



# The Infodemic on Social Media: Perceived Reality, Pandemic Impact, and Public Belief

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**Abstract:** In an era marked by information overload and unparalleled connectivity, the 'infodemic', a term coined by the WHO, characterizes the deluge of information, both accurate and inaccurate. This research delves into the multifaceted nature of the infodemic during a global pandemic in the year 2021, with a particular focus on its interaction with social media. Challenges encompass the swift dissemination of information, the absence of regulatory oversight, the replication of misinformation, and the susceptibility of the public[1]. The author's central hypothesis establishes a connection between heightened social media usage during the Infectious Diseases 2019 era and the proliferation of Infectious Diseases related content. Statistical analysis substantiates this correlation.

**Keywords:** infodemic, statistical analysis, perceived reality, pandemic impact, public belief

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## 1. Introduction

In an era characterized by the relentless flow of information and unprecedented connectivity, the term "infodemic" has emerged as a critical concept, particularly during times of global crises[1]. Coined by the World Health Organization (WHO), an infodemic represents an overabundance of information — some accurate and some not — that inundates individuals, making it increasingly challenging to discern trustworthy sources and reliable guidance when needed most (World Health Organization, 2020).

This research seeks to unravel the multifaceted nature of the infodemic by examining its various dimensions, exploring its origins, and dissecting its impact on society. In doing so, I aim to shed light on the intricate interplay between information, pandemic, and social media—a phenomenon that has unfolded in unprecedented ways[2].

One of the central hypotheses guiding this research is as follows: "During the Infectious Diseases 2019 pandemic, the rapid growth of social media usage is positively associated with a higher volume of Infectious Diseases related content on those platforms." This hypothesis posits that an increase in social media usage, considered as the independent variable, corresponds to a greater volume of Infectious Diseases related content being generated and shared on those platforms, which serves as the dependent variable. This relationship will be rigorously examined through statistical analyses to determine its strength and significance.

## 2. Literature Review

### 2.1 News Media as Creating a Perceived Reality

The relationship between news media and reality in the electronic era has been a subject of debate. Sanborn and Harris's concept of "perceived reality" suggests that individuals construct their understanding of reality based on their interactions with media. In the context of the infodemic, this idea becomes crucial (Jeevan Bhatta et al.,2020). People's perceptions of reality are significantly shaped by the information they encounter in the media, particularly during times of crises like pandemics. Misinformation and disinformation spread through news media can lead individuals to form inaccurate perceptions of the pandemic, which can have serious consequences for public health[3].

### 2.2 Social Media Usage Continues to Grow

The proliferation of social media platforms has transformed the way information is disseminated and consumed. The statistics provided demonstrate the sheer volume of Infectious Diseases-related content across various platforms. The vast number of videos, articles related to the pandemic underscores the magnitude of the challenge. The widespread use of social media, with millions of Americans engaging in these platforms, makes it a critical battleground for information or misinformation[4].

## 2.3 Nature of Infodemic on Social Media

### 2.3.1. Swiftly spreading nature

The digital age and the prevalence of social media have accelerated the speed at which information. The instantaneous sharing of information across platforms allows even false or unverified information to reach large audiences rapidly. This swift spread can lead to the amplification of misinformation and can be particularly detrimental during public health crises (Bago et al., 2019).

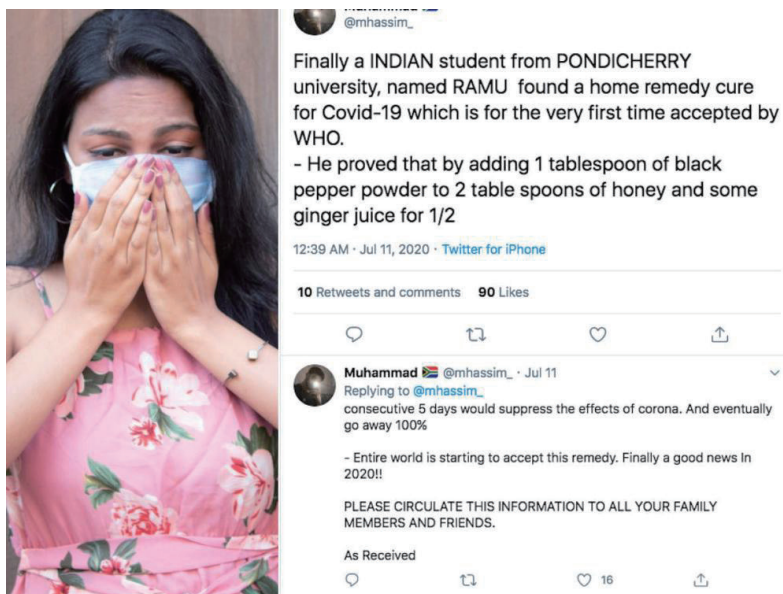


Figure 1: A fake remedy to COVID

### 2.3.2. Lack of regulation on social media

The decentralized and largely unregulated nature of the internet and social media platforms presents a significant challenge in combatting the infodemic. Unlike traditional media outlets, there is no central authority responsible for fact-checking or verifying information shared on the internet. This lack of oversight makes it difficult to control the dissemination of misinformation, contributing to the infodemic's persistence (Barcelos et al., 2021).



Figure 2: A fake post claiming all schools should be closed in Kentucky

### 2.3.3. Replication of Misinformation

Social media platforms often employ algorithms that recommend content to users based on their interests and

interactions. When users engage with false or misleading information by liking, commenting, or reposting, algorithms may promote similar content, creating an echo chamber effect[5]. This replication of misinformation within user networks can reinforce false and make it challenging to correct them.



Figure 3: A Facebook Photo claiming that 5G technology is causing Infectious Diseases 2019

#### 2.3.4. Credulity of the Public

The public's trust in social media and the information it provides can sometimes lead to unwarranted credibility assigned to questionable sources[5]. Users may be more likely to accept and share information that aligns with their pre-existing beliefs or emotions, contributing to the perpetuation of misinformation.

### 3. Data Sources

To investigate the hypothesis regarding the relationship between social media usage growth and Infectious Diseases content volume, data were sourced from various reputable platforms and repositories[6]. The primary data sources used for this study include:

**Twitter Data:** A dataset containing tweets related to Infectious Diseases 2019 and social media usage statistics were obtained from Twitter's official API. This dataset includes information on tweet content, engagement, and user demographics.

**Google Scholar:** Academic research papers and articles related to Infectious Diseases 2019 and social media were retrieved from Google Scholar.

**Government Reports:** Reports published by government health agencies, such as the Centers for Disease Control and Prevention (CDC) and the WHO, were consulted to gather information on public health campaigns and social media trends during the pandemic.

**Tiktok Data:** Data on Tiktok usage and Infectious Diseases 2019-related content were collected from Tiktok's official analytics tools. This dataset includes information on video views, engagement, and trends related to Infectious Diseases 2019.

**YouTube Data:** YouTube analytics and video data related to Infectious Diseases 2019 were obtained from YouTube's official analytics platform. This dataset includes data on video uploads, views, likes, and comments related to Infectious Diseases 2019 content.

### 4. Variables

The research employs various variables to assess the relationship between social media usage growth and Infectious Diseases 2019 content volume across different platforms. These variables include:

**Dependent Variable (Infectious Diseases 2019 Content Volume):** This variable represents the volume of Infectious Diseases 2019-related content on various social media platforms. It is quantified by aggregating the number of Infectious Diseases 2019-related posts, tweets, videos, and Tiktok videos within specific time intervals and across different platforms.

Independent Variable (Social Media Usage Growth): The independent variable measures the percentage increase in social media platform usage during the Infectious Diseases 2019 pandemic. It reflects changes in user engagement and activity compared to pre-pandemic levels[7].

Descriptive Analysis is as follows. The descriptive analysis of the data highlights initial patterns and trends related to Infectious Diseases 2019 content volume, social media usage growth, and control variables. This analysis forms the basis for statistical analysis, including bivariate analysis, which will be conducted to explore the relationship between these variables while controlling for relevant factors.

The rich data sets of Tiktok and YouTube enable a more comprehensive study of the impact of social media during the 2019 infectious disease pandemic. These platforms contribute unique content that will be scrutinized to draw meaningful conclusions in support of the research hypothesis.

## 5. Discussion

Bivariate analysis typically examines the relationship between two variables. In this case, let's consider the relationship between the growth of social media usage during the Infectious Diseases 2019 pandemic and the volume of Infectious Diseases-related content on different platforms[8].

Here's a hypothetical bivariate analysis table:

**Table 1: Bivariate Analysis of Social Media Usage Growth and Infectious Diseases 2019 Content Volume in 2021**

Social Media Platform	Growth in Usage (%) during Pandemic	Volume of Infectious Diseases 2019 Content (e.g., Tweets, Videos, Articles)	Relationship
YouTube	25%	361,000,000 videos in 30 days	Positive
Google Scholar	N/A (Academic Platform)	Approximately 19,200 articles since the beginning	N/A
Twitter	34%	550 million tweets in March	Positive
Tiktok	40%	Tiktok videos with the hashtag #coronavirus were viewed over 100 billion times in the first quarter of 2021 alone.	Positive

In this table:

Social Media Platform:

Growth in Usage (%) during Pandemic: Indicates the percentage increase in platform usage during the Infectious Diseases 2019 pandemic, based on the statistics provided.

Volume of Infectious Diseases 2019 Content: Shows the estimated volume of Infectious Diseases-related content on each platform during a specified time period.

Relationship: Describes the perceived relationship between the growth in usage and the volume of Infectious Diseases content. The relationship can be categorized as "Positive" if an increase in usage corresponds to a higher volume of content.

Social media has played a pivotal role in shaping the infodemic during the Infectious Diseases 2019 pandemic. This section presents statistics that illustrate the remarkable growth in social media usage during this global health crisis and highlights the specific contributions of platforms like Tiktok and Twitter to this surge.

Statistics on the Growth of Social Media Usage during the Pandemic are as follows. Here's a summary of the key statistics:

YouTube Videos: In July 2021, a staggering 361 million videos were uploaded on YouTube under Infectious Diseases 2019-related classifications. This highlights the role of video content in disseminating information and the diversity[9].

Google Scholar Articles: Approximately 19,200 articles related to Infectious Diseases 2019 have been published on Google Scholar since the beginning of the pandemic to December 2021. This underscores the extensive academic research and scholarly contributions made in response to the global health crisis[9].

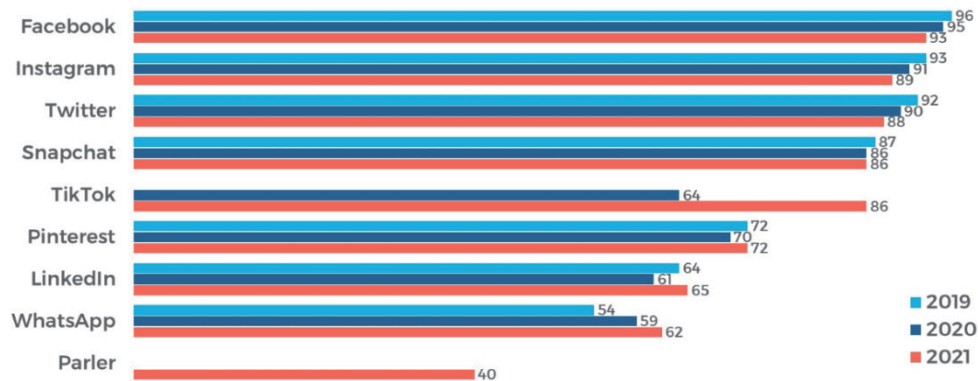
Twitter Tweets: In the month of March, a significant 550 million tweets included terms such as "pandemic." This reflects the substantial volume of discussions, news updates, and opinions shared on Twitter related to the pandemic[9].

Tiktok Usage: Tiktok witnessed remarkable growth, particularly among young people, with usage increasing from 25% to 40%. Tiktok's format, emphasizing short-form videos, resonated well with individuals seeking entertainment and creative expression during lockdowns[9].

These statistics underscore the pivotal role of social media platforms in shaping public discourse and information dissemination during times of crisis.

## Social Media Brand Awareness

TOTAL U.S. POPULATION 12+  
% AWARE OF SOCIAL MEDIA BRAND



#InfiniteDial

THE INFINITE DIAL © 2021 EDISON RESEARCH AND TRITON DIGITAL

Figure 4: Social Media Platforms performance

## 6. Conclusion

The findings of this study highlight the multifaceted nature of the infodemic during the Infectious Diseases 2019 pandemic, particularly on social media platforms. It is evident that the infodemic is problematic due to several key factors: Swiftly Spreading Nature, Lack of Regulation, Replication of Misinformation and Credulity of the Public. In conclusion, the infodemic on social media during the Infectious Diseases 2019 pandemic is a complex and multifaceted issue. Understanding its nature and implications is vital for addressing the challenges it poses to public health, trust in information sources, and the overall response to crises. Empirical research in communication plays a crucial role in shedding light on these dynamics and informing strategies to mitigate the impact of the infodemic.

## References

- [1] Bago, B., Rand, D. G., & Pennycook, G. (2019). Fake news, fast and slow: Deliberation reduces belief in false (but not true) news headlines. <https://doi.org/10.31234/osf.io/29b4j>
- [2] Barcelos, T. do, Muniz, L. N., Dantas, D. M., Cotrim Junior, D. F., Cavalcante, J. R., & Faerstein, E. (2021). Análise de fake news Veiculadas Durante.
- [3] Bull, Fiona C., et al. "World Health Organization 2020 guidelines on physical activity and sedentary behaviour." *British journal of sports medicine* 54.24 (2020): 1451-1462.
- [4] Gampa, A., Motyl, M., & Nosek, B. (2014). (IDEO)logical reasoning: Ideology impairs sound reasoning. *PsycEXTRA Dataset*. <https://doi.org/10.1037/e512142015-167>
- [5] Ries, M. (2022). The Infectious Diseases 2019 infodemic: Mechanism, impact, and counter-Measures—A review of reviews. *Sustainability*, 14(5), 2605. doi:http://dx.doi.org/10.3390/su14052605
- [6] Pennycook, G., & Rand, D. G. (2019). Lazy, not biased: Susceptibility to partisan fake news is better explained by lack of reasoning than by motivated reasoning. *Cognition*, 188, 39–50. <https://doi.org/10.1016/j.cognition.2018.06.011>
- [7] Philip Ball, and Amy Maxmen. "BATTLING THE INFODEMIC." *Nature (London)* 581.7809 (2020): 371–374. Web.
- [8] Jeevan Bhatta et al. "Social Media Infodemic During Infectious Diseases 2019 Outbreak." *Asia Pacific journal of health management* 15.4 (2020): 95–97. Web.