



Infodemics: A Challenge to Public Health

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ABSTRACT

Infodemics, the information whether true or untrue have been seen to spread swiftly during the epidemic or pandemic or any other public health emergency situations. Among this information, the wrong and falsified ones create hindrances in the control measures amidst such situation leading to confusion and chaos among the public. Social media platforms play a crucial role in the spread of these false information and many people intentionally or unintentionally utilized the COVID-19 pandemic as a source for the spread of inaccurate and non-scientific things through social media platform. Therefore, management of infodemics is of utmost importance these days. Keeping this thing in our mind, we reviewed the scenario of spread of infodemics during the pandemic and how it affects the public health.

Keywords: Infodemic; COVID-19; Misinformation; Monkey pox; Vaccines.

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The term "infodemic" comes from two words: "information" and "epidemic," and it points towards quick and widespread dissemination of true as well as inaccurate information simultaneously about a disease in both digital and physical surroundings.¹ It leads to confusion and risk-taking activities harming the health of the public and also causes mistrust in health authorities, undermining the public health response. As per the World Health Organization (WHO), infodemic as a term was devised to classify some of the prevalent features such as rumors, stigma, and collusion theories amidst public health emergencies. It is defined as "an overabundance of information, in which, a few are accurate and others are not, that makes it unfathomable for public to discover dependable sources and reliable advice or data at the time of need."² A few social media platforms, such as Facebook, Twitter, and online news articles, were found to be frequently indulged in the dissemination of rumors, stigma, and conspiracy theories amid the general population.³ Rumor, stigma, and conspiracy theories have all been identified as emerging dangers to pandemic readiness and control by health agencies across the world,

including the WHO, who have advocated rigorous monitoring and control methods.⁴ An infodemic has the ability to prolong the outbreak when people are not aware about what to do to protect the health of themselves and their surrounding people. With the growing digitization, information can spread very rapidly through social media and internet irrespective of their legitimacy. Though this can fill the information voids, it also has the ability to amplify the spread of harmful messages. Infodemic management refers to the systematic use of risk- and evidence- based analysis and necessary approaches to manage infodemic and to decrease its influence on health behaviors during health emergencies. Infodemic management aims to improve good health practices via four types of activities as follows⁵:

- i. Listening to the community concerns and questions.
- ii. Promoting the understanding of risk and the advice of health experts.
- iii. Building resilience to misinformation.
- iv. Engaging and empowering the communities to take positive actions.

COVID-19 pandemic is being accompanied by a wide spread of infodemic. Disease outbreaks cannot be overcome without the engagement of the community that it affects, which led to the advancement of the infodemiology field by World Health Organization (WHO) in early 2020 and the practice of infodemic management to work together with partners, WHO information network



for epidemics and stakeholders. Infodemic management is driven by the use of evidence-based interventions and anchored in the principles of community involvement, for a comprehensive emergency response that will make the world to be prepared to manage the infodemic better in the future.⁶

Challenges faced during pandemics because of infodemics: Ebola, COVID-19, H1N1 & HIV-

Misinformation is described as wrong or flawed facts that are disseminated without understanding that it is wrong. Whereas, disinformation is an information shared with an explicit goal to mislead, is widely noticed at the current times.⁷ Dr. Tedros Adhanom Ghebreyesus, the Director-General of the WHO, in the beginning of COVID-19 outbreak stated that *“we’re not just fighting an epidemic; we’re fighting an infodemic”*.⁸ Infodemic can outline the misinformation hazards during the management of outbreaks as it has the ability to adversely affect the public and healthcare response to the disease outbreak. The spread of incorrect information not new nor this is the first episode but violence, societal unrest, and targeted attacks on health-care professionals were observed during Ebola outbreak in the Democratic Republic of Congo in 2019 due to misinformation.⁷ Similar scenario was seen during the Severe Acute Respiratory Syndrome (SARS) epidemic in the USA in 2003, where Asian-American fraternity faced fear.⁹ Fear associated with prejudice and racism still adversely affects the public health endeavors even after 40 years of the beginning of HIV global epidemic.¹⁰

Challenges faced by health workers due to Infodemics -

At the beginning of the outbreak of any disease in the history, medical staffs experienced uncertainty and were frightened due to the possibility of getting infected themselves and also their family members in addition to the psychological stress at work. This was mainly attributed by the lack of understanding of the nature, transmission mode of the virus, impact on one’s health, diagnostic criteria, unspecific treatment measures and complications of the disease. Frequent modifications in infection control procedures and management of the disease heightened the anxiety among health-care workers. They were also discouraged from interacting outside of their workplace and were helping the patients to cope up with their psychological stress when they needed psychological support themselves. Quarantined staffs had concerns about the safety of them, their contacts and their family members, about interpersonal isolation and about stigmatization while the working staffs were concerned about the understaffing and heavy workload due to the quarantine and isolation of their colleagues. All such impacts contributed too many conflicts, fear, loneliness, anxiety, rage and frustration among the health-care workers.¹¹ Many who couldn’t work during the outbreaks felt guilty for not serving the humankind. When their colleagues became patients, they were faced with the emotionally difficult duty of caring for patients who were also health-care workers.¹² Treating the

patients of COVID-19 was also a challenge in the initial phase of the pandemic as there was no data regarding the disease nor any experience to tackle such situation. In absence of any definitive therapy, preventive measures and multiple classes of drugs were put into trial in order to treat the patients which included antimicrobials, multivitamins, complementary and alternative medicines, biologicals and other therapies.¹³⁻²⁰

Measures to avoid the catastrophic effects of Infodemics-

Providing the accurate scientific data at the earliest to the public and health-care workers can be beneficial in reducing the uncertainty. Misleading data might worsen the intensity of the outbreak by promoting ineffective or harmful guidelines.²¹ Observational studies linking 'Hydroxychloroquine' to treat COVID-19-infected patients were determined to be based on unsourced data and the drug itself can increase the chances of having adverse effects while treating the patients of COVID-19 with other drugs, later based on lack of concrete evidence the papers were retracted.^{22,23,24} If such unwanted and irrational data are not overlooked and are studied further, better healthcare can be provided. The social media use by the public increased by around 87% during the COVID-19 lockdown.

Legislative measures undertaken to avoid the Infodemics

Neil Walsh, the UNODC's (United Nations Office on Drugs and Crime) Chief of Cybercrime and Anti-Money Laundering Section, recommended the public to seek information solely from reliable sources such as the WHO and the United Nations (UN).²⁴ For coronavirus-related information, the United Nations family of organisations, funds, and programmes is a reliable source. In response to the epidemic, the United Nations established a UN Coronavirus (COVID-19) webpage to provide the public with trustworthy and up-to-date information.²⁵ A two-day global online consultation programme was held on April 7 and 8, 2020, the WHO Information Network for Epidemics to manage infodemics which included four plenary sessions and a conceptual session with a goal to create a new COVID-19 infodemic response framework by crowdsourcing numerous ideas.²⁶

Brighter sides

In comparison to prior illness outbreaks, researchers and healthcare professionals disclosed more data regarding COVID-19 early in the pandemic than they did during the 2003 SARS outbreak, which raised public awareness.¹¹ Despite some discrepancies still being there and multiple aspects of COVID-19 still being studied, rapid implementation of rules and regulations, modification of treatment guidelines and management of the disease according to the recent scientific data and discovery of better vaccines for prevention reduced the intensity of the pandemic though multiple mutations are yet to be faced making it a never-ending outbreak. The timely invent of vaccines for COVID-19 along with mass vaccination drives across the world might have helped to control the spread



and minimize the severity of the disease.²⁷⁻²⁹ There were stigma during the initial phase regarding the side effects associated with the vaccines but again the information might have been disseminated by some unauthorized source.^{30,31} Several studies were conducted to analyze the side effect profile of the COVID-19 vaccine candidates and some of them were based on the WHO database.³²⁻³⁵ With the advanced technologies and expertise availing at present, government organizations are providing possible better healthcare with the hope of ending this COVID-19 pandemic at the earliest which is far more improved than the management of any other outbreaks in the history.

Recent infodemic of Monkeypox

With the recent rise in cases of monkeypox, there is a rise of misinformation and fear regarding the disease which has given birth to conspiracy theories and homophobia.^{36,37} Looking at the situation WHO has acted swiftly and has already released information regarding the facts associated with monkeypox in order to minimize the spread of misinformation and help to better control the disease.³⁸ This would help the healthcare workers, social workers and news agencies to disseminate correct information and prevent panic situations among the public.

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