When Infodemic Overtakes Covid-19 in Spreading Far and Wide

Dr. Priyanka Sharma[1], Dr. Manjiri Raje[2], Dr. Suyog Savant[3] and Dr. Renuka Savant[4]

[1]Dental Surgeon, Dept. of Public Health Dentistry. Bharati Vidyapeeth Dental College and Hospital, Navi Mumbai

[2]Dental Surgeon, Dept. of Public Health Dentistry. Bharati Vidyapeeth Dental College and Hospital, Navi Mumbai

[3]Associate Professor and Head. Dept. of Public Health Dentistry. Bharati Vidyapeeth Dental College and Hospital, Navi Mumbai

[4]Assistant Professor- MMS, Deccan Education Society's Navinchandra Mehta Institute of Technology and Development (NMITD), DES Mumbai Campus, Dadar(W), Mumbai

ABSTRACT

December 2019, the year when a new virus outbreak was seen, it spread so rapidly that it was declared as a Pandemic by WHO on 11th March 2020. During this time along with the Pandemic, infodemics became a major concern too. Misinformation related to COVID-19 created a lot of confusion amongst the general public, which affected their day-to-day routines. This didn't spare the medical professionals either, the rapid flow and changes in information caused a great amount of confusion amongst them too. Healthcare providers in fear of infection with this virus had to stop their opd, clinics. People were afraid to step out of their homes even when suffering from very serious health issues. Social Media Platforms like WhatsApp, Twitter, YouTube, Tik Tok, Instagram, etc. were seen spreading fake news related to Coronavirus intentionally or unintentionally. Even the mass media didn't surprise us by being a part of spreading infodemics related to COVID-19. Hence, in this situation, the government should take an initiative in clarifying common people's confusion. And there should be a single platform where both the healthcare providers and the general public could gain knowledge related to COVID-19, thus limiting confusion amongst them.

Keywords: Coronavirus, COVID-19, SARS-CoV2, Pandemic, infodemics, misinformation, fake news, social media, fear.

INTRODUCTION

Gunther Eysenbach in 2002 first discussed the concept of "Infodemiology". Infodemic is an excessive amount of unfiltered information concerning a problem such that the solution is made more difficult. [1]

Pandemics like COVID-19 create feelings of uncertainty and fear and thus people become more intent to gather as much information as they can about the disease and its effects and while doing so are exposed to increased quantities of Misinformation. This can significantly affect people's memories, thoughts, and actions.[1]

Tedros Adhanom Ghebreyesus, WHO's director-general, at the 2020 Munich Security Conference said "We're not just fighting a pandemic; we're fighting an infodemic." WHO convened international experts from diverse scientific and political backgrounds on June 29 and formally began the conversation on the global effects and management of infodemics with its 1st Infodemiology Conference. [2]

In the age of social media, Misinformation, Conspiracy Theories, and Fake news have become prevalent and have sky-rocketed since the beginning of the COVID-19 pandemic. This has given rise to a situation that is extremely concerning as it has the potential to undermine people's trust in health institutions and programmes. In times of uncertainty and anxiety, people tend to believe in conspiracy theories, as these theories revolve around core emotions and values and hijack the mental cues that we use to decide whether the source is legitimate and thus trustworthy. The most pervasive and damaging of conspiracy theories incorporate grains of truth. Misinformation dilutes the pool of legitimate

information. But who benefits from this misinformation? Claire Wardle, co-founder and director of First Draft identifies three aspects: financial gain, political gain, and experimental manipulation. [2]

The anti-vaccination industry is a notable example of the first: The Wellness and Nutritional Supplement companies are major supporters of Anti-vaccination campaigns and directly profit from such campaigns; as shown by a report from the Centre for Countering Digital Hate. Worse, Social Media Giants deliberately retain anti-vaccination content as it reaches up to 58 million online followers, creating a cumulative advertising revenue of US$1 billion. Unfortunately, hesitancy against one vaccine invariably gets transposed onto all vaccines as shown by a UNICEF analysis of the so-called Peshawar incident of April 22, 2019, and this becomes excruciatingly difficult to reverse. None of this bodes well for the acceptance of vaccination against COVID-19. [2]

MISINFORMATION AND DISINFORMATION

Misinformation is generally defined as, "information that turns out to be inaccurate". Most of the time if inaccurate information is distributed without manipulative intent or unintentionally, then it is labelled as Misinformation. Contrarily, if it were distributed deliberately or knowingly, or intentionally, it is labelled as disinformation. It is not always easy to determine intentionality, so we consider the more comprehensive definition of misinformation- "information that is inaccurate regardless of intentionality".[1]

Misinformation not only affects an individual's belief/knowledge about an issue, but it also affects an individual's memory. For nearly a half-century cognitive scientists have been studying how a previously witnessed event can be affected by exposure to misinformation. In such a study, people usually witness some event (for example, an accident or a mock crime), then they are intentionally exposed to some misinformation about the original event they've witnessed. Later when they are tested on their event memory, it is observed that most of the people tend to include certain elements of misinformation in their memory for the original event. Therefore people who might have initially seen a video of an artificial crime involving a robber stealing a woman's purse might remember this event as a robber stealing a woman's cell phone instead of a purse after they've been exposed to misinformation. This scientific phenomenon is known as: "The Misinformation Effect" (see Loftus, 2005 for a review). Even people with exceptional memory abilities, still remain susceptible to the misinformation effect. In short, exposing people to misinformation has a negative effect on their memory. [1]

Susceptibility to misinformation is reduced or enhanced in certain circumstances. One such circumstance is Age. Young Children and Older Adults are more susceptible to the Misinformation Effect than Young Adults. Older adults and elderly people are more likely to share fake articles and fake news on social media as compared to young people. The main reason for this is the fact that older adults and elderly people are less digitally literate than younger age groups and thus find it difficult to discern misinformation (Brashier & Schacter, 2020). [1]

Repetition of misinformation is an influential factor that significantly increases the impact of misinformation. Repeated exposure to a piece of information, familiarises us with that information and thus makes it more accurate in our view. [1]

It can be extremely difficult to abolish the effect of misinformation, once a person has been exposed to it. Even if the misinformation to which the individual has been exposed is withdrawn, it still continues to influence him/her. This phenomenon is known as "The Continued Influence Effect". Therefore, approaches are more effective if they include solutions that focus on preventing the spread of misinformation instead of attempting to debunk misinformation after people have been exposed to it. Such an approach includes providing warnings. In this, the people are informed either before or after reading a piece of information that some of the information in that article may be inaccurate. For preventing the spread of misinformation, many social media companies use warnings- On Twitter, if a tweet contains debatable COVID-19 information—noted as "statements or assertions in which the accuracy, truthfulness, or credibility of the claim is contested or unknown"—that has a potential for harm, then the content is provided with a warning. For example, a text box may appear over the tweet that informs the readers- "some or all of the content shared in this Tweet conflicts with guidance from public health experts regarding COVID-19."[1]

Warnings are effective in reducing the misinformation effect if people are specifically informed that the information they are about to read may be inaccurate. Pre-warnings are considered to be more effective as they are delivered prior to people being exposed to misinformation. However, post-warnings are effective as well, especially when they provide clarification about why the misleading information was present in the first place. Regardless of this optimistic news, there are some potential downsides to warnings. On social media platforms, as warnings are becoming more and more common, users tend to assume that stories containing misleading information are traced and labelled. As a result, stories that contain misinformation that does not provide a warning may be considered more accurate.[1]

CONSEQUENCES

Incorrect information and intentionally fabricated information related to Coronavirus- that ranges from factually incorrect and deceptive "Chinese virus" stories of using disinfectants as a cure for this virus affected the mental health of the general public in addition to their physical health. Media directed all their attention towards infodemic concerning COVID-19, not having thought about how it would affect the emotional well-being of the general public. Even though there are some noteful sights obtainable, very little investigation has been discovered to diminish the influence of Coronavirus-related media coverage on the health of people's minds.[3]

Coronavirus coverage by heritage media: Media such as TV, Printing media, radio, and companies whose actual business was before the internet era are included in heritage media irrespective of what amount of their contents are available online now.

The Coronavirus related coverage from these media can have a strong influence on the emotional well-being of the public, which is classified as follows:

• Fact-based and Truth-oriented

• Misleading and Biased

• Factually incorrect and deceitful

Fact-based and truth-oriented COVID-19 media coverage:
Any coverage of Coronavirus by the media bodies is naturally damaging. The negativity that could naturally be transferred to coverage of Coronavirus by the media can cause a significant effect on the mental well-being of people. Such negative information during this time can have a gentle to fatal impact on the media consumers, most importantly those who are already suffering from some major mental health problems. When this Pandemic is already suffering from a lot of infodemics, evidence-based or facts related to COVID-19 might be hard to obtain, so it becomes mandatory that media bodies try to achieve this excellence to the best of their capabilities.[3]

Misleading and biased COVID-19 media coverage:
Misleading and biased news regarding Coronavirus can have a pronounced negative impact on people's emotional wellbeing and physical health.Research has shown that most media organizations often produce biased and misleading statements on Coronavirus, which makes it easy for fake news to spread exposing an incalculable number of individuals to such fake news. Analysis of about 38 million broadcasting reports from 1st of January to 25th of May in the year 2020, revealed that about 84% of such fake news never went through formal objections or fact-checking before they reached the general public, such as the "inexplicable Coronavirus cure" can bring about significant human and financial implications.[3]

Factually incorrect and deceitful COVID-19 media coverage:
Such media coverages are the most difficult to overcome. The prevalence of reports referring to the "Chinese virus," "Wuhan virus," and "China virus" in legacy media reports on COVID-19 suggests that some outlets are fully capable of producing dishonest, baseless, deceitful, and false news. Associating a group of people, the entire race, and nation to a virus evokes substantial mental health concerns among those targeted. Heritage media's provocation of "fake news" can have irreversible negative effects that result in the deterioration of public trust around COVID-19 media reports provided by legacy media. Eventually, people might deliberately turn "ignorant" to the heritage media

reports on COVID-19, this being the platform where most of the health specialists and government authorities share updates related to Coronavirus; public health impacts, and financial impacts associated with such deliberately "ignorant" populations could be monumentally disastrous.[3]

It is of utmost importance to understand that COVID-19 related misinformation and disinformation has generated a great deal of fear and panic among the public. This is bound to have a long-lasting effect on people's mental health. The rate of transmission, along with increased rates of infection and the overall death toll, has caused a spectrum of physical and psychological issues in individuals all over the world. It has become a challenge to identify or completely "cure" mental health issues in this resource-constraining pandemic like COVID-19. [3]

Mental health is "a state of well-being" in which an individual perceives his/her potential to cope with day-to-day stresses of life, works productively, and helps to make a contribution to society. Severe health consequences on personal and population health arise due to mental health issues amidst this global crisis, ranging from stress, anxiety, depression, or distress to suicidal behaviour. COVID-19 Pandemic has been a source of multifarious stress for a large number of individuals. Anxiety and stress associated with strict lockdowns and social distancing rules, the fears and uncertainties associated with COVID-19 have aggravated mental health issues of variable magnitude throughout society. Due to COVID-19 precautions such as lockdowns and social distancing measures, the services that people can access for their mental health issues have been limited as many providers were forced to close their practices; thus leaving people with little to no access to on-the-spot assistance. [3]

Mental health implications in specific groups:
People with pre-existing mental health illness: Generally, people with known mental health issues are among the most affected (Chatterjee et al., 2020). The reasons include a low priority to morbidities of Mental Health illnesses, social stigmatization, risk of infection, coupled with cognitive impairment, diminished awareness of risk inadequate efforts regarding personal protection in patients, along with confined conditions in psychiatric wards add to the vulnerability of individuals with pre-existing mental health illnesses during the COVID-19 pandemic (Yao et al., 2020). Fear of social isolation due to social distancing worsened by the strict lockdown regulations and the resulting emotional responses lead to triggering, worsening or relapse of the pre-existing mental health conditions add to their vulnerability. Secondary to their compromised immune status, wandering mentally ill people are at major risk of contracting the illness. [4]

Frontline workers: The frontline workers including doctors, nurses, sanitation workers, policeman community healthcare workers, and other volunteers have to work under stressful circumstances with scarce resources. This not only affects their personal and family life but also puts them in a situation of moral injury, causing mental health problems including Post-traumatic stress disorder, depression, and suicidal ideation (Cheng et al., 2004; Duan & Zhu, 2020; Greenberg et al., 2020; Litz et al., 2009; Williamson et al., 2018). Frontline workers apart from being at high risk of infection are subject to stigma by their neighbourhood and community. Many instances of eviction and harassment by homeowners and on-duty violence against frontline workers have been reported. [4]

Children and Geriatric Populations: The psychological impact on these two age groups is mostly due to sudden and drastic changes in their daily routine. This can be confusing and extremely difficult to cope with for the children, geriatric, and quarantined individuals. In India, the geriatric populations have been identified as a vulnerable group to COVID-19. Over 50% of the population above 60 years have at least 1 comorbidity putting them at a higher risk. The mental health implications are particularly difficult for the Geriatric Population already experiencing dementia, cognitive decline, and social isolation. Also, in the case of the elderly population, the progression of the disease tends to be more severe resulting in higher mortality rates (MOHFW, 2020).[4]

MANAGING STRATEGY
During Pandemics, it's not just the Pandemic that we need to fight with but also the misinformation, fake news that is spread intentionally or unintentionally. We need to have proper managing strategies to tackle with. As people should have accurate information to protect themselves and make required lifestyle changes. Fake or questionable cures can be so harmful that might lead to death sometimes.

To manage infodemics, we have come up with some strategies which can help us fight not just the Pandemic but misinformation spread during such times too. We know in this Hi-tech era it just takes a fraction of seconds to spread messages, it should be noted that whatever interventions and messages we come across must be science and evidence-based, and then only such information should be spread to the public to protect themselves, their community in a health emergency. Duplication of epistemic diversity should be guaranteed by international coordination of activities. Adequate care is a must to ensure up-to-date information propagation to communities, individuals through all appropriate channels. Web-based information may not be the primary source of information for many, therefore it must be adapted to local languages, contexts, and literacy levels for such communities. Editors of medical journals can also play a role in managing infodemic problems by producing plain language abstracts for journalists and the public to accompany COVID-19 related articles. Actionable behaviour-change messages should be accessible to all individuals in every corner of the world in a way that is understandable by the general public. Information impact amplification, strategic partnerships, and analysis could be strengthened by including all sectors and not just social media, technology sectors, academia, civil society. Fact-checking resources could be applied systematically to analyse TV, radio, and news media. Accurate information and data can help the government, health sectors to develop smarter, effective responses to the Pandemic. Infodemics during Pandemics like COVID-19 requires swift, regular, systematic, and coordinated actions from all the social sectors and government. Hence, it's crucial to propagate reliable information to fight misinformation, finally helping save lives. A 24 × 7 helpline with a daily press release policy, situation updates will be a significant step towards containing fake information. Celebrities and national leaders shouldn't shy in sharing their status on social media when affected by COVID-19, this could help in discarding the stigma and enhance willingness for screening themselves for the disease. This will encourage common people to give an official update of their symptoms of the Coronavirus disease and their travel history in recent times. [5]

ROLE OF LIBRARIANS:

When it comes to health-related issues, the highly trustworthy option public opt for are the scientists and health care providers, which undoubtedly makes it necessary that these groups are well informed with authentic information. With a deluge of information, credible information will make sure that practitioners practice with evidence-based facts and will help them with decision making. Health sciences and hospitals can play a very important role by promoting information on their home pages, this can be linked to libraries that can be accessed by the public, clinical educators. In such crucial times when there's information overload, librarians can help in reducing this by being lighthouses or guides through the information deluge. An overwhelming amount of information has impacts on all elements of society, which declares information that is carried out today may have a great impact on changing tomorrow. The capability to identify and curate reliable information depends on our ability to address any infodemics. When relevant, authentic information is identified, these must be organized by the libraries appropriately and then propagate that information to various users and linked to multiple information resources, channels, and information platforms ultimately helping in combating future infodemics. [6]

REASONS:

When the COVID-19 cases were on the spike and spreading all over the country, there was this information stating that it's hard to treat this virus infection was spreading at a much faster rate than this virus, which caused a lot of confusion, panic attacks, anxiety worry, amongst the common people. Such information spread by social media like WhatsApp, Tik Tok, Twitter, YouTube, etc. is basically collected from primary observations without any research and is most of the time fake which creates speculation on its reliability. This information that is not in control can prove to be dangerous and difficult when policies are implemented to control the Pandemic. Hence authentic information from reliable sources needs to be provided. Studies have shown increased incidences of Post-Traumatic Stress Disorder (PTSD) after an outbreak of any infectious disease. Social media infodemics made people so confused that they became hyperactive which led to unbelievable scenarios. Just because the disease can spread from droplets, people manhandled persons in public places when they sneezed in fear of disease. Occasional suicidal tendencies increased when isolation of cases or contacts started and the lockdown was established as a measure to control the disease. Due to fear of the disease, there

were incidents of people jumping off from terrace to end their life when hospitalized after getting infected by the virus and killing themselves to protect their community members. People got so scared that they didn't even go out for treatment for their other ailments, this was more prominent in disease hotspots regions. Villagers banned the entry of people from urban areas with an idea that this disease belongs to the urban area and shouldn't enter the rural area. Healthcare workers too had to face discrimination and they weren't allowed to come back to their house, some had to unwilling to evacuate their rented premises. Healthcare providers too get exposed to rumours and incorrect information from infodemics from social media, which affected the way they would practice their profession, the shortage of PPE leads to a situation where these Health Care workers had to cease their day-care clinics and OPD due to fear of getting infected by the virus. COVID-19 screening before any treatment or any elective surgery became a standard prerequisite in many tertiary care hospitals, this collateral damage is impossible to measure as it might be causing more morbidity and mortality than the Coronavirus disease itself. [7]

ONLINE REASONS FOR SPREAD:

- **Myths**

"Coronavirus is just in the air"

"Companion animals are the reason for the spread of this virus" "This Coronavirus is a strain of rabies"

" Domestic fowl's eggs are adulterated with the virus"

"Chinese food products are contaminated with the Coronavirus "

"The virus outbreak started from eating a bat soup"

"Virus can spread from imported products"

"Phones are also sources of transmission for the virus" [8]

- **Myths related to treatment, prevention, and control for COVID-19**

"Eating Garlic is a cure to Coronavirus "

"Consuming alcohol, bleach can kill the Coronavirus "

"Coronavirus can be treated by eating cow dung and by drinking cow urine"

One should keep their throat damp, should restrict eating spicy food and consume vitamin C in order to prevent oneself from the virus"

"Protect oneself from the virus by avoiding cold, preserved food and drinks eg. Ice cream"

"Chlorine spray all over body prevents from Coronavirus infection"

"Prevent Coronavirus by consuming sea lettuce"

"Protect yourself from Coronavirus by taking vitamin C and D supplements"

"Strengthen your lungs and immunity by consuming drinks containing spices like turmeric, cinnamon, and saffron"

"Prevent oneself from the virus by rinsing oral cavity with water and salt solution"

"Boost your immune system by cannabis" [8]

- **Conspiracy theory :**

"This virus is engineered, generated in a laboratory which was released in Wuhan accidentally or deliberately"

"Coronavirus is a planned outbreak"

"CIA manufactured this virus as a bioweapon"

"It's medical terrorism"

"This Pandemic is a measure to control the increasing population"

"Vaccines for the virus already exist"

"Vaccines for pneumonia can treat this Chinese virus" [8]

• **Mark of infamy**
"I am not a virus: French Asians angered by racism"

"Chinese are uncivilized and bioterrorist"

"Chinese are dropping their coronavirus"

"Every disease has ever come from China"

"Keep your virus, dirty Chinese"

"Chinese dietary habit caused COVID-19" [8]

CAUSES OF SPREAD, THEORIES (Social Media):

Unfortunately, the launch and development of 5G mobile network coincided with the Pandemic in January 2020. During this time, in the first week of January 2020, many social media users pointed out this relation, stating 5G network as the cause and accelerating factor of COVID-19. Since then the social media has been flooded with numerous videos, articles linking the two together. In just a matter of time in the United Kingdom, Birmingham the Nightingale Hospital had its phone mast set on fire. Such behaviour leads to money loss in addition to the damage to the efficiency with which the hospital could have operated. Later it was reported that this correlation was incorrect by independent fact-checking websites and concluded that theories given to support this conspiracy were deficient. Other theories in support of this conspiracy state 5G causes our immune system to lower and make us more susceptible to viruses. This was correlated with the city where this Pandemic started, "WUHAN which was the first full 5G city! #coronavirus caused by 5G". INFO WARS, the most popular conspiracy theory website based in the United Kingdom was the most popular web source shared on Twitter during this time. Articles were linked to various videos in which top scientists were siding with this 5G conspiracy and revealing how it weakens the population's immunity. It is important to note that the majority of these websites were "fake" or "alternative" news websites. A better way to manage misinformation on social media is to not comment, retweet, or link bait using ongoing popular hashtags. [9]

ROLE OF SOCIAL MEDIA:

A majority of adults are social media users, and most of them use social media at least once a day, which implies that any health information found via social media has a great impact on the way they deal with their health. Social media has proved to be both boon and curse during this COVID-19 Pandemic, boon as an emerging tool for public health and curse with respect to infodemics. Just the way a communicable disease spreads from a person to person, communication too is a process where information and its understanding is passed from person to person. This clearly states that communication is a fundamental process through which we humans interact. Thus communicating about health—converse on how to stay healthy, strong; sharing beliefs on the way to avoid sickness and death; discussing on topics like who will live or die; questioning who will die and who will not, etc. are practices that began as early as the human language emerged. Social media can become a tool through which risky behaviours can be enabled and associated diseases transmitted. But on the other hand, anticipatory communications mainly generated by public health units can efficiently prevent or minimize the spread of fake information and increase people's awareness of precise information. Social media has the power to propagate information that Promotes health, influences positive health behaviour such as those that can help in reducing the spread and impact of disease by motivating appropriate preventive measures. Social media increases the probability of accessing screening and treatment interventions when appropriate, in addition to where, when, and when not to look for care and how to be treated if ill. [10]

ROLE OF MASS MEDIA:

Mass media became a significant source of information during the speedy spread of COVID-19 which created a lot of worry and panic among the public and like the previous Pandemics SARS (2003), H1N1 (2009), and MERS (2012), mass media didn't stay away from contributing in infodemics. Mass media has an extremely important role in today's world, as it is one source with a platform for all health-related information all-encompassing healthcare, guidelines for all knowledge, sensible plans for social distancing while still maintaining social connections. These can be accessed by everyone be it healthcare providers or the general public, helping in ending discrimination and social stigmatization. During the H1N1 Pandemic, media reports increased people's worry and consciousness, but at the same time, it helped people to take all the necessary preventive measures. But inappropriate articles in some newspapers made people stigmatize diseased persons. This is an example that explains to us that media awareness and disease control interact with each other in a bi-directional approach. A similar thing happened during the SARS 2003 Pandemic which created a xenophobic reaction and the same thing was repeated with the Coronavirus Pandemic, where the Chinese government ordered the closure of all farmer's markets and put a ban on eating live animals. This is a very important step taken in order to stop the spread of the virus. People started taking news like "The coronavirus is confined to China only" published by various media bodies very lightly, taking no precautionary steps, thus such news created factually incorrect comprehension of security among the remaining population of the world. There was news stating the emergence of this virus from the ongoing bioweapons research in Wuhan University. This resulted in tweets about USA army troops, that they brought the virus in Wuhan while attending military games in OCT 2019. From these, we can see that the media has been used to spread rumours for a very long time. There are not just one or two social media platforms but dozens of social media like WhatsApp, Twitter, Tik Tok, Instagram, Facebook, Snapchat, Reddit, WeChat, etc. available for passing, gaining information and communicating. During the Pandemic the social media usage increased manifold, which showed us people posting every aspect of their life on a daily basis. This includes their worry, happiness, achievements, travels on a daily and hourly basis. This increased the social media usage to 87% during the lockdown. Spending a lot of time on social media made people gather knowledge uploaded on anyone's account and unidentified pages and also trusted them. People were attracted towards unscientific knowledge related to the ways of preventing and curing Coronavirus which were mostly spread by religious social media accounts. The unacceptable claims like the virus affect the geriatric populations made youngsters go vulnerable. This eventually led numerous young people to be affected by the virus. Such non-scientific, unproven facts made the geriatric populations undergo a lot of psychological and physical terrors. This didn't stop here, went on another level where elderly members were thrown out from their family, home, in addition to the emotional abuse that they had to go through. The printed media was employed by supermarkets to advertise their stores following the social distancing protocols. During road & air travel, there is continuous mention of ads like 'COVID-19: less is more, avoid gatherings', 'Stay home, stay safe,' 'Face covers mandatory in public,' 'wash your hands, stay healthy, avoid COVID-19' and 'give extra space with each other and on the road,'. Such repetitive reminders played a great role in preventing the spread of Coronavirus. During Pandemic lockdown media was a boon in playing a crucial role in maintaining patient-doctor confidentiality through Telemedicine which helped in providing medical services like health-related advice, solving queries, and monitoring diseases, Telemedicine also helped in providing virtual medical services remotely. Thus it became the fundamental support for practicing medicine in clinics during the COVID-19 era. People were afraid of going out to the hospital even when suffering from a significant health problem, hence a helpline was set up to help such patients to resolve their queries regarding their symptoms and decide if they needed to test for COVID-19. Media was used to promote this and thus helped in maintaining the norms of the lockdown. Thus when Chloroquine appeared as a hope media sparkled with interest for its potential cure, the hype was created by some politicians for its effectiveness against the novel Coronavirus and it was promoted on a very large scale. Because of this publicity of hydroxychloroquine on several media platforms, Hydrochloroquine began disappearing like a ghost from the market as it is inexpensive and easily available in malaria-endemic regions. Vendors started price skyrocketing and stocking up on it, which later created a supply chain deficit and its shortage. This created a very serious impact on people who were using it to manage their autoimmune diseases. It tends to increase in cases of lupus disease flare-ups and spike

in cases of rheumatoid arthritis. Fortunately, after the results of such studies were shared FDA issued a warning against Chloroquine for COVID-19. [11]

GENERALIZED TO INDIA:

During the Pandemic the most common resources of information were government websites and online news. Fake news was propagated mostly through mass media, family members, and friends. All sources of information and misinformation were examined and found that social media was the main culprit for misinformation. Therefore, it's highly recommended that we need to handle properly the spread of information in order to make it an efficient tool against coronavirus. The Swift spread of news related to Coronavirus helped in confining the virus within the countries but at the same time, there was a state of worry because of the misinformation that was spreading with lightning speed. Even news released from government bodies was found to be incorrect at times which was a reason for the confusion among the population. We cannot forget how the free spread of knowledge is critical through the example of the rejection of warning that was given out by a young Chinese ophthalmologist about a new SARS-like illness at the start of this Pandemic, unfortunately, this was considered to be a rumour by many. Many healthcare workers have difficulty in discriminating between reliable and unreliable information, particularly when information is changing and transforming every second. It's really important that doctors are well aware of the information they have received and it's their role to screen such information before they post them on any media. Hence it is crucial that they are well trained in order to separate misinformation when faced with unauthentic information. In the case of communication, crisis experts should help in drafting information that is pertinent to that specific area of concern. When it comes to ranking sources of misinformation, online news topped the list, however social media didn't surprise us being in the second position. It was reported that about 70.02% of misinformation received in India by the general public was mostly from WhatsApp as the essential source, this was mainly because of the great number of users attached to this platform. It can be seen that news related to Coronavirus makes people anxious and also distracts them from daily decision-making. Hence when it comes to health information, government bodies should come forward to use the regulatory mechanism in order to control fake or deceptive news. This is because any incorrect information related to health care can have a great effect by procrastinating the way people take proper care thus affecting the health of the population. [12]

REFERENCES

1. Greenspan RL, Loftus EF. Pandemics and infodemics: Research on the effects of misinformation on memory. Hum Behav & Emerg Tech. 2020;1–5. https://doi.org/10.1002/hbe2.228

2. https://doi.org/10.1016/S1473-3099(20)30565-X The COVID-19 infodemic. Editorial www.thelancet.com/infection Vol 20 August 2020.

3. Zhaohui Su, Dean McDonnell, Jun Wen, Metin Kozak, Jaffar Abbas, Sabina Šegalo, Xiaoshan Li, Junaid Ahmad, Ali Cheshmehzangi, Yuyang Cai, Ling Yang, and Yu-Tao Xiang. Mental health consequences of COVID-19 media coverage: the need for effective crisis communication practices. Globalization and Health (2021) 17:4 https://doi.org/10.1186/s12992-020-00654-4

4. Adrija Roy, Arvind Kumar Singh, Shree Mishra, Aravinda Chinnadurai, Arun Mitra, and Ojaswini Bakshi. Mental health implications of COVID-19 pandemic and its response in India. International Journal of Social Psychiatry, 1–14. DOI: 10.1177/0020764020950769journals.sagepub.com/home/isp

5. Tangcharoensathien V, Calleja N, Nguyen T, Purnat T, D'Agostino M, Garcia-Saiso S et al. Framework for Managing the COVID-19 Infodemic: Methods and Results of an Online, Crowdsourced WHO Technical Consultation. J Med Internet Res 2020;22(6):e19659

6. Philip Walker. The library's role in countering infodemics. January 2021. Journal of the Medical Library Association JMLA 109(1) DOI: 10.5195/jmla.2021.1044

7. Patel Mohan P, Kute Vivek B, Agarwal Sanjay K. "Infodemic" of COVID 19: More pandemic than the virus. 2020; 30 (3): 188-191. DOI: 10.4103/ijn.IJN_216_20

8. MdSaiful Islam, Tonmoy Sarkar, Sazzad Hossain Khan, Abu-Hena Mostofa Kamal, S. M. Murshid Hasan, Alamgir Kabir.COVID-19–Related Infodemic and Its Impact on Public Health: A Global Social Media Analysis. Am. J. Trop. Med. Hyg., 103(4), 2020, pp. 1621–1629 doi:10.4269/ajtmh.20-0812

9. Wasim Ahmed, Josep Vidal-Alaball, Joseph Downing, Francesc López Seguí.COVID-19 and the 5G Conspiracy Theory: Social Network Analysis of Twitter Data. J Med Internet Res 2020; 22 (5): e19458,1

10. Dean Schillinger, Deepti Chittamuru, A. Susana Ramírez.From "Infodemics" to Health Promotion: A Novel Framework for the Role of Social Media in Public Health. AJPH 2020. DOI: 10.2196/preprints.19458.

11. Anwar A, Malik M, Raees V, et al. (September 14, 2020) Role of Mass Media and Public Health Communications in the COVID-19 Pandemic. Cureus 12(9): e10453. DOI 10.7759/cureus.10453

12. Datta R et al., The infodemics of COVID-19 amongst healthcare professionals in India, Medical Journal Armed Forces India, https://doi.or HYPERLINK "https://doi.org/10.1016/j.mjafi.2020.05.009"g/10.1016/j.mjafi.2020.05.009