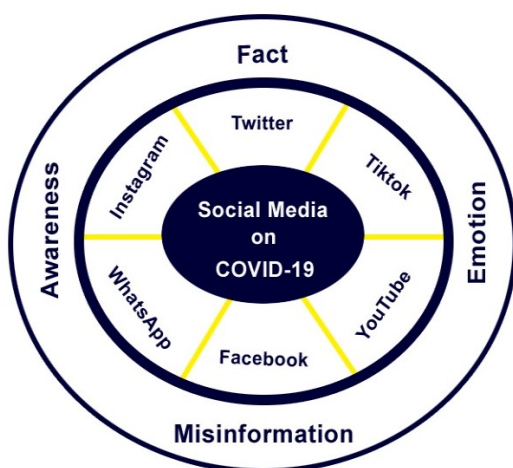


Figure 4. Impact Of Social Media On Covid- 19

A Multiple Platform focused on Social Media (e.g., Twitter, Whatsapp, Chat, etc.) square measure presently utilized by attention agencies and state governments to supply 'dynamic -time' were updates and the uncertainties are classified with the public in general (See Figure 4). For instance, to form an awareness of Covid-19 and to promote social distancing the government of the province has denoted ten videos in TikTok in their handle @covid19awarenessgok.[27]

To date, social media platforms are vital for distributive data throughout the irruption of coronavirus 2019 (COVID-19). Centre for illness management and bar, the globe World Health Organization (WHO), has provided various journals, alternative organizations for health care based on

square measure often steorage across various platforms in number. Groups utilized media platforms bases on the large social network have additionally concerned within response for data regarding various search on coronavirus square measure escalating and, at times, dominating conversations on-line.[28][29]

This crisis results in the COVID -19 leads, social media use has inflated, with additional users going surfing to be with a family member, friends, relatives, and official members. Now, new analysis from the insights and firm Kantar is showing simply what percentage edges some applications have. The Mobile App named WhatsApp which acts as the app focused on social media, that have undergone the best gain because of COVID-19, in line with a survey of over 25,000 users in thirty markets conducted from March 14 to 24.

In today's scenario, Facebook was owned by Whatapp which leads to the increase in usage where the grew from associate started with twenty sevenths within those days under the pandemic situation to forty-first within the mid-phase.[30]WhatsApp usage has raised by 51% in individual markets for countries currently within the later part of the pandemic, Kantar indicated that use maybe even higher. WhatsApp usage in European countries, for instance, was inflated by 76%.

The usage growth perceived to be the very best within the 18- to 34-year-old cohort across all the electronic messaging platforms, the study additionally found. Moreover, from an equivalent audience, WhatsApp, Facebook and Instagram saw a 40% rise in use. several social media services that saw progress throughout the pandemic embrace Twitter and WeChat and Weibo in China, not astonishingly. The overall Facebook usage has inflated by thirty-seventh, whereas the social media apps designed and developed by China usage which climbed by fifty-eight, Kantar described [31] the rise of social media in irruption means individuals square measure additional commitment with social media in social isolation amount and folks get additional attention to the knowledge disseminated from the social media.

A. Fact vs Fake / Misinformation

The disadvantage of social media is that the fact and fake/misinformation exists in it as social media have no or limited over individual users to create content and post it in public. Twitter is globally used for the official announcement of Governments for example; the official Twitter account of the Prime Minister Office of India has existing since 2012 to connect people through social media and made new announcement, from the end of March 2020, it gives regular updates on the action by the government of India to monitor and control the pandemic situation of Covid-19 in Hindi and English. [32]. Twitter handles of @Whitehouse provide information from the U.S government on various issues and plans.

Fake information is a real threat to social media. There are lots of possibilities to spread fake news, rumors, and misinformation through social media from racism to religion, and prejudice to antipathy, etc. In China, a rumor circulated that work into bio-weapons in a Wuhan laboratory contributed to COVID-19 genetic engineering

that was published later. These speculations Western scientists' working in terms of relationship with the Chinese colleagues pursuing a vaccine for COVID-19. The Hoaxes, untrue, medical claims based on dubious and exaggerated were the common factors of unambiguous information. Several natural may be unproved and remedies focused on traditional have been offered cures for COVID-19, Ebola, such as mint-containing spices and drinks such traditional turmeric powder that spread through Twitter in the countries like Iran. [33] There was information that went on viral on social media (Facebook and WhatsApp) on lockdown procedures and protocols with the attributes of the World Health Organization but it was later verified that as fake information. [34] On the other hand, Facebook, Instagram, and Twitter removed a video post of President Jair Bolsonaro. The reason said by those social media companies was that the video violated Covid-19 rules as the video shared by Jair Bolsonaro endorses hydroxychloroquine is used to end Covid-19 but the social media platforms claimed that both chloroquine and hydroxychloroquine is still unproven to end covid-19.[35]

B. Awareness vs Emotion

The social media is used to create awareness as well anyone can influence the emotion of individuals through social media as living in a post-truth era. Xomad an influencer marketing agency is tied up with The Bangladesh government to create awareness on Covid-19, and the agency even running a campaign on Covid-19 in California[36]. The chatbot was created by the government of India for the awareness of COVID -19. The Chatbot aims to curb misinformation on social media and to avoid the panic of the Corona virus[37]. The awareness was created by the primary school teachers from Tamil Nadu by sending an SMS application to generate knowledge regarding COVID-19.[38]. One message shared on WhatsApp instructed the people to stay in the home from 10 pm on 20th March, claiming the civic body that may be spraying some medicine which eliminates COVID -19 Virus. It had created panic in Visakhapatnam.[39] The health department of Tamil Nadu had claimed that a self-proclaimed medical practitioner Healer Baskar's audio clip which went viral on social media had a nature of instilling fear and panic among people over the coronavirus.[40]

V. CONCLUSION

The entire world is awaiting when the COVID – 19 is going to leave people from its mighty fold. Every country is eagerly awaiting from its scientists to invent a medicine that will cure COVID – 19 which till now eluding them.

Continuously such time, the existing scenario has to continue. The medical and paramedical staff have to continue their noble, dedicated, and sacrificing service to save the people. The cleaning staff has to continue their effortless and sacrificing service in maintaining the sanitation to prevent the disease from spreading. All the public departments have to work for implementing the expectations of the Government. The social volunteers, charity organizations have to continue to look after the needy people. The Police department has to maintain Law and Order in the country.

It is prudent that an effective 'Novel Algorithm' should be designed to assist the scientists to save the people. Unless a concrete and life-saving treatment for this highly contagious disease is invented, all the measures taken to prevent will be temporary.

The media people have to continue their noble service of carrying the exact happenings and the Government instructions to everyone. Creating awareness and co-operation will definitely avoid panic. They are the people delivering the messages of 'What to do and What not to do'.

Prevention is better than cure. Stay Home, Stay Safe and maintain social distance. This is the only way to curtail the spreading of COVID – 19 till an appropriate medicine is invented.

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