

# Infodemics of COVID-19 : The Role & Impact of Media

**Rambha Pathak<sup>1</sup>, Rashmi Agarawalla<sup>2</sup>, Shailesh Gupta<sup>3</sup>**

<sup>1</sup>Professor & Head, <sup>2</sup>Tutor Department of Community Medicine, Government Institute of Medical Sciences, Greater Noida, Gautam Budh Nagar, Uttar Pradesh.

<sup>2</sup>Assistant Professor, Department of Community Medicine, Hamdard Institute of Medical Sciences & Research, New Delhi.

## Introduction :

The world is facing a pandemic whose speed and severity rivals that of the 1918 influenza epidemic. The disease spreads quite efficiently. The average infected person spreads the disease to two or three others leading to an exponential rate of increase. There is also strong evidence that it can be transmitted by people who are just mildly ill or even presymptomatic and asymptomatic.<sup>1</sup> Covid-19 has already caused 10 times as many cases as SARS in a quarter of the time.<sup>2</sup> Social distancing, the most widely used preventive measures, aims to curtail new infections by reducing physical contact between people<sup>3</sup>. These measures have led to the cancellation of sporting events and conferences, closures of schools and colleges, malls, industries, factories and has forced many businesses to require their employees to work from home<sup>4-5</sup>. To the millions of homebound population of the world due to lockdowns, the digital media remains the only source of information about the disease. Since it has disrupted the daily routines of millions of people worldwide, the people need to be informed and updated about the changing guidelines and instructions issued by the government to maintain safety in this time of crisis. Social media users are spending more time online than ever before. Thus, It cannot be emphasized more than fast and accurate information is very much an essential part of the battle against COVID-19.

## Role of Digital Media

With the invention & development of information and technology, digital media plays an important role in this pandemic, especially in the use of visual data to disseminate information, mobile health to coordinate medical resources, and social media to promote public health campaigns.<sup>6</sup>

### a. Disseminate information about the disease

To prevent and control a pandemic that is spreading like a wildfire all over the globe there is a need to create awareness

among people about its modes of prevention and control. Thus, delivering rapid, reliable information that addresses critical infection control issues is of key importance.

Preventive measures implemented by national, state and local governments need to be communicated to the communities. Having access to free, trustworthy, factual, multilingual, targeted, accurate, clear and science-based information is the need of the hour. The pandemic has also established that all the stakeholders and affected communities in every part of the world should have dialogue and participation during the preparedness, readiness, and response against the disease.<sup>7</sup> This will help us in learning from the experiences of others and developing methods to curb the menace caused by this pandemic.

It also has demonstrated the exceptional role of unbiased, independent, dependable and pluralistic media to enhance transparency, accountability and trust, which is essential to achieving adequate support for and compliance by the general public with collective efforts to curb the spread of the virus.<sup>7</sup>

Visual data is used increasingly to demonstrate the distribution, transmission, and trend of this coronavirus outbreak.<sup>8</sup> The unprecedented pandemic has brought an enormous amount of real-time data, and many online media platforms have adopted visual graphs to release COVID-19 statistics,. Data visualization can help people easily and efficiently process a large volume of information on disease transmission to understand the patterns of epidemics.<sup>9</sup> An example of this is the interactive dashboard developed by Johns Hopkins University based on the crowdsourcing data<sup>10</sup>. This dashboard provides data-driven visuals (e.g., global cases map, critical data trends, latest news, and COVID-19 basics) to illustrate the situations of pandemics around the world, enabling the public and researchers to understand and

---

**Corresponding Author:** Dr. Rambha Pathak,  
MD, DNB, MNAMS, MIPHA, MIAPSM Dean ( Academics)  
Professor and Head, Department Of Community Medicine, Government Institute of Medical Sciences,  
Greater Noida, Gautam Budh Nagar, Uttar Pradesh. Email Id: rambha\_p@yahoo.com

monitor the outbreak timely. Similarly, a popular messaging app (WeChat) in China offered a location-based feature 'Cases Nearby' to show the location of the confirmed cases around the users and the places the cases have been without disclosing any personal information<sup>10</sup>. This visual footprint keeps users informed of the outbreak and to take targeted measures to avoid high-risk areas. Besides, in the Prince of Wales Hospital of Hong Kong, an infographic on the principles of airway management was developed in 17 languages and disseminated through online social network platforms, benefiting other medical units to incorporate infection control procedures to reduce the transmission of COVID-19<sup>11</sup>.

Social media Platforms such as Facebook, Twitter, Instagram & zoom have been boon in the technological & social infrastructure that allows us to stay connected even during crises. It has played a great role in spreading awareness among people. These platforms are applied to educate people to take public health measures. As one of the first countries hit by the COVID-19, Singapore's successful response has benefited from the country's early action took via social media. A national WhatsApp channel was immediately created to inform people living in Singapore about government updates and initiatives on the COVID-19. There have been over 635,000 people subscribed to the channel to receive updated messages<sup>12</sup>. In China, the government has partnered with mobile phone operators to send automated text messages at various times throughout the day to keep people informed and alert them to keep the social distance. Additionally, in partnership with the health ministry, a Vietnamese music artist wrote a song, and another local dancer choreographed dancing on how to wash hands carefully and started a dance challenge on TikTok (a popular video-sharing app)<sup>13</sup>. The dance challenge video has gone viral and invited millions of people to learn about the essential steps of hand-washing, playing a critical role in fighting against the spread of the COVID-19.<sup>13</sup>

#### **b. Uses of digital tools for administration & management :**

Digital tools are applied to assist the management of work resumption and citizen migration after the pandemic. In China, the digital health code, which displays a QR code with an individual's health status, is widely used to track citizen's health status and estimate their potential risk in transmitting the virus. Individuals are assigned a color code — green, yellow, or red — that indicates their health status. The functions of digital health code are two-fold: one is to ensure anyone entering a public place is healthy, and another is for contact tracing purposes. Although such digital tools have raised concerns about privacy, it helps to contain the outbreak of epidemics and mitigate the burden of public health surveillance, allowing the society to return to its normalcy. Besides, coronavirus tracking apps were also applied with the official government in other countries to aid

contact tracing, such as Australia (COVID Safe), Bahrain (Be Aware Bahrain), Colombia (CoronApp), and Ghana (GH Covid-19 Tracker App), India (Arogya Setu App).

#### **c. Use of Mobile health in pandemic**

Mobile health (mHealth) is surging in demand to reduce the burden of health care systems. To avoid the high risk of contact with infected individuals, several virtual teleconsultation platforms (Emergency Eye in Germany, Vodacom in South Africa, and We Doctor in China) were used to assist healthcare professionals. Facebook groups have been used by doctors to share and integrate experiences in disease treatment and research in real-time, a subgroup called the PMGTM COVID19 has 36,900 members worldwide<sup>14</sup>. The pandemic has also driven research and application of artificial intelligence (AI) in dealing with this emerging issue. By using lung computed tomography (CT) scans, AI technology was used to help doctors make a quick judgment of coronavirus pneumonia<sup>15</sup>. To help fight mental health disorders during the pandemic<sup>16</sup>, an AI-based chatbot has also played important roles in responding to people's emotions and feeling providing online consultation. This trend was witnessed by the surge of some Indian chatbot software users during the outbreak<sup>17</sup>.

In the context of the Covid-19 pandemic, Google Trends (or other online data activity) can be of help in defining the proper timing and location for practicing appropriate risk communication strategies to at-risk populations. Google Trends were found to predict Covid-19 incidence in Iran<sup>18</sup>. As the number of Covid-19 cases increased, US population was provided with telehealth services<sup>19</sup>.

#### **INFODEMIC OF COVID 19 :**

Although digital media has made considerable efforts in response to the pandemic, it is still facing some challenges. First, the most important being the misinformation at various levels. Rumors, fake news, and deliberate misinformation have been spreading on social media platforms, causing distrust and further endangering public health<sup>20</sup>. The term 'infodemic' has been used for the rapid spread of information of all kinds, including unreliable information, rumors and gossip. Infodemics as a term got popular when the World Health Organization (WHO) Director-General Tedros Adhanom Ghebreyesus remarked during a speech in the Munich Security Conference on 15 Feb 2020 in the context of COVID-19 – "We're not just fighting an epidemic; we're fighting an infodemic"<sup>21</sup>.

In times of the health crisis, the spread of the "infodemic" can be as dangerous to human health and security as the pandemic itself. Among other negative consequences, COVID-19 has created conditions that enable the spread of disinformation, fake news and doctored videos to foment violence and divide communities.<sup>22</sup>

#### **Measures taken to contain Infodemic :**

The information spread during such emergencies needs to be regulated. We have a cascade of information and

misinformation and multiple channels of communications happening in a global medical emergency. The restriction of information flow may be counter-productive. The challenge is to then manage this flow of information so that it can be an effective weapon against SARS-CoV2. For the medical community, this should be met at both individual and institutional levels.<sup>22</sup>

To respond to the infodemics caused by misinformation, some efforts have been made to correct the misinformation. Useful corrective actions, such as more coherent information that provides alternative explanations to misleading information and appeals to credibility, should be continued, widely, and frequently distributed<sup>23</sup>. In particular, personal privacy and data leakage is an issue that needs to be addressed urgently. ZOOM, the teleconferencing software that was heavily used in this outbreak, suffered several hacks<sup>24</sup>, which raised concerns about the security of digital tools. Although the digital health code has been used in several countries, there is still a concern about privacy, and personal information leakage may cause geographical discrimination against people from high-risk areas.

#### **A. Measures taken to Counter misinformation or health propaganda:**

Several measures have been put in place to curb the circulation of fake news.<sup>25</sup>

- a. Asian countries have enforced criminal prosecutions related to the COVID-19 infodemic.
- b. Many fact-checking services and software are available to the public. The WHO uses its existing network called EPI-WIN to track down misinformation in several languages. It also asks technology giants to filter out false news and promote information from credible sources.
- c. Google removes misleading information about COVID-19 from YouTube, Google Maps, its development platforms such as Play, and in advertisements.
- d. Twitter checks, among other things, accounts that are credible sources of information about COVID-19 and monitors conversations to ensure that the keywords searched for on the virus provide access to reliable information.
- e. The WHO has also launched a health alert on WhatsApp and a chatbot on Facebook Messenger to provide accurate information about the virus.
- f. The United Nations is sparing no effort either in tackling misinformation and cyber-fraudsters who exploit the crisis. The United Nations Development Program supports the Corona Virus Facts Alliance, which brings together more than 100 fact-checkers from over 45 countries in the International Fact-Checking Network

#### **B. Protect yourself from infodemic**

The infodemic is as real as COVID-19. It is reasonably apparent now that fear of virus (F-virus) created by social

media is more contagious to the general population than COVID 19 itself. An invisible virus, which sometimes causes no symptoms, is difficult to control. While physical distancing, hygienic measures and the wearing of masks currently seem to be the best means of limiting the spread of COVID-19, vigilance is also one of the best ways of eradicating false and fake news.<sup>26</sup>

Taking a break from social media coverage, exercising, and dedicating time with family and friends are recommended for coping with stress while staying at home in lockdown

#### **C. Reducing the spread at an individual level**

Acting against misinformation in the infodemic is everyone's responsibility. Without trying to expose every piece of false news, we can always reduce its scope. The following precaution can reduce the spread of unreliable information:<sup>26</sup>

1. Be critical when you look at social media.
2. Don't leave false information in your online networks. You can politely ask the person who shared it to remove it.
3. Report the false information to the platform administrators.
4. When in doubt, take the time to verify the shared information.
5. Make more noise than people who share false information.

Thus paying attention to trustworthy information and trying to flourish new mental contagion, which is of healthy ideas, boldness, and solidarity the infodemic can be kept under control.<sup>26</sup> This is not a time to divide over ethnicity, nationality, or regionalism as the virus does not respect international borders. This is a time for global cooperation to fight back against the virus.<sup>26</sup>

#### **References:**

1. Hoehl S, Rabenau H, Berger A, et al. Evidence of SARS-CoV-2 infection in returning travelers from Wuhan, China. *N Engl J Med* 2020;382:1278-1280.)
2. Gates B. Responding to Covid-19 — A Once-in-a-Century Pandemic? *N Engl J Med* 2020;382:1677-1679 DOI: 10.1056/NEJMp2003762]
3. Hadden J, Casado L. Business Insider. Here are the latest major events that have been canceled or postponed because of the coronavirus outbreak, including the 2020 Tokyo Olympics, Burning Man, and the 74th Annual Tony Awards URL: <https://www.businessinsider.com/major-events-cancelled-or-postponed-due-to-the-coronavirus-2020> [accessed 2020-05-15]
4. Chavez N, Moshtaghian A. CNN. 2020. 48 states have ordered or recommended that schools don't reopen this academic year URL: <https://www.cnn.com/2020/04/18/us/schools-closed-coronavirus/index.html> [accessed 2020-05-15]
5. Abbas A, Eliyana A, Ekowati D, Saud M, Raza A, Wardani R. Data set on coping strategies in the digital age: The role of

- psychological well-being and social capital among university students in Java Timor, Surabaya, Indonesia. *Data Brief* 2020 Jun;30:105583 [FREE Full text] [doi: 10.1016/j.dib.2020.105583] [Medline: 32368599]
6. Y. Wang, M. McKee, A. Torbica, D. Stuckler Systematic literature review on the spread of health-related misinformation on social media. *Soc Sci Med*, 240 (2019), p. 112552
  7. Chan AKM, Nickson CP, Rudolph JW, Lee A, Joynt GM. Social media for rapid knowledge dissemination: early experience from the COVID-19 pandemic. *Anaesthesia*. 2020 Mar 30;10.1111/anae.15057. doi: 10.1111/anae.15057. Epub ahead of print. PMID: 32227594; PMCID: PMC7228334.
  8. Heer J, Bostock M, Ogievetsky V. A tour through the visualization zoo. *Communications of the ACM* 2010;53(6):59-67
  9. Carroll LN, Au AP, Detwiler LT, Fu TC, Painter IS, Abernethy NF. Visualization and analytics tools for infectious disease epidemiology: a systematic review. *J Biomed Inform*. 2014;51:287-298. doi:10.1016/j.jbi.2014.04.006
  10. Wu JT, Leung K, Leung GM. Now casting and forecasting the potential domestic and international spread of the 2019-nCoV outbreak originating in Wuhan, China: a modelling study. *The Lancet* 2020;395(10225):689-97
  11. Chan AKM, Nickson CP, Rudolph JW, Lee A, Joynt GM. Social media for rapid knowledge dissemination: early experience from the COVID-19 pandemic [published online ahead of print, 2020 Mar 30]. *Anaesthesia*. 2020;10.1111/anae.15057. doi:10.1111/anae.15057
  12. UNDP. Innovations in Singapore's COVID-19 Response.Secondary Innovations in Singapore's COVID-19 Response 2020. Available from <https://sgtechcentre.undp.org/content/sgtechcentre/en/home/blogs/covid19response.html>
  13. Okane C. Catchy PSA about coronavirus turns into viral TikTok challenge about washing your hands. 2020. <https://www.cbsnews.com/news/coronavirus-prevention-vietnam-song-ghenco-vy-tik-tok-challenge-about-washing-hands-quang-dang-john-oliver/> (accessed April 25th).
  14. Smith M, Cortez MF. Doctors Turn to Social Media to Develop Covid-19 Treatments in Real Time. 2020. <https://www.bloomberg.com/news/articles/2020-03-24/covid-19-mysteries-yield-to-doctors- new-weapon-crowd-sourcing> (accessed April 25th).
  15. Li L, Qin L, Xu Z, et al. Artificial intelligence distinguishes COVID-19 from community acquired pneumonia on chest ct. *Radiology* 2020:200905
  16. Gao J, Zheng P, Jia Y, et al. Mental health problems and social media exposure during COVID-19 outbreak. *Plos one* 2020;15(4):e0231924
  17. Preetipadma. Top 6 chatbots helping to curb covid-19 induced mental anxiety. 2020. <https://www.analyticsinsight.net/top-6-chatbots-helping-curb-covid-19-induced-mental-anxiety/> (accessed April 26th). <https://sgtechcentre.undp.org/content/sgtechcentre/en/home/blogs/covid19response.html>
  18. Ayyoubzadeh SM, Ayyoubzadeh SM, Zahedi H, Ahmadi M, S RNK. Predicting Covid-19 incidence using Google Trends and data mining techniques: A pilot study in Iran. *JMIR Public Health Surveill*; 2020
  19. Hong YR, Lawrence J, Williams D, Jr., Mainous Iii A. Population-Level Interest and Telehealth Capacity of US Hospitals in Response to Covid-19: Cross-Sectional Analysis of Google Search and National Hospital Survey Data. *JMIR Public Health Surveill*; 2020;6(2):e18961.
  20. Limaye RJ, Sauer M, Ali J, et al. Building trust while influencing online COVID-19 content in the social media world. *The Lancet Digital Health* 2020
  21. Munich Security Conference [Internet] [cited 2020 Apr 19]. Available from: <https://www.who.int/dg/speeches/detail/munich-security-conference>
  22. Datta R, Yadav A.K, Singh A Datta K, Bansal A. The infodemics of COVID-19 amongst health care professionals in India. *Medical Journal Armed Forces India* 2020 Available on <https://doi.org/10.1016/j.mjafi.2020.05.009>
  23. Nathan Walter STM. Does Correcting Misinformation Really Work? 2018. <https://www.natcom.org/communication-currents/does-correcting-misinformation-really-work> (accessed 2020.05.30).
  24. ZOOM. Support during the COVID-19 pandemic. Secondary Support during the COVID-19 pandemic 2020. <https://zoom.us/docs/en-us/covid19.html>
  25. Pennycook G, McPhetres J, Zhang Y, Rand D. Fighting COVID-19 misinformation on social media: Experimental evidence for a scalable accuracy nudge intervention. 2020.
  26. Zarocostas J. How to fight an infodemic. *Lancet* 2020;395:676
- How to cite this article:** Pathak R, Agarawalla R, Gupta S. Infodemics of Covid-19: The Role & Impact of Media. *J Comprehensive Health* 2020;8(2): 12-15.