

COMMENTARY

COVID -19- Infodemic overtaking Pandemic? Time to disseminate facts over fear**Praveen Kulkarni¹, Sudhir Prabhu², Sunil Kumar D³, Balaji Ramraj⁴,**

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Abstract

Coronavirus (COVID-19) is a humanitarian emergency. World Health Organization (WHO) and National Governments are making their best efforts to prevent the spread of disease. But a global epidemic of misinformation which is rapidly spreading through social media platforms and other outlets is posing serious problem to the public health interventions. This rapid spread of all sorts of information pertaining to the epidemic which makes its solution difficult is termed as infodemic. Infodemic creates fear, confusion and stigmatization among people and makes them more vulnerable to practice the measures which are not evidence based and scientifically sound. Hence there is an urgent need to identify the source of misinformation and prevent them from further spreading. WHO and the government of India have taken several steps in controlling this problem but there is a need for active involvement of social media companies, professional bodies, health care providers and general public in identification of misinformation and combating its spread.

Keywords

COVID -19; Infodemic; Pandemic

In the last week of December 2019, China reported unusual increase in the number of pneumonia cases in Wuhan province of china and neighboring areas.(1) The novel SARS-Corona virus was isolated from these patients and the organism was named as COVID-19.(2) Considering the alarming spread of infection, severity of disease and inaction exhibited by various countries, in combating the condition, COVID-19 was declared as Pandemic on 11th March 2020.(3)

First confirmed case of COVID-19 in India was reported on 30th January 2020 at Kerala in one of the

medical student who returned from Wuhan province of China.(4) Subsequently the disease has spread to almost entire country with the shift in the pandemic phase from stage 2 to stage 3. Government of India declared complete lock down from 25th of March 2020 as a firm step to prevent the community spread of infection and flatten the epidemic curve.

The current pandemic has posed serious challenge to the public health professionals due to rapid spread of both virus and misinformation related to it (Infodemic). The present paper discusses the

concept, causes, consequences and prevention of infodemic related to COVID-19.

The concept of Infodemic

Every epidemic is associated with a tsunami of information but also within this information there exists ample expanse of misinformation and rumors. Even the epidemics which took place in middle age had similar phenomenon, but the difference in present pandemic is the presence of social media.(5) Social media platforms, if used judiciously can act as a very important source of information. Their popularity, wider use, user friendliness, visual impact, interactivity can make any message spread to 'N' number of people in a very short span of time. Hyperactive and overenthusiastic social media platforms can potentially amplify the information leading to faster and further spread of misinformation, rumors, and misconceptions. WHO defines infodemic as a rapid spread of all kinds of information concerning a problem such that the solution is made more difficult.(6) COVID-19 seems to be a true social media infodemic compared to previous viral outbreaks. Though the previous pandemics like SARS and MERS caused worldwide panic, the current pandemic due to CoV 19 have been particularly exaggerated by social media.(7)

U.N. Secretary-General Antonio Guterres expressed his deeper concern on this issue and said that "the world is not only fighting the "common enemy" of the coronavirus "but our enemy is also the growing surge of misinformation" about COVID-19 disease. To overcome the virus, "we need to urgently promote facts and science" and "promote hope and solidarity over despair and division."(8)

Root causes of COVID Infodemic- Fish bone

We have tried to explain the root cause analysis of COVID-19 through fish bone diagram ([Figure-1](#)). The root or the tail is represented by the social media related components, the body represents four broad areas around which most of the misinformation revolves and the tip is represented by the outcome viz. Infodemic and the consequences associated with it.

1. Social media usage and spread of misinformation

There is exponential growth of internet users in both rural and urban parts of India over the last decade. With the introduction of much ambitious Digital India Initiative added by wider internet penetration has resulted in growth of digital population in India to the extent of 688 million as on January 2020. It is worthy to note that major proportion of this digital

population is constituted by mobile internet users. Social media users in India have increased from 142.2 in 2015 to 376.1 million in 2020.(9) Social media platforms like, facebook, whatsapp, youtube, twitter, instagram, telegram, TikTok are quite active in spreading both information and misinformation on the current pandemic.

Any message in the form of a text or a video that is rolled out through these media platforms will reach large number of people in a very short span of time and gets viral. Misinformation that flows through these media may be a totally wrong information, partially right information or correct information which is projected in a wrong way. People spread this kind of information to impose their own bias/thoughts on the people, to gain publicity, to promote their self-interest or ignorance of right information. The last set of people may be of intension to help society but they cannot filter the right and wrong information due to their lack of knowledge. There are some instances where the wrong messages are falsely tagged with names of professional and international health related organizations in order to make people believe those messages.(10)

2. Epidemiology related aspects

Novel nature of the COVID-19 virus has attracted the attention of social media. The domains like structure, infectivity, pathogenicity, mutation, effect of temperature and humidity on the multiplication and spread of virus has given major scope for spread of information and misinformation. Non availability of specific treatment and vaccine for the prevention of infection has also added to this pool.

3. Policy related aspects

As the disease is a novel one, the entire country is in the process of developing new policies and guidelines. Differences in the content of guidelines, serial evolution of policies, each state or province designing their own policies and strategies have influenced the development of misinformation

4. Behavioral issues

Indians are voracious social media users. The lockdown announced by the government and work from home have resulted in extensive use of the social media platforms. People indulge in spreading the information and misinformation received through the social media without fact check. Often, they pick the most extreme pictures which totally manipulate the scenario and make it viral to gain publicity. Noncompliance towards cyber related

rules, ignorance about correct information and ability to differentiate between the sources of right and wrong information can act as a major factor influencing spread of misinformation.

5. Health care system related issues

Delayed and inadequate risk communication by the health care providers was a major drawback which has resulted in spread of misinformation. Hospital based care being given more focus at initial phase of epidemic giving rise to panic on PPEs and ventilators have further raked up the chances of spread of misinformation. Inadequate knowledge on the concept of quarantine, its difference with isolation, lack of quarantine facilities have further fueled this risk

Misinformation on COVID-19

Since the beginning of COVID-19 pandemic, the spread of misinformation has become rampant. The messages carrying misinformation are usually tailored on the prevalent socio-cultural norms of the community in which they are rolled out. For example consumption of garlic, cow's urine (Gou mutra), turmeric powder are common culturally accepted practices in India, which are also reflected in messages related to COVID-19. Looking at the trend of misinformation in social media platforms, they can be categorized as those related to, ([Table 1](#))

Apart from the ones mentioned in the table, many non-health related misinformation pertaining to duration of lockdown period, economic slowdown, non-availability of essential commodities in the market, military being called to control the situation, exhaustion of food and agricultural products in the country etc are flowing in full swing across the media.

Consequences of infodemic

Infodemic causes fear, panic and confusion among general population. It influences people to indulge in practices which have no role in prevention of infection and its spread. Eventually people loose trust on the health care delivery system and evidence based interventions. Reinforcement of wrong information through social media will lead to mental health problems like anxiety, stress and depression among people. Rampant spread of wrong information will force the health care workers to shift their attention from prevention of infection to prevention of spread of this information. Practicing wrong things will provide a sense of security among people, which may adversely affect the response to preventive interventions.(10)

Steps taken to prevent the spread of misinformation

Brainard and Hunter through their agent based model for prediction of spread of infectious diseases based on human behavior found that that by reducing the amount of harmful advice circulating online by just 10% or making at least 20% of the population unable to share fake advice, reduced the severity of disease outbreak. Thus we need to take active steps in preventing the spread of misinformation through social media.(11)

World Health Organization has taken a step to publish mythbusters in their website and disseminated them through information leaflets across the world.(12) It has also made a positive attempt in convincing the social media companies in keeping a check on the correctness of the messages being circulated through their platforms. Government of India has also advised the states to undertake necessary steps to curb this menace. Government of Karnataka, by exercising its powers under Epidemic Diseases Act 1897 released 'The Karnataka Epidemic Diseases, COVID-19 Regulations, 2020'. While these regulations largely deal with the obligations of hospitals and laboratories, they also stipulate that no person, institute or organization should use any print or electronic media for spreading mis-information regarding the Coronavirus. Employers are strongly advised to make sure that their employees do not, deliberately or otherwise, engage in any conduct which may be construed as spreading mis-information about the Coronavirus.(13) Messages are being circulated in social media as legal actions will be taken on the people who are involved in spread such information [Using Infodemic to control Infodemic].

What else needs to be done?

The government should ensure people receive updates only from credible sources which include scientists and researchers in the field of infectious diseases, community medicine, microbiology and emergency medicine etc. Announcements from the WHO, Centres for Disease Control USA and the Indian Council of Medical Research should receive paramount importance. Any information that comes out through any media houses or social media platforms should compulsorily cite the primary source.

Apart from regulatory approach, there is a need to adapt stringent fact checking mechanism by the social media companies. They have to actively screen

all the messages that pass through their channels and block the ones which are not based on scientific evidence. It is a responsibility of people also not to blindly send the forwarded messages without checking for their correctness. Behaviour Change Communication shall be emphasized through the social media. The government and health care providers should implement trust based, bi-directional risk communication (RC) strategies. An appropriately designed and efficiently implemented RC can bridge the gap between what experts think people to know, what actually people want to know and what they already know.

Summary

Infodemic is one of the several challenges posed by COVID-19. In the era of digital revolution it is extremely important to understand the source, spread and impact of misinformation that spreads through the social media. Misinformation not only creates confusion and panic among people but also makes control of pandemic a different task. Thus it is important to differentiate between right and wrong information to prevent these consequences. There is a need to have a structured strategy to combat this menace through regulatory and behavior change communication strategies. Evidence based, bidirectional risk communication can find a help in achieving better control.

Authors Contribution

All authors have contributed equally.

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Tables

TABLE 1 CLASSIFICATION OF MISINFORMATION RELATED TO COVID 19

Transmission	Effect of weather conditions	Prevention	Treatment and cure	Miscellaneous
Consumption of meat	Indian summer can be protective	Consumption of garlic, turmeric powder, cow's urine and application of mustard oil to nose	There is no cure for COVID-19	God or spiritual powers will protect
Mosquito bites	Cold weather and snowfall can prevent multiplication of virus	Consumption of alcohol	Once affected with COVID, the person remains infected for life	COVID-19 is a biological warfare
Handling the news papers		Regular rinsing of nose with saline	If infected with COVID death is certain	Virus is killed when it comes in contact with lamps (Deepam)
		Taking hot water bath	Antibiotics can protect against COVID	Government is hiding the number of cases and showing us less in the media
		Taking vaccines against pneumonia and can prevent COVID	Holding the breath or cough for 10 seconds can cure COVID infection	
		Spraying alcohol and chlorine all over the body		
		Tying neem leaves and placing turmeric outside the house		

Figures

FIGURE 1 FISH BONE DIAGRAM FOR ROOT CAUSE ANALYSIS OF COVID -19 INFODEMIC

