ABSTRACT

**Background:** COVID-19 pandemic has grappled the world in the last two years. No concrete solution is available yet, but the news about the last stage approval of several vaccine candidates is promising.

**Summary:** Infodemic, as United Nations term it, is creating menace all across the globe. Usually not noticed, it has serious repercussions if not detected and left untreated. Cooperation across the spectrum of both citizens and law enforcement agencies are needed to stop this spread. As various laws are already in place, enforcing those is a serious challenge as tracing digital footprints can sometimes be difficult.

**Conclusion:** More analysis on how these messages and fake news are getting transmitted should be done. A counter campaign against Infodemic may be another option after practicing digital hygiene.

**Keywords:** COVID-19; pandemic; infodemic; fake news; social media; digital hygiene.
1. INTRODUCTION

No other event was capable of disrupting every aspect of human life as COVID-19. The high virulent nature and capacity of producing lethal clinical outcomes are quite concerning [1]. As of January 17, 2021, 94,597,012 people are infected with COVID-19 across more than 200 regions worldwide, and 2,024,110 are the case fatality numbers attached to complications created due to COVID-19 [2]. These figures are enough to prove the lethal nature and nuisance value of the pandemic. The whole world was at a standstill, and the people had experienced multispectral adverse impact which needs to assess. On March 11, 2020, World Health Organization (WHO) was compelled to declare it as a pandemic [3], the first such declaration since its inception. The Unites States of America, India, Brazil, the Russian Federation, France, and the United Kingdom are the top countries accounting for more than half of the world’s case infection numbers and case fatalities [4]. New mutated strain reported from the United Kingdom and South Africa has created fear and prompted imposition of lockdown and physical distancing [5].

Along with the COVID-19 pandemic, a stark and exponential increase was observed in the circulation of messages believed to be true without cross-checking. This had created a huge menace, and the United Nations was compelled to recognize it as Infodemic [6]. This was necessary to kick start some initial measures. Unauthorized recommendation of medications, cyber frauds, fake solutions on COVID-19 etc. are some of the examples of COVID-19. To counter it, there is an only feasible option available at the current stage, and that is digital hygiene. Restricting self from transmitting or forwarding and doubtful or messages filled with hate will serve the best result. Governments are also taking steps, and are present on various social media handles to demystify some common myths. Such issues related to the Infodemic are comprehensively overviewed in this article to arrive at a meaningful conclusion.

2. INFODEMIC AND COVID-19

COVID-19 caused by novel coronavirus or SARS-COV-2 is not the first pandemic in human civilizational history. Many pandemics had happened and gone away after some time. The last pandemic that caused such widespread destruction was Spanish flu, which occurred between 1918 and 1920. The peculiar point about the COVID-19 pandemic is that it is the first pandemic after the advent of the digital revolution [7]. Digital revolution is a vast term and includes the evolution of mobile phones to smartphones, upgrade in internet connection and high-speed broadband connectivity, and other associated accessories evolution. These substances are now widely available and abundant in almost all regions of the world. Access to technology and the internet is extremely easy, and the benefits and work done through it are huge. Therefore, a lot of work can be done through the internet, and mobile telephony and governments itself shifted a considerable number of procedures and due processes on internet enabled mobile phones or laptops. Therefore, one can easily access any information which is not prohibited to be shown, seek more information, can find status of their various application to the governments regarding any schemes and many more things can be done.

The digital governance model is gaining ground as it is more accessible, less complicated, and more democratized, and people need not travel hundreds of kilometers to seek a page or two. Only by one click, he or she can see any legit information. In addition, news and daily updates are there on the internet and one can easily see what is happening around the world and that too on the go.. In this pandemic, this digital evolution has been benefitting in many ways. From contact tracing to conveying information, many things are being done to constantly communicate with people looking for government directions [8]. Also, in lockdown induced by the pandemic of the COVID-19, technology has kept us connected with our loved ones. It created a virtual world where all are near us, and we can see them in no time only due to the advent of technology.

As there are good factors attached to it, there are other bad aspects that are haunting and creating a major obstacle in the containment process of the pandemic of COVID-19. After the arrival of the COVID-19, the tsunami of misinformation also came along and creating menace. This was so huge that World Health Organization (WHO) has declared that along with COVID-19, there is an Infodemic brewing and taking huge form. Infodemic is basically a transmission of false or half or quasi-information, deliberately or unknowingly, which can create the disorder in
any structure. The lockdown was announced quickly after WHO accepted the virus’s human-to-human transmission nature and declared it as a pandemic. It LEFT PEOPLE at their residences as movement restrictions was imposed somas to curb the spread of the lethal virus. During the initial outbreak in Wuhan city of the Hubei province of China, their authorities had applied the lockdown and somewhat this coercive measure was found to be effective in lowering the daily case infection number of the extremely high virulent virus. This was picked up as a mitigation measure by many countries as the novelty of the virus, and no available history was available. Also, no other measure was feasible and quick action was needed otherwise, cases would spiral out of control. The lockdown made people home confined, and people were left with less things to do than before. Naturally they were spending their huge amount of additional time on internet-connected mobile phones. The lack of information and uncertainty attached to the virus and initial shock of it made people seek more information on the internet. From its symptoms to its cure all things were being searched on the internet. But all things on the internet and social media sites are not true and needs authentication from the competent authority especially in the crucial times such as the COVID-19 pandemic [9].

This technology which was proving boon in many other ways has been proving as bane in pandemic due to capacity of jeopardizing the mitigation measures and creating social unrest during calamity time. Infodemic is basically attached to an overabundance of misinformation or not authenticated information. Some anti-social elements, with their due causes or just for creating social disruption, distribute and disseminate fake news, and misinformation all across the internet. Now it is easy than ever before to convey any message, whether true or false, with the help of the internet and social media networks. Hundreds of thousands of people can be fed with any information at one click. Therefore, it is necessary to use such powerful tool carefully. This disinformation can sometimes create stigmatization of particular things and people, create disharmony, harm mental and physical health of many people, and adversely affect the mitigation measures during the pandemic times. Due to such menace, many previous gains can wash away with one click therefore, it is important to take it seriously. Propagating unnecessary hate towards certain community, stigmatizing doctors and other health care professionals are one of the worst outcomes of the disinformation campaign. Defiance of rules and guidelines can insinuate through these messages and containment can become much more difficult. Law enforcement agencies are already busy in doing their current job and if another such responsibility is given to them, they will be over burdened with it and neither the containment of the COVID-19 pandemic and nor the curbing of Infodemic will be possible. Some heinous acts were perpetrated under the guise of fake news especially on health care professionals in the initial days of the pandemic. DOCTOR’S were attacked and nurses and other allied health care professionals were either forced to evict from their residences or denied entry at first place. The front-line workers which were working and are still working day and night were given such treatment only because certain message about misinformation was circulating around the social media networks. This was totally unacceptable as they are the savior of humanity in such difficult times and giving them such treatment was highly unjustifiable. In fact, many doctors and health care workers along with other associated workers employed in the containment duty of the COVID-19 pandemic had laid their lives due to COVID-19 related complications. International Nurses Council itself declared that COVID-19 has taken more lives of nurses during containment of COVID-19 duty than in First World War [10]. This was sheer demoralization and demeaning to the hardworking and dedicated front line workers who were working round the clock.

3. COMMON MYTHS RELATED TO COVID-19

Various myths and fake messages are sometimes circulated deliberately, and they do rounds and rounds of the internet, creating confusion and sometimes nuisance among the readers. These messages need to be demystified as quickly as possible as their reach covers millions of people. Also, they spread faster than wildfire. Therefore it is important to create a counter misinformation campaign to contain this spread. Various common myths are scared across the world and cross the artificial borders easily to misguide people easily. In the initial days, there was a belief that eating garlic and lemon can totally prevent the COVID-19 infection and these stuffs were so scarce that black marketing of these stuffs was started. The fact that tills the vaccine rollout takes place fully, there is no certified cure till date and this
message was false. There was no evidence attached to the message and there is not any on record as clarified by many scientists and doctors. Another message that was doing rounds was that taking hot bath will prevent us from the infection of COVID-19. Needless to say, it was fake message, and there is no connection between hot water and the susceptibility of a person to the viral infection. Instead, it can be harmful as hot water above certain degree can burn the skin of the person. COVID-19 cannot transmit in hot a humid climate is another related and widely believed myth was circulating during initial days but as the summer in various countries proved this fact wrong. Inhaling alcohol or disinfectant or drinking alcohol can easily prevent the COVID-19 infection was popularized by many addicts by there was no such evidence validating the facts [11]. Instead, consumption of alcohol is injurious to health and can weaken the immune system creating invitation for the COVID-19 infection. In fact, the severe clinical outcomes are observed in comorbid patients which also contains alcohol induced chronic health problems. Transmission of COVID-19 infection through mosquito bites and through dessert coolers were almost believed and people spend their summers without these things and were in constant fear of contracting the diseases. This myth was definitely not true and later busted. Young people are secure from COVID-19 and old aged people only getting contracted with the infection was later found to be untrue and on the contrary more and more younger people developed infection as they are the working age population of the world although chances of developing severe clinical outcomes are comparatively less among this age group. Consumption of tea was on peak in pandemic as several claims on social media were being made that tea cures and prevents the COVID-19. Demand was increased for tea and black marketing was started for the same. No concrete evidence was given for the tea consumption and it was not found to be linked with lower chance of COVID-19 infection. Various testimonials of fake patients that got discharged from the treatment of the COVID-19 about the course of treatment and how it can be treated at home itself. Fake names of doctors were attached from some anonymous hospitals to make it look like a legitimate message. Even some literate peoples were seen falling prey to such messages and obeyed what was written in the message. Some messages bearing claims of finding the cure of COVID-19 infection got huge number of shares and conmen cashed in such opportunity. World experienced unprecedented amount of loss of wealth as well as livelihood. Some anti-social elements then created fake messages about online employment and work from home ads to lure people and then exploited hefty amount of sum from them. Fake messages about donations to various charitable trusts were circulating and people for cause of humanity, gave in huge amounts of donation but it was totally used for personal gains [12].

4. PRACTICING DIGITAL HYGIENE

As the COVID-19 is progressing, one thing is established and that is about its high contagious nature. The human-to-human transmission is proving lethal to some vulnerable groups. Also, the virus can stay on various surfaces and therefore we have to practice hand hygiene and keep ourselves and our surroundings hygienic. This will not only help in containing the pandemic but will also prove to be successful in warding off other preventable diseases. Likewise, we have to practice digital hygiene or information sharing restrain. As we know, alongside the COVID-19 pandemic, there is an ongoing Infodemic that is not taking breaks. It is a grave concern as the nuisance ability of the Infodemic should not be miscalculated. One clicks and messages are sent from one corner to another corner of the world. Therefore we must be cautious about what we are typing or sharing [13]. Digital hygiene or information sharing restrain consist of widespread safe and best practices to be followed while doing work on internet and mobile phones. We already took stalk about the nuisance making ability of the technology and how it can be serious especially in the times of pandemic and natural calamity. One hoax and people and social harmony can disrupt, difficult to handle. Sharing any message cautiously would serve us all the benefits plus it won’t harm anybody. Verifying the message before sharing it with anybody would work as best digital vaccine to ward of Infodemic. Authenticate information are disseminated by the governments through various sources and they need to use to check from time to time whether the message which one is going to share is true or not. Further messages containing obscene and objectionable content which will certainly creates disruptions in social structures must not be propagated [14]. Hate messages and videos are the menace creating messages and should strictly not be shared with anyone and if received must be deleted. Various statutes and laws are in place to contain any such coordinated Infodemic and one must know that there is certain justified restriction.
on their usage of the social media networks and internet which is there for the best of the society. Various fact checking and myth busting websites are running across internet and they can be approached so that fake message can be exposed and let people know that the messages they were assuming is not true. Messages about treatment and sure shot solution of the COVID-19 and messages promoting tantric activities and quackery should not be shared as it can cause serious medical complications if a person directly take medications on unverified messages [15]. Another medical catastrophe can be averted by simply not sharing any doubtful messages. Governmental agencies and health care authorities needs to designate some nodal officer which will regularly communicate with media and masses and busts some popular myths. As the expanse of the Infodemic is so huge that fighting from then top would not serve the best results therefore decentralization of the power must be done. Sharing the infected patients contact details and residential information must be prohibited as this can create stigma around the person [16]. As the vaccine is approaching and the first phase of the vaccine delivery has been started in various countries, vaccine hesitancy attached to different myths and hoax should be avoided. Thinking before sharing method would work and will save money and persons concerned. Also syndicates and organized crime networks are conning people on the internet. Various lucrative financial offers are being made to con people with their money. Lot of people fall prey in these digital booby traps as already there is widespread loss of jobs and livelihood and it easy to catch prey through digital medium as there is less risk is attached. Therefore, one must understand that if it is too bright then it is definitely not a gold or avoid too good to be true offers. Think twice before any link as many malicious software’s are automatically downloaded from such uniform resource locators (URL). Phishing attacks and cyber frauds are difficult to detect and can be operated from overseas where the victims jurisdiction have not any rights of proceedings [17]. A number of authors have reported studies on myths and misconceptions about COVID-19 [18-20]. Toshida et. al. reported about rumors and facts in media about COVID-19 [21]. Gaidhane et. al. on effect of electronic media on diet, exercise, and sexual activity among adolescents [22]. Issues on anxiety and depression in Covid lockdown were addressed by Gaidhane S. et. al. [23-26].

5. CONCLUSION

With the COVID-19 viral pandemic came the menace of misinformation also known as Infodemic. The nuisance value of the Infodemic is at par with the COVID-19 pandemic and fight against both is needed on same war footing. A mission mode approach is needed to contain the viral spread of both pandemic and Infodemic. The speed of the Infodemic is tremendous and counter measure to contain it needs same vigor. Demystifying the myth as soon as possible will serve the benefit and it needs multi spectral cooperation. Non-governmental agencies, civil society members and students who are well versed about the usage of the technology can be taken aboard so that this menace can be tackled from within. Promotion of digital hygiene and restrain while sharing some doubtful messages best options available. This can easily control the spread of fake news and messages. Authenticated message must bear some contact so that one could cross check the message or website through which one can assume that this message is true. After all we cannot afford to divert the resources that are already scarce in containing Infodemic. Constant and regular communication from competent and empowered authority to people must be there to resolve various common doubts attached to the COVID-19. As lack of communication creates confusion therefore it is the best available option.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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