



# COVID-19: Pan(info)demic

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## Abstract

The world has experienced pandemics worse than the coronavirus disease 2019 (COVID-19). However, the global effect of this pandemic has been overwhelming. Billions of people are in lockdown and also have easy access to information owing to easy and cheap internet connectivity and electronic media. However, information overload during the current COVID-19 pandemic has posed a set of challenges that were not encountered before. There is an 'infodemic' in which false news, conspiracy theories, magical cures, and racist news are being shared at an alarming rate, with the potential to increase anxiety and stress and even lead to loss of life. This review highlights some of these challenges and suggests general measures to avoid information overload and infodemic in the connected world of 21<sup>st</sup> century.

**Keywords:** Coronavirus, coronavirus disease 2019, infodemic, social media

## Introduction

The novel coronavirus disease 2019 (COVID-19) pandemic has now surpassed 16.5 million documented cases globally, with more than 654,000 deaths (1). COVID-19, caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has percolated into communities at incomparable rates. It has created disturbances in our everyday life and has affected and changed almost every domain of our functionality. An overview of the current situation is as follows.

### Pandemic

A pandemic is the worldwide spread of a new disease (2). COVID-19 is not (yet) the worst pandemic known to human history.

The Black Death, which hit Europe in 1347, claimed an astonishing 200 million lives in only 4 years. With each new plague epidemic, 20% of the men, women, and children living in the British capital were killed.

Smallpox was endemic to Europe, Asia, and Arabia for centuries, a persistent menace that killed 3 of 10 people it infected and left the rest with pockmarked scars.

In the early to mid-19th century, cholera tore through England, killing tens of thousands of people (3).

In the last century, there have been 3 worldwide (pandemic) influenza outbreaks: 1918, 1957, and 1968; 2 of them appeared within the era of modern virology (1957 and 1968), and the hemagglutinin antigen of the causative viruses was implicated for morbidity and mortality. The antecedent to the virus of the pandemic of 1918 still remains unknown (4).

Diseases described as 'pandemic' and 'epidemic' include: chikungunya, cholera, Crimean–Congo haemorrhagic fever, Ebola virus disease, Hendra virus infection, influenza (pandemic, seasonal, zoonotic), Lassa fever, Marburg virus disease, meningitis, Middle East respiratory syndrome, monkeypox, Nipah virus infection, COVID-19, plague, Rift Valley fever, SARS, smallpox, tularaemia, yellow fever, and Zika virus disease (5).

## Implications

For many of us, there has never been a disease that is so little understood and so greatly feared. For others, there was the human immunodeficiency virus epidemic.

This lack of information and curiosity for the same has had major ramifications and consequences. Social distancing and curfews have only added to these consequences.

With the global epidemic of misinformation that is spreading across social media platforms and other outlets, the World Health Organisation (WHO) had warned the public of an 'infodemic', described as 'an overabundance of information, some accurate and some not, that makes it hard for people to find trustworthy sources and reliable guidance when they need it' (6). Undoubtedly, this poses a deliberate obstacle for public health.

## Connectivity

The fuel to this upsurge in information is the easy access to share and download information. In 2020, the number of smartphone users in the world reached 3.5 billion, which translates to 45.15% of the world's population owning a smartphone (7). Access to information has never been so easy. Although this has led to easier dissemination of useful information, it works in opposite ways as well.

## Effects of lockdown

Social distancing, quarantine, lockdowns, and curfews have forced people to shut themselves within the confines and safety of home to contain the spread of the contagion. With no public places to go to or restaurants to dine in, people have started spending more time online. Offices and schools that are adopting online methods have also had a profound effect on online activity. As the contagion spreads, our online time has also increased for work, play, and connecting (8). Easy and cheap internet access makes this usage easier.

## Myths and magic

Vulnerability pushes man to take unusual steps. The current pandemic has done just that to the human psyche. Various myths have arisen. In a desperate attempt to immunise themselves, people took some extreme measures. From disturbing

reports of a couple who succumbed to excess dose of chloroquine sulphate in Arizona to about how more than 100 Iranians died from alcohol poisoning because of the mistaken belief that industrial-grade ethanol could protect against the virus infection are only a few of the many cases reported worldwide. The examples are numerous (9).

## Hoarding disorders

Hoarding disorder is defined as a persistent difficulty in discarding or parting with possessions, regardless of their actual value, owing to a perceived need to save the items and the distress associated with discarding, leading to cluttering and causing clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Although the prevalence of hoarding disorder is 1.5%, this pandemic has amplified the numbers and consequent repercussions (10) despite being adequately counselled, threatened, or embarrassed.

People have thoughtlessly engaged in hoarding toilet papers, hand sanitisers, bottled water, and food supplies, probably as a consequence of irresponsible unauthenticated infodemic on various social media platforms. This behaviour quickly exhausts the existing resources for the community at large and severely impedes the already crippled replenishment procedures.

This strain on the resources (including medicines) is placing certain people, especially the elderly and other vulnerable groups, at enhanced risk because pharmacies are getting emptied for the longest times possible, depriving certain people of critical and life-saving drugs. As a remedial measure, a list of supplies for daily consumption should be prepared for a fixed amount of time (1–2 weeks) and be strictly adhered to.

## Scientific information explosion

Numerous articles have been published in scientific journals. Although communication of developments in management is crucial to academic and social discourse, excessive amounts of the same can overwhelm even experienced doctors, making it difficult to filter evidence and data-driven facts from opinions. The potential for 'misinformation' or 'disinformation' rises when scientific journals use their publications to justify false or misleading claims (11). The extent to which these publications add to the evolving base of evidence contributes to the infodemic.

To quantify the amount of scientific literature related to SARS-CoV-2 and COVID-19 produced, published, and made available in scientific literature, a systematic PubMed literature search was performed covering the period from December 1, 2019, to July 28, 2020. The details of major types of articles published are given in Table 1.

### Main Points:

- Social media plays an important role in our lives, now more than ever, especially since the world is in lockdown.
- Unfortunately, this infodemic has caused more harm than benefit.
- This review highlights how it has affected the human psyche during the coronavirus disease 2019 pandemic and suggests remedial measures to nullify its negative effects.

**Table 1. Statement of the number of articles published so far and their breakdown**

S. No	Type of article	Number
Total number of published articles: 10,159		
1.	Books and documents	10
2.	Clinical trials	53
3.	Meta-analysis	97
4.	RCT	26
5.	Review	3,188
6.	Systematic review	421
RCT: randomised controlled trial		

With the social and scientific structure mentioned earlier, the following are a few recommendations to combat the infodemic:

#### a) General population

1. Avoid linking COVID 19-positive status with any particular race, ethnicity, or nationality, and, in turn, advocate that it can happen to anyone so as to dispel the myths that certain race/ethnicity has inherent immunity and need not practice preventive measures (12).
2. Try to be empathetic and compassionate toward the affected individuals. Strengthen the dignity of the affected people by referring to them with compassion and kindness and offering them support.
3. Enthusiastically share positive and hopeful stories of altruistic behaviour exhibited by good Samaritans to promote an atmosphere of general positivity, collective responsibility, and enhanced community support and participation. Share stories of people who have recovered from the illness, and strengthen the trust in the medical and other administrative services (13, 14).
4. Acknowledge, honour, and celebrate the work done by 'COVID warriors' such as healthcare workers, police, conservancy workers, armed forces, food suppliers, and media workers to bolster their morale for the work done by them even at the cost of putting their lives at stake. #ThanksHealthHeroes is one of the hashtags commonly used on different social media platforms.
5. Curtail the time spent reading COVID-19-related news. Avoid minute by minute sensational updates on the rates of new infections/deaths, which will inevitably cause a sense of helplessness and vulnerability, leading to anxiety, fear, and panic. Instead read/listen to news only 2–3 times/day at fixed intervals for fixed duration as recommended by the WHO (15).
6. Authenticate the information regarding the disease. Any new or miraculous cure or suspicious news regarding COVID-19 should be first vetted through reliable platforms such as the WHO and respective national medical/health agencies, before irresponsibly sharing it on social media, causing misinformation and disruption in

preventive measures, for example, social distancing and cough etiquettes (WHO, coronavirus disease) (16).

WHO has further tried to make updated and reliable information more accessible by partnering with the popular social media platform 'WhatsApp' for the general public. Relevant, reliable, and practically handy information regarding the spread, prevention, protection, and travel can be obtained by simply sending a "hi" message to +41 79 475 22 09 (17). For the general public, Google has provided a dedicated public health resource: <https://www.google.com/covid19/>. When browsing through search engines on the internet, add site.org/gov/edu to the search words to get authentic information.

#### b) Quarantined

People who have been tested positive and are quarantined are already stressed because of the uncertainties regarding the course of disease, treatment options, long-term sequelae, and so on, which get amplified with the lack of clear information or misinformation.

##### 1. Clear and accurate information

People who are already in a vulnerable situation, such as quarantine facilities, often experience cognitive distortions with exaggeration of any minor symptom, leading to severe anxiety/panic. They should be regularly counselled by providing authentic, accurate, reliable, updated, and reassuring information.

##### 2. Stay connected with loved ones

Ensuring regular virtual contact with family members/loved ones using internet-based communication provides reassurance for the quarantined individual as well as the family members.

##### 3. Behavioural scheduling

Following a more or less fixed schedule of the routine activities, including dedicated time for physical activity, relaxation activities, breathing exercises, meditation, moderate aerobic exercise, nutritious diet, and 7–8 hours of sound sleep, should help alleviate anxiety.

##### 4. Minimise exposure to sensational claims over social media

Seek news updates only from reliable sources (18, 19).

#### c) Physicians

##### 1. Stay updated through credible sources

Physicians should stay updated yet not get overwhelmed by the volume of information uploaded every day to the existing literature and should follow clear direction from authentic international/national sources such as the WHO (20), Centers

for Disease Control and Prevention (21), Hopkins University of Medicine, Coronavirus Resource Center (22), the European Centre for Disease Prevention and Control, and in India, the Ministry of Health & Family Welfare (<https://www.mohfw.gov.in>), Government of India, and the Indian Council of Medical Research (23).

2. Physicians should regularly participate in evidence-based peer group discussions through webinars to acquaint themselves with local guidelines.

### 3. Disseminate education and thwart misconceptions

Physicians are in direct contact with the infected patients as well as close relatives and therefore should educate them about basic hygiene practices, such as social distancing, staying at home, repeated hand-washing, cough etiquette, and so on, and thus empower them to make the right decisions to protect the near and dear ones as well as the community at large. They should also dispel myths about magical cures and potentially harmful home remedies.

### 4. Monitor your own emotions and mental health

Physicians and healthcare workers can experience symptoms of anxiety, distress, and sleep disturbances while dealing with such a novel and highly infectious disease. However, if such symptoms persist or intensify, it warrants professional help.

### 5. Appreciate the ‘honour’ and ‘noble calling’ of your profession

It might become challenging at times to provide constant care for those in need. However, remembering the noble calling of the medical profession can keep us motivated and driven.

### 6. Tele-psychiatry services

In these testing times, it is worth investing in augmenting mental health resources and utilising them effectively in mitigating the psychological distress in the community as well as in the healthcare workers. A range of mental health services, including evaluation, therapy, patient education, and medication management, through teleconsult (audio, video, text, or email) or without exposing anyone to the risk of infection are available. With caution, on a case-to-case basis, a digitally signed e-prescription can be provided to patients who are stable on medicines (24).

### d) Administrative staff and policy makers

1. Country risk communication and community engagement (RCCE) preparedness and response RCCE is a critical public health intervention, which aids countries in communicating rapidly, regularly, and transparently with the population. All countries should prepare the existing public health communication networks, media, and community engagement staff to be ready for a possible case and for the appropriate response, if this happens (1).

2. Ensuring a people-centred response to COVID-19. An expanding group of global response organisations, such as the United Nations Children’s Fund and the International Federation of Red Cross and Red Crescent Societies, are coordinating efforts with the WHO to ensure that biomedical recommendations can be applied at the community level.

3. The role of traditional media (television, radio, newspaper, books) should be emphasised and strengthened by authorities because they have a key role in providing evidence-based information to the general public, which will then hopefully be picked up by social media (25).

## Conclusion

Executing the recommendations mentioned in this review should go a long way in controlling this damaging epidemic of misinformation and over-information.

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