

COVID-19 Data Analysis in social media with Current Scenario

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ABSTRACT

The social media plays an important role in the present scenario of COVID-19. The ongoing pandemic has sensitized the flag of COVID 19 related to misrepresentation on the internet, precisely on social media. The rapid spread of Information takes place in Facebook, Twitter, YouTube which create concerns in government, public health authorities etc. The rapid spread of information provided platform for the researchers through social media is medium where one can share the view. The pandemic caused fear and mental instability which increased the mental health issues as observed worldwide. It is most necessary to develop the tools to detect automatically the misinformation through online mode. In case of social media sites, where the volume are high as well as the speed of the range is increased and observed. The COVID 19 is the supreme discussed disease. In this paper author gave importance to the physiology and mental health pressure feature of human beings. The social media measured as even more influential and communicative. This platform provides an immense prospective in form of people opinion. The risk perception call is for the crisis between the communication management. It also provides importance to the government facilities. The advantage of social media is a medium where one can share the view. In case of the situation, the medical development impacts the insufficient medical facilities. These are available even in the well-developed nations. In several places, entities are required to lessen the physical distance termed as social distancing. Extra operations include quarantines, curfews, closure educational organization. The social distancing, amplified the social isolation of human beings, and those were affected by the psychological and mental disorder. Here in this paper author gave priority to media and the concept in reshaping the risk perception.

Keywords: Social Media, Mental Health, COVID-19, Social distancing, Quarantine, Risk Perception

Introduction:

As human existences, those are social beings that essential to the company of others. To prosper in lifetime the forte of our communication and networking which hugely impacts on the mental disturbances, peacetime and pleasure. Due social connection it creates mental disbalance like depression, loneliness in once life. It lacks social networks that cause serious problem in human emotions and deformation of health. The COVID-19 pandemic has brought about unprecedented challenges worldwide, impacting nearly every aspect of our lives, including social

interaction, economic activity, and healthcare systems. In response to this crisis, social media platforms have emerged as crucial sources of real-time information, communication, and support for individuals, communities, and organizations. Leveraging the vast amounts of data generated on social media platforms, researchers and analysts have turned to data analysis techniques to better understand the dynamics of the pandemic, track its spread, and inform public health responses.

Example:

Consider the example of Twitter, one of the most widely used social media platforms globally, where millions of users share their thoughts, experiences, and opinions in real time. Throughout the COVID-19 pandemic, Twitter has served as a valuable source of information, enabling users to stay updated on the latest news, government guidelines, and expert advice regarding the virus. In addition to providing a platform for communication, Twitter data has been instrumental in facilitating data-driven research and analysis on various aspects of the pandemic. Researchers have utilized Twitter data to analyze public sentiment surrounding COVID-19-related topics, such as government responses, vaccine hesitancy, and mental health concerns. By analyzing the language and emotions

expressed in tweets, researchers have been able to gauge public attitudes and concerns, identify misinformation and conspiracy theories, and monitor shifts in public opinion over time. For example, a study published in the Journal of Medical Internet Research used sentiment analysis techniques to analyze Twitter data and found a correlation between negative sentiment expressed on Twitter and increases in COVID-19 cases in certain regions.

Furthermore, social media data analysis has been instrumental in tracking the spread of COVID-19 and identifying hotspots of infection. Researchers have developed machine learning models to analyze geotagged tweets and identify patterns of movement and interaction among users. By mapping the geographic distribution of COVID-19-related tweets and identifying clusters of activity, researchers have been able to detect emerging outbreaks and inform targeted public health interventions. For instance, a study published in the journal Nature Communications utilized Twitter data to create predictive models of COVID-19 transmission based on social media activity, demonstrating the potential of social media data analysis for early detection and containment of outbreaks.

In addition to tracking the spread of the virus, social media data analysis has also been used to assess the effectiveness of public health interventions and communication strategies. By analyzing engagement metrics, such as likes, shares, and retweets, researchers have evaluated the reach and impact of COVID-19-related messaging on social media platforms. Insights gleaned from these analyses have informed efforts to optimize communication strategies and promote adherence to public health guidelines.

Overall, the COVID-19 pandemic has underscored the importance of social media data analysis in understanding and responding to public health crises. By leveraging the vast amounts of data generated on social media platforms, researchers and analysts have been able to gain

valuable insights into the dynamics of the pandemic, inform public health responses, and empower individuals and communities with timely and relevant information. As the pandemic continues to evolve, social media data analysis will remain a critical tool for monitoring trends, identifying emerging threats, and informing evidence-based decision-making in the fight against COVID-19.

With respect to present Scenario all depend on social media such as

- ☐ FaceBook
- ☐ Instagram
- ☐ Snapchat
- ☐ Twitter
- ☐ WhatsApp
- ☐ YouTube

Social Media Platform	Role in Present Scenario
Facebook	Facebook serves as a platform for sharing news updates, connecting with friends and family, and joining groups related to COVID-19 awareness and support.
Instagram	Instagram is used for sharing visual content related to COVID-19, including infographics, memes, and personal experiences, fostering awareness and engagement.
Snapchat	Snapchat provides a platform for real-time communication through photos and videos, allowing users to share updates about COVID-19 and engage with friends and followers.
Twitter	Twitter serves as a real-time news source for COVID-19 updates, facilitating discussions, sharing of resources, and amplifying important messages and trends.
WhatsApp	WhatsApp enables private and group messaging, allowing users to share information, updates, and resources about COVID-19 with their contacts and communities.
YouTube	YouTube hosts a wide range of COVID-19-related content, including educational videos, news reports, and vlogs, providing valuable information and entertainment.

These social media platforms play a crucial role in disseminating information, fostering communication, and building community support during the present scenario of the COVID-19 pandemic.

The social media specifically to Twitter that is utilized to discover multiple surfaces of public health investigation. In systematic analysis it has been identified that there are six sorts of Twitter to use for health research such as content analysis, investigation, assignation, employment, as part of an intervention in network analysis by the workers. It includes specifically in research terminology such as health care, medication, or ailment specified by the Twitters data. It is prepared not by the focus on exact disease topics such as COVID-19.

To analyze the studies on social media, it is related to COVID-19. It mainly focused on five melodies:

- ☐ Public Defiance
- ☐ Psychological disbalance and Mental Health
- ☐ Detection and Prediction of Covid-19 Cases
- ☐ Government Reaction
- ☐ Excellence of Health Information (in Videos)
- ☐ Infodemics

In the above-mentioned social media one can interconnect with the present world.

1. Role of social media-Covid-19

The vital role of social media during covid 19 generates a worldwide health crisis. It irritates the people to face a distressing and unexpected situation. The lockdown and unlock are the word that was heard first time with the help news channels and social media. The name of physical distancing changed to social distancing. Due to uncertainty about timeline, the increasing pandemic result supported the individuals' fears, stress, confusion etc. The isolation many types of restrictions which is done due to maintain social distancing impaired the anxiety, loneliness of senior citizen and younger generation as per the analytical result by social media. Also, it altered the people actions and intensely changed individual emotional state, regular routine and habits. People experienced new life that is wearing mask that became regular habit. The pandemic affected lot to mental health disabilities, social activities related to behavior. It has been individually forced to isolation which stressed the environment. Several studies have shown that social media may be an effective tool for individuals to share advice and information, as well as resources, in the aftermath of a traumatic occurrence. The phrase "social media" refers to web-based technologies that enable people and groups to interact and share material such as information, ideas, personal messages, photographs, and cooperate with other users all at the same time, such as via blogs and social networking sites. Learning, getting knowledge, buying, and promoting products and services are all made possible via the use of social media, which is a medium that facilitates community development and socializing within linked networks

Aspect	Description
Dissemination of Information	Social media platforms have played a crucial role in disseminating information about COVID-19, including updates on cases, preventative measures, and government guidelines.
Communication	Social media enables rapid communication between individuals, healthcare professionals, and organizations, facilitating the sharing of experiences, advice, and support.
Misinformation	Despite its benefits, social media has also been a source of misinformation, with false claims about COVID-19 spreading rapidly

	and potentially causing harm.
Public Awareness	Through viral campaigns, hashtags, and challenges, social media has raised public awareness about COVID-19, encouraging compliance with safety measures and vaccination.
Support Networks	Social media platforms have fostered online support networks where individuals can connect with others facing similar challenges, providing emotional and practical support.

This table provides a concise overview of the role of social media in various aspects related to COVID-19,

including information dissemination, communication, misinformation, public awareness, and support networks.

In recent years, thanks to the advancement of internet infrastructure as well as the introduction of the Web 2.0 platform, also known as second-generation internet services, to the world-wide user service, information sharing has progressed from being a one-way process to being two-way and simultaneous. Every individual now has the ability to create and share their thoughts through electronic media as a result of this transformation. The shared materials have been enhanced, and they have begun to be shared as visual and audio contents, such as films, movies, clips, songs, and other types of music, in addition to textual sharing. Because social media enables users to produce and share unique material, it is more effective at bringing people together than any other platform. This is because it removes the limitations of location and time that are imposed by other platforms, making it stand out from the crowd. Online social media channels such as blogs, social networks, content postings, wikis, and forums are mainly cost-free places where individuals may communicate their thoughts, sentiments, happiness and sorrow, likes and dislikes, and life experiences with others in a safe and anonymous atmosphere.

Considering that the majority of people live in a mobile and online world these days, it is possible to consider social media as an additional tool for individuals and institutions, as it provides a free discussion platform for them, as well as the ability for individuals to communicate with one another and with institutions, without restriction on sharing and communication. Other advantages of social media platforms include the ability to be utilized for public relations, brand and institution positioning, and the ability to increase business reputation. According to Mikal, when face-to-face routines and social networks are interrupted, online social involvement may give a vital feeling of continuity.

When it comes to healthy participation that adheres to social distancing rules, the characteristics of online communication are particularly well-suited.

According to Mikal, "social media has the ability to enhance our mental health by facilitating social connections. It may also contribute in the prevention of the spread of COVID-19 by encouraging the adoption of health-promoting habits and compliance with medical advice." Mikal will collect information via qualitative interviews, questionnaires, and daily diaries in

order to assess if social media is effective in the following ways: It may be used to disseminate information about health-related issues and government recommendations.

Individuals who are dealing with additional family care responsibilities might benefit from excellent resources as a tool for exchanging emotional support in order to overcome loneliness. Improvements in mental health outcomes, such as reduced feelings of loneliness, sadness, and anxiety, will be observed. Increased knowledge of and compliance with the Centers for Disease Control and Prevention's guidelines for social isolation.

2. Literature Review

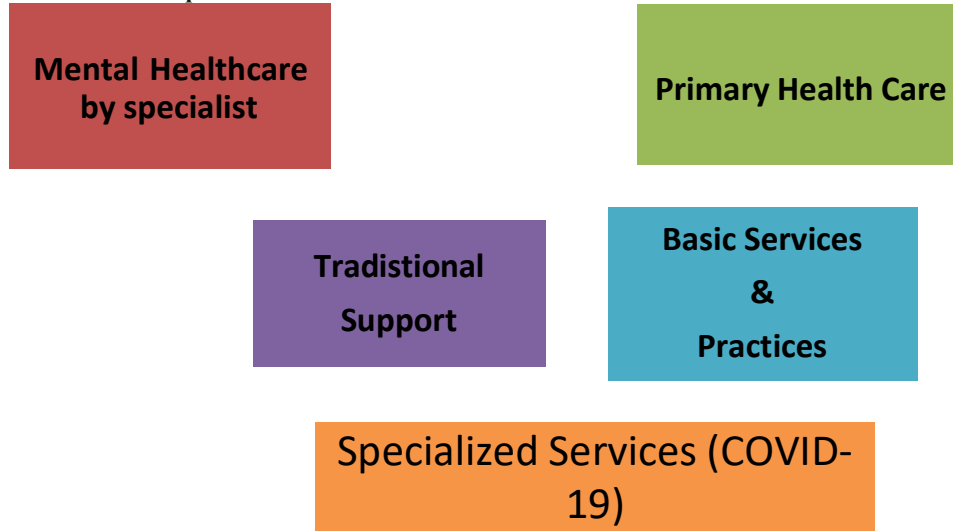
Each referred paper describes as Qamar et al. explore the structural basis of SARS-CoV-2 3CLpro and potential anti-COVID-19 drugs from medicinal plants [1]. Cascella et al. provide an updated review of COVID-19 features, evaluation, and treatment options [2]. Zhu et al. identify a novel coronavirus causing pneumonia in China [3]. Mackenzie and Smith discuss COVID-19 as a novel zoonotic disease originating from China [4]. Stockman et al. conduct a systematic review of SARS treatment effects [5]. Morra et al. analyze clinical outcomes of current medical approaches for Middle East respiratory syndrome (MERS) [6]. Savarino et al. examine the effects of chloroquine on viral infections and its potential against modern diseases [7]. Zhou et al. recommend examining hydroxychloroquine's effect in preventing COVID-19 infection and progression [8]. Devaux et al. provide insights into chloroquine's antiviral effects against coronaviruses and its potential for COVID-19 treatment [9]. Chu et al. assess the role of lopinavir/ritonavir in treating SARS based on initial virological and clinical findings [10]. In terms of table also it is described below

Reference	Authors	Title	Technology	Parameter	Application
1	Muhammad Tahir Ul Qamar, Safar M. Alqahtani, Mubarak A. Alamri, Ling Ling Chen	Structural basis of SARS-CoV-2 3CLpro and anti-covid-19 drugs discovery from medicinal plants	AI, Medicinal plants	Structural basis of SARS-CoV-2 3CLpro, Anti-COVID-19 drugs	Drug discovery
2	Marco Cascella, Michael Rajnik, Arturo Cuimo, Scott C. Dulebohn, Raffaella Di Napoli	Features, evaluation and treatment coronavirus (COVID-19)	AI, Machine Learning	COVID-19 features, Evaluation, Treatment	Medical diagnosis, Treatment planning
3	N. Zhu, D. Zhang, W. Wang, Xingwang Li, et al.	A novel coronavirus from patients with pneumonia in China, 2019	-	-	-
4	John S Mackenzie and David W Smith	COVID-19: a novel zoonotic disease	-	-	-

		caused by coronavirus from China: What we know and what we don't			
5	Stockman LJ, Bellamy R, Garner P	SARS: Systematic review of treatment effects	-	Treatment effects	Treatment planning
6	Morra ME, Van Thanh L, Kamel MG, Ahmed Abdelmotalieb, Ahmed M.A, Lu Minh Dat, et al.	Clinical outcomes of current medical approaches for Middle East respiratory syndrome: a systematic review and meta-analysis	AI, Machine Learning	Clinical outcomes, medical approaches	Treatment evaluation, Outcome prediction
7	Savarino A, Boelaert JR, Cassone A, Majori G, Cauda R	Effects of chloroquine on viral infection: an old drug against today's diseases?	-	Viral infection effects	Treatment planning
8	Zhou D, Dai SM, Tong Q	COVID-19: a recommendation to examine the effect of hydroxychloroquine in preventing infection and progression	-	-	-
9	Devaux CA, Rolain JM, Colson P, Roullet D	New insights on the antiviral effects of chloroquine against coronavirus: what to expect for COVID-19?	AI, Machine Learning	Antiviral effects	Treatment evaluation, Drug discovery

10	Chu CM, Cheng VC, Hung IF, M M L Wong, K H Chan, K S Chan, et al; HKU/UCH SARS Study Group	Role of lopinavir/ritonavir in the treatment of SARS: initial virological and clinical findings	-	Virological and clinical findings	Treatment planning
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3. Technical Requirement of Covid 19-Social Media



It is challenging as shown in the above flow diagram specifically related to social distancing measurements. The prospects for Building Back Better like institutionalising advanced e- interventions which are verifying to be additional actual in accomplishment and appealing small target inhabitants when compared to head on interferences. The system and societies not prepared to accept the transition to work remotely related to the culture and equipment. The group activities, particularly interesting to the digital platforms such as Zoom, WebEx etc the platforms that do not continuously achieve actual sound.

4. Experiences in social Media

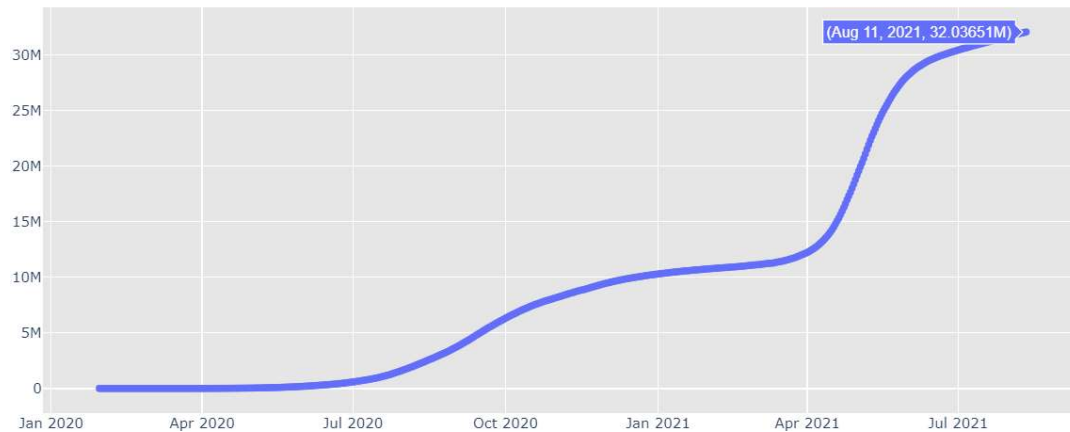
Negative experiences may be promoted by social media, such as:

For the period of 30 January 2020 to 11 August 2021, this research paper looked at three different types of data: confirmed, death, and recovered cases within India. This paper also includes a comparison of all of the cases reported in various Indian states. However, till we have more than 5 billion cases but the number of deaths across all states is around 73 million, it means the death rate in India is less than 1.5% even after having

5. Discussion & Findings

Around 1500 million of population which actually indicates that the Government has managed the system so well and takes the right step at right time to handle this pandemic situation. Now, to understand the situation in much better and simpler way we create some interesting plots.

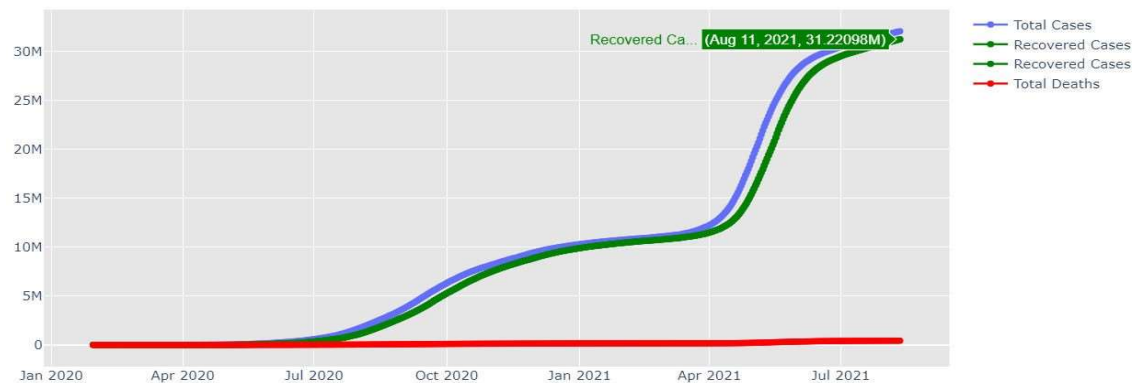
Trend of Coronavirus Cases in India (Cumulative cases)



Above figure indicates the Trend of coronavirus in India, where we can easily observe that at starting time between Jan to May we have very less number of confirmed cases because of the complete lockdown but after May when Government give some relaxation, from June 2020 the cases are increases in very large numbers and it only starts decreasing after Nov and the curve becomes flatten. But again in April 2021, the second wave of corona virus comes and this time this is even more dangerous than the first one

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Trend of Coronavirus Cases in India (Cumulative cases)



Although the cases goes out of control at initial days between 15th April to 15th May but after that because of again imposing lockdown and preventing measures we are able to control and manage the recovery rate as well as doesn't allow the death rate to increase a lot as we can observe the same from the above plot. And now after mid-July the curve again start flatten as the vaccination process becomes fast and people start follow the covid protocols. So, the curve remain flatten if the people do not violate the protocols and vaccination should be done across whole India as soon as possible.

Conclusion

People were using social media platforms during the lockdown. It was primarily used to gather and advance information about COVID-19. The nature of social media's influence causes panic in individuals, which varies depending on the individual. Gender, age, and educational level are all factors. The social media has taken on the role of reenacting a specific key role. The COVID-19 outbreak in various countries has spread anxiety. The goal

is to survey public attitudes, classify infodemics, and evaluate other activities related to pandemics, health, and education. It can be thought of as disseminating health information and the start of information and misinformation epidemics.

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Research Involving Human and/or Animals – Not Applicable

Informed Consent- Since the research does not involve primary research; it does not require informed consent by any participants.

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