



The COVID-19 Infodemic

Dhamija S¹, Chaudhury S^{1,*}, Pore S² and Diwan C²

¹Department of Psychiatry, Dr D Y Patil Medical College, Hospital and Research Centre, Dr D Y Patil University, Pimpri, Pune, India

²Karve Institute of Social Service, Pune, India

*Corresponding author: Dhamija S, Department of Psychiatry, Dr D Y Patil Medical College, Hospital and Research Centre, Dr D Y Patil University, Pimpri, Pune, India; E-mail: suprakashch@gmail.com

Abstract

With the spread of internet and social media a lot of information is available online. As a result people have got into the habit of depending on online information. The problem with online information is that it may not be reliable and may not be peer reviewed. As a result, there is also a lot of misinformation on the internet. The spread of misinformation during emergencies can have disastrous consequences.

Keywords: COVID 19 pandemic infodemic; Social media; Internet addiction

Introduction

December 2019 saw patients with a new form of pneumonia, largely of an unknown cause were linked to a wet food market in Wuhan province at China. This was indeed the start of a never before known virus - beta corona virus, SARS-CoV-2 virus which eventually gave rise to a pandemic that has now spread through the entire world. This pandemic drastically altered and disrupted normal life across the globe changing the entire social and economic functioning. Experts even compared it to the older pandemics like Spanish flu which occurred in 1918 in terms of impact and reach. This virus caused illness that has spread at a high pace while generating numerous fatalities in a scenario where any proven or researched treatments and vaccines were not even present. At the same time, there was a reported increase in mental health issues like anxiety, depression, insomnia among various groups and subgroups across the globe [1]. The way we communicate, in terms of quality and intensity bears a huge impact on psychological well-being and state of mind during such health-related emergencies. Even the WHO Director-General took to caution people about how there existed an “infodemic” of misinformation across the internet, over online mediums that had an impact on how the world and society received and responded to covid, it negatively impacted the perception towards the

outbreak of this novel virus. India had recorded its first case of COVID 19 on 30th January 2020. Cases after that have just increased in a steady manner and in significant numbers. Since the disease was found to be highly contagious, the only way to control and limit the spread included strict policies and actions. These included social distancing, self-isolation, public places and institutions were shut down, mobility was restricted and it also led to a drastic measure of imposing a country wide lockdown beginning from 25 March 2020 in India [2]. It was not highly expected that this virus, not known to anyone could even generate such a large scale of disease outbreak that could lead the world into a lockout beginning from Wuhan province of China, where the lockdown was for 76 days and to imagine it would turn into a global health crisis infecting millions was a far-fetched thought [3]. Infodemiology basically refers to the science of distribution and determinants of information on an electronic medium like the internet, it helps to have an aim to provide information on public health and to even formulate public policies. This includes supply and demand-based information and the demand based information is used to assess the health seeking behavior among individuals, these studies focus on chronic and infectious diseases and also on risk taking behaviors. The data used in search queries can also be used to either predict or even monitor outbreaks, this was also

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seen during the SARS epidemic in 2002 [4]. Previous studies on media use during past outbreaks which included H1N1 and SARS can be used as important comparisons to guide the understanding of media [5]. In comparison to the previous outbreaks seen across the globe, media access and availability of various media platforms has increased during the COVID pandemic, this makes it even more important to understand how individuals are getting their information and the way it affects them directly or indirectly. Media campaigns can produce positive changes in health-related behaviours across large populations in the world, however excessive use, both in duration of consumption and number has been linked to mental health problems. As more people begin to rely on social media to find and share information related to health, social media usage turns into a welcome relief from a health disaster like the COVID-19 pandemic. We can say that the easy access to health information on social media has empowered the public to become more active in finding out health risks and managing their health concerns. Social media users generate as well as share timely and locally situated health information in response to public health crisis. At the same time as a downside of it, governments and health officials have been forced to actively adopt use of social media to contain harm caused by health crisis, for example, the 2001 anthrax attack in U.S. cities, and the 2015 measles outbreak in California. Studies about it in the beginning had largely focused on the channel selection by the viewers and had found that people were more likely to rely on traditional media for accessing health information in both crisis and routine contexts, as people preferred newspapers or magazines over radio and television. Later on, it was found that the public turned to use social media and mobile phones more than traditional media for accessing health related information. One of the greatest scientific challenges found in analysing the mental health toll caused by COVID-19 lies in making invisible emotional trauma visible, finding out the socio- technical factors involved in it. There is a model called the CERC model which assumes that public crisis, such as infectious disease outbreaks, natural disasters, or bioterrorism attacks, normally develop in five stages.

These stages involve: 1) pre-crisis; 2) initial event; 3) maintenance; 4) resolution; to 5) evaluation.

This model was initially proposed as a well formulated framework for public health professionals to communicate with the public in a crisis situation this model can be applied to analysing the manner in which the general public obtained and communicated news about matters regarding their health on social media during the COVID-19 pandemic. The can helps analyse their strategies in combating stress and threat of potential risk to health as well.

Though information processing in itself can become a double-edged sword in a public health crisis. While information about the

global health crisis helps relieve stress, information seeking itself can it generate doubt by providing excessive options for access or by blurring the distinction between these options themselves. One of the major benefits for using social media for gaining information about health related crisis is that the content may give social support to people, especially those who have certain health concerns or medical conditions. Social support is what makes people valued and cared for by their community and peers. This support also helps them have an aid in health related decision making. Informational support from social media has been linked to offering higher self-esteem and sometimes even positive mental health outcomes. It seemed to have been found that it also helps in helping with coping mechanisms and in decreasing perceived threats. Some benefit seems to be there in terms of emotional support provided through social media in times of crisis, be it in the form of trust or empathy and often encouragement. This usually is from the other users in similar groups on social media. This shows that overall, peer support complements communication needs for retaining social connection and reduces social isolation, which is necessary for managing mental health disorders like depression or secondary trauma. Due to the threat of COVID, people may use social media more for seeking health information and staying connected with others. It helps assess the full scope of the impact of the pandemic and not just communicating with others in the same situation. This assists in aiding prevention by understanding preventive measure for the disease through media usage. It can promote healthy changes like a sense of disease prevention, behaviour changes related to physical and mental health, encourage the use of wearing masks, using sanitizers, washing hands etc. With the pros there come the cons as well, social media is assisting in several things but it also is a hub of fake news which is now becoming an issue throughout the world. It isn't new to have fake news but since in this era and age social media is extremely popular ideas can get shared freely without any policing or check. Due to this social media users inadvertently may be promote or propagate material carrying untrue bit of information and since everything is not fact checked, individual people can post unchecked content which can lead to fake news spreading rapidly and misinformation being propagated. Social media is a popular and influential medium that can spread large amount of unfiltered content and that can eventually lead to influencing the opinions and perceptions of reality of masses through such content and people assume it to be true or legitimate. This sharing has become uncontrolled and unchecked in this digital world. It is extremely concerning in the recent months that even a pandemic like COVID 19 is not free from such false news scams or agendas. A lot of fake news and rumours circulate about this disease and it is extremely difficult to distinguish the legitimate content from the fake one, it became so rampant that the governments across the

world have urged citizens to confirm the authenticity of this information [6]. There is definitely a view that false content concerning COVID-19 has become more pronounced in social media. It has also been observed that many people now seek information online that they perceive to be helpful, this leads to generation of news which is not true and its consumption and sharing further without checking the authenticity. Since the onset of this outbreak, there has been fake news that suggests preventive cures and tips on how to cope with the virus. It was also found that there was some fake news about fake information related to random home remedies on the pandemic which has made many to believe that they could get cured using salty water, drinking bleach, and eating oregano. Many people also started believing that the Chinese government had created the virus. This fake news proliferation not only create bias towards one race and generated hate but also put the health of people at risk as well as shook the efforts of government in implementing preventive measures. A few studies have observed that the more people make use of social media to obtain information regarding the pandemic, the more risk perception is there regarding the virus. According to a few theories about dependence on media, during a severe social disruption, there is an unusually high need for information by the distressed population where the mass media are usually perceived to best satisfy these needs specifically, the public relied heavily on the media to obtain information regarding COVID pandemic, the guidelines, and also regarding exchange of views with other people at far off places as well. One of the many reasons why people usually need more information during such events that generate crisis so far spread is to reduce the anxiety caused by uncertainty in the crisis causing event [7].

Internet addiction (IA)

An addictive behaviour, according to Griffiths, is characterized by six core components of: salience, mood modification, tolerance, withdrawal symptoms, conflict, and relapse. Any behaviour that fulfils these six criteria is considered as an addiction, including social networking [8]. IA (IA disorder, Internet dependence, pathological Internet use, problematic Internet use, compulsive Internet use and unregulated Internet use) is an increasingly prevalent phenomenon which affects not only an individual's social but also psychological life [9]. Based on the cognitive-behavioural model of IA, it has been suggested that individuals with psychiatric problems may favour online interaction over face-to-face communication as it is easier to offset their social skill deficiencies [10,11]. Some people use the net to cope with negative feelings such as anxiety, depression, or loneliness or to escape mental problems [12,13]. If Internet use provides respite from the problems of stress, anxiety depression, or loneliness, the individual may become dependent [14]. A study of 209 university students in Turkey revealed that students who spend longer on the

web and social media, who are male, and who use Internet for communication are more likely to obtain higher IA scores. The PsyCap (resilience, hope, optimism, and self-efficacy) of Internet-addicted students, particularly resilience and self-efficacy, were significantly less than not-Internet-addicted students. Other studies have reported that IA is related to depression, loneliness and shyness, lower self-esteem and lower satisfaction with life [15-17]. Users dependent on the web cannot quit several aspects of online use. He proposed three subtypes of internet addicts, on the basis of the "object" of the dependence: on-line games, sex, and e-mail or text messages [18,19]. Social networks are a web activity during which texting or e-mailing are predominant, in spite of getting used for game playing and even sex-related purposes. In addition to IA few other digital media addictions like Social Network Site (SNS) addiction, Facebook (FB) addiction have been proposed. SNSs Addiction Disorder, is defined on the basis of the six addiction criteria: Neglect of personal life; mental preoccupation; Escapism (an entertainment that permits people to temporarily overlook the actual problems of life); Mood altering experiences; Tolerance and Hiding the addictive behaviour [20]. The Interaction of Person-Affect-Cognition-Execution (I-PACE) Model proposes the interaction of personal (P), affective (A), cognitive (C), and executive (E) variables in the emergence of a specific Internet Use Disorder. One of the P factors implicated in the model is personality which may create a vulnerability or resilience to the development of a specific Internet Use Disorder [21]. A cross-national meta-analysis of personality factors and SNS addiction revealed that FB Use Disorder was positively associated with neuroticism and negatively with conscientiousness [22]. Similar findings have been reported for problematic Internet use, and problematic smartphone use [23,24].

Conclusion

Social media possesses the potential to bridge the problems resulting from the restrictions regarding the face-to-face or in person contact. In these times social media platforms like Facebook, Twitter, and Instagram can be essential ways to share opinions, personal experiences, moments of happiness, worries or fears for the people across the globe about the dramatic increase of COVID-19-related terms and several million mentions on various public platforms. These positive aspects might be just one side of the coin. The excessive use of media may also carry a certain risk for the mental health status due to elevated stress levels, particularly when a critical mass of majorly negative news or unfiltered information reaches the public [25]. As media is important and relevant to the information processing during pandemic time, it can also generate anxiety, stress and other mental health issues by itself like internet addiction. A precarious balance is imperative to solve this dilemma.

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