



Social Media Misinformation Effect on Mental Health in Covid-19: A Review Study

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ABSTRACT

Mental health is a global concern in the current era, which has also been prioritized as one of the sustainable development goals. The impact of COVID-19 was not only limited to physical health; it also affected the individuals psychologically. According to the statistics, individuals were busy sparing time in social media regardless the accuracy of the content, which lead to misinformation effect. Misinformation effect was one of the serious issues faced by the individuals at the time of COVID 19. Anxiety, stress, depression, fears are the symptoms reported by the individuals. This paper attempts to contribute the literature regarding the social media misinformation effect on mental health in COVID-19. Further studies can also be done based on the psychological impact of misinformation effect from an Indian perspective that will also help to develop the social networking initiative for promoting health services and public safety.

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1. INTRODUCTION

Mental Health is a global concern in the era of twenty first century. It has also been considered as the sustainable development goals. Although there is some progress in some countries about the awareness of mental health, still people from some other countries experience stigma related to mental health. World Health Organization introduced an initiative named WHO special initiative for Mental Health (2019-2023) in the year of 2019. In this recent year it has also introduced another special initiative for World Mental Health Report.

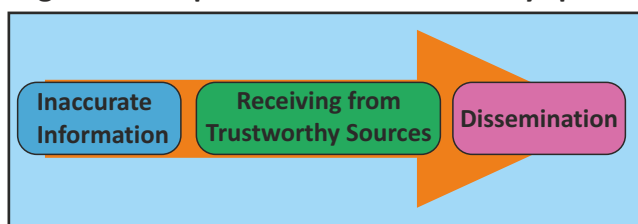
But the COVID-19 pandemic brought so many major changes in terms of mental health. The concept of social isolation, job loss, uncertainty, financial constraints, and drastic

changes in the daily routine are some of the factors responsible for the changes. As the uncertain situation always creates a stage of anxiety, fear and worries people were experiencing more psychological problem at this time. According to a survey report of USA(2021), it was found that people was showing stress, anxiety, depression, insomnia and other psychological disorders after COVID-19 in compare to the earlier condition. Zhao & Zhou (2020) conducted a survey to find out the associations of COVID-19 pandemic related exposure of social media and its psychological effect. The results suggested that excessive screen time affects mental health drastically. People are more likely to engage in screen time, involving in the flood of digital content in different social platforms.

2. SOCIAL MEDIA IN COVID-19

As people were not much aware about COVID 19 they were constantly dependent on social media platform for more information. Abbas et al. (2020) conducted a study that provides the insight about the prevalent and pervasive pandemic's harmful effects on the health and the role of social media to provide more reliable particulars regarding COVID 19 health crisis. Several researches showed that with the individuals showing red flags of higher anxiety have more tendencies to use social media for a prolonged time as it is a way for them to channelize their negative emotions. The continuous anxiety about the situation created by COVID-19 expanded the use of social media platforms. Even the concept of social isolation and making everything digital to prevent the spreading of COVID-19 also increased the tendency to use social media platforms. Even the use of social media platform plays a major role in response to the global health crisis. People were involved in using social media platforms regardless the consistency of the sources. A survey showed a significant increase in the average times spent on social media in 2020 by U.S. Users (Dixon, 2022). This study also mentioned that individuals were more likely engaged in Facebook for COVID-19 updates, only 9% of respondents from UK doubted any news about COVID-19 on Facebook, 42% of adults from U.S. started socializing virtually during COVID-19, 61 % of people were involved in watching more videos on various digital platforms due to the COVID-19. According to the statistics, most of the people are busy sparing the time in social media for information regardless of the accuracy of the content. Thus there is a big tendency of dissemination of information that does not have factual basis and it sometimes lead to misinformation effect. The other global concern was also to not get

Figure 1: The process of unintentionally spread



influenced by the “misinformation” along with the pandemic.

3. MISINFORMATION EFFECT

“Misinformation Effect” was one of the major problem people faced at the time of COVID19. A certain piece of information that is circulated without a proper factual basis and clear confirmation, it is known as the misinformation (Luo&Cai,2021). Spreading of misinformation through social media platform was a global concern in COVID-19. As survey shows that most of the people were reluctant to take vaccination due to the misinformation related to the vaccination. A report by PEW Research Centre shows that 485 U.S. Adults said that they had experienced made-up news about COVID-19 that exaggerated the risks associated with the virus. It does not only hamper the decision making process but also creates the emotional, psychological fluctuations.

4. CONCEPT OF MISINFORMATION

Several terms like rumor, spam, fake news, disinformation etc are related to the term “misinformation”. So the term “misinformation” is considered as the umbrella term which means the false and the inaccurate information spread through social media platform. There is a very thin line difference between “misinformation” and “disinformation”, where the first one is defined as the deliberately created information to deceive and the later one is the intentionally done. According to Liang et al (2020), the types of misinformation have been discussed in the following:

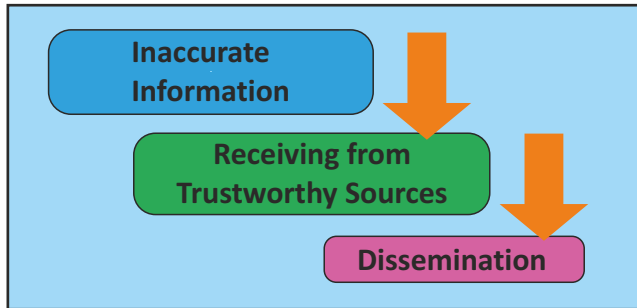
4.1 Dissemination of Misinformation without an intent

The misinformation which is unintentional may contribute to the dissemination because most of the times they get the information from the trustworthy originators i.e., friends, family, colleagues or influential users in the social network. The main motto of the person here is to provide information to certain friends about a certain issue or situation.

4.2 Intentionally Spread Misinformation

The information which is spreaded

Figure 2: The process of intentionally spread misinformation



basically to deceive the recipients intentionally, that is known as intentionally spread misinformation. Here the spreader has clear goal to promote the misinformation among others. There are very special cases related to this type of effect.

4.3 Unverified information

It is the information that can be sometimes true and accurate. It also creates fear, hatred, anxiety and other psychological issues;

4.4 Rumor

It is also a type of unverified information that that can sometimes be true. As for example, “The world is going to be ended on 2020”.

4.5 Crowdturfing

It is another way of spreading misinformation where the workers are paid to express a false digital impression like giving bad comments. The aim of this type of activity is to gain or destroy reputation of any product, people, and companies by giving biased opinions.

4.6 Troll

The aim of troll is to create disturbance and dispute towards a certain number of people. Most of the times the trolls increase the anxiety and widen the gap.

5. EFFECTS OF MISINFORMATION ON MENTAL HEALTH

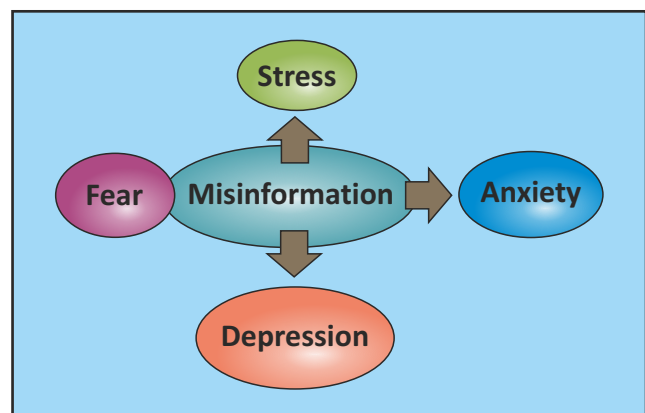
As there is always a flood of content in different social platforms, it is very much obvious to face problem in deciphering the reliable content. According to Cynthia V Catchings, a reknowned psychotherapist and peer consultant with talkspace, mentioned that

it can affect mental health by creating anxiety, fear, depression, stress etc.

A survey has been done to assess the misinformation effect on memory by taking more than 800 military workers in survival school training, and it was found that misinformation affected memory of details from the event, the accuracy of the details, identification of the details of the event.

According to Dr. Zindel Segal, a clinical psychologist , suggested that people are more likely to engage in dichotomous thinking that indicates the extremity in bipolar thinking in COVID-19 pandemic such as “I am worthless”, “I am good for nothing”, as they were staying at home most of the time. Some of the individuals were facing problem in accepting the uncertainty of the situation. Perils et al. (2022) conducted a study to find out whether people with depression are more vulnerable to depression or condition of depression makes people more vulnerable to disinformation. They conducted a survey where they used statements like, “The COVID-19 vaccines contain microchips that could track people”, “The COVID-19

Figure 3: Effect of Misinformation on Mental Health



vaccines contain the lung tissue of aborted fetuses”, “The COVID-19 vaccines can cause infertility, making it more difficult to get pregnant”., “The COVID-19 vaccines will alter people's DNA”. The results suggested that only 15,464 respondents were informed that the statements given to them are not true. The results also suggested that it might worsen the condition of the person having depressive symptoms and make them more vulnerable.

6. REVIEW OF LITERATURE

There are several studies that have been done worldwide to see the effect of social media misinformation effect on psychological health in COVID-19. The studies have been described following:

A study that has been conducted by Verma et al. (2022) titled, "Examining the effect of sharing Covid-19 misinformation online on mental health" focuses on the quantification of the cause and effect relationship among variables like sharing misinformation, consuming misinformation and its relation to experience anxiety. A large number of observational studies, taking account of 80 million twitter posts that has been made by 76,985 twitter users for a prolonged 18.5 month period. The findings of the study showed that the users who were shared COVID-19 related inaccurate information underwent more anxiety than the users who have not been shared misinformation. The socio demographic details analysis also showed that the racialized group, women and individuals with lower literacy level of in US experienced significantly high level of anxiety in comparison to others. The results of the study also provide insights about the harmful psychological impacts of misinformation. These findings throw light on the detrimental effect of consuming online misinformation on mental health.

A study conducted by Jabbour et al (2022) titled, "Social media medical misinformation: impact on mental health and vaccination decision among university students" aimed to study the consequences of misinformation on psychological health. A questionnaire was made for the Lebanese students' to assess their view on social media influence on COVID 19 pandemic. The goal was also to see how they are getting influenced by the social media and to see the changes in vaccination decisions. 440 students were given an online survey questions include GHQ-12 to measure the attitude towards vaccination. The outcome of the study showed a low number of individuals having mental health disorders. The results also suggested that the students have required knowledge about the misinformation and they were having lower level of despair and

anxiety than the general population. Twitter and using of platform like facebook use was having strong association with worse attitude and behavior towards reluctance to get vaccinated although they have a positive attitude towards the mental health.

Yeung et al (2022) conducted a research study entitled, "Medical and Health-Related Misinformation on Social Media: Bibliometric Study of the Scientific Literature" shed light on the emerging areas linked with fake health news such as medical misinformation on various digital platforms. The web of Science Core Collection (WCC) electronic evidence was used for accessing the databases. The records were changed to bibliometric software and were linked to bibliometric software, VOS viewer. 529 papers were reviewed based on the prevalence of medical and health related misinformation, it was found that most popularly used platform is Twitter (n=90) followed by You Tube (n=67) and Facebook (n=57). The results also suggested on twitter based research mainly centralized on the disorder related cyberchondria and hypochondriasis, where you-tube based research focused on mainly substance use such as smoking tobacco and facebook based research studied reluctance to take vaccine as it was thought to be linked with neurodevelopment disorder like autism. The results showed that there is a significant platform specific topic which means different platforms are used for different health related concerns linked to medical misinformation.

Skafle et al.(2022) conducted a study on "Misinformation about COVID 19 Vaccines on Social Media: Rapid Review" focused on the inaccurate information about COVID-19 pandemic and vaccination resistance. The other objective of this study was also to conduct an in depth study about misinformation related to autism and COVID-19 vaccine. A literature search has been done by accessing various databases like PubMed, PsycINFO, ERIC, EMBASE, Cochrane Library and the Cochrane COVID-19 study Register. The theme of identifying the pattern of misinformation was done through thematic analysis. Narrative analysis was also done with the help of PRISMA

database. JBI Critical Appraisal Tool was used to assess the extent of possibility of bias and the certainty of evidence followed by GRADE approach were also done based on the recommendations assessment. The number of records were 757 records along with 45 articles that were taken part for the review. The main three themes were identified related to misinformation named medical inaccurate information, vaccine development and conspiracies related to it. The results of the study suggested that the circulated information on social media which is not accurate had a baneful effect on taking vaccine and uptake.

Gunasekeran et al.(2022) conducted a study titled, "The Impact and Applications of Social Media Platforms for Public Health Responses Before and During the COVID-19 Pandemic: Systematic Literature Review", showed various advantages and disadvantages of social media on public health. Bibliographic databases such as PubMed including Medline and Institute of Electrical and Electronics Engineers Xplore from the time period of December 10, 2015 to December 10, 2020 were used for the purpose of data collection. The results were suggested about the pros and cons of the social media platforms on holistic health. It also shed light on the condition of improving future hygienics responses and the potential catastrophic consequences of social media platforms for public health related concerns i.e., communication related public health, monitoring the conditions and prediction about the future health related concerns.

Another study that has been done by Rocha et al (2021) on "The impact of fake news on social media and its influence on health during the COVID-19 pandemic: a systematic review" aimed to evaluate the spread of misinformation and its adverse consequences on health through a systematic review. It included the researches that addressed the effect of inaccurate and false news on patients and professionals who are working on the health sector by taking the data from Virtual Health Library (VHL), Scielo data bases from January 1, 2020 to May 11, 2021. The quality of the selected studies was methodologically assessed

by using the Loney and Newcastle–Ottawa Scales. Six cross sectional with eight descriptive observational studies were taken into the study. The questionnaires were used for assessing fear, uncertainty and panic. The study concluded that infodemic and inaccurate knowledge can lead to serious anxiety related disorders like panic attack, depressive disorders fatigue and sometimes it also leads to impaired memory.

Lee et al (2020) conducted a study titled, "Associations Between Covid-19 Misinformation Exposure and Belief With COVID-19 Knowledge and Preventive behaviors: Cross Sectional Study" to find out the prevalence of fake health news related to COVID-19 misinformation and the related beliefs, the alternative factors like experiencing psychological distress with the exposure to misinformation, the link between knowledge about covid-19 awareness and related preventive behaviors. 1049 South Korean adults volunteered in the study and they were asked to response in the COVID-19 misinformation using 12 items (WHO). Logistic Regression was used to find out the odd ratios for different associated factors like psychological distress, misinformation belief, and pandemic related preventive behaviors. The results suggested that 67.78% (n=711) of the respondents reported exported exposure to item related to COVID-19 misinformation. The study suggested that exposure to COVID-19 related misinformation was associated with misinformation belief and other preventive behaviors.

It can be concluded from the abovementioned studies that social media has a major role in circulating information, facts, particulars worldwide. As people are more involved in Digital Technologies, they get more information through social media platform regardless checking the source of the information, so getting influenced by the inaccurate information is a very common human error. And the misinformation effect is a global concern now-a-days, which not only affect the person for psychologically, sometimes it leads to serious psychological condition like clinical depression. The reviews of the study suggested that most of the studies have been done outside

India, so future studies in this area can be done to understand how newspaper, viral and breaking news in the media during COVID impacted people in India to bridge the gap between existing literature.

7. FUTURE RECOMMENDATION

Several researches has been done on the area of the role of misinformation effect on psychological health among different population from different countries Further studies can be done to understand the psychological impact of misinformation effect from Indian perspective by taking different professionals of India. This will help to understand the role of social media in terms of persuasion in various decisions in deeper perspective.

- Further researches can also focus on evaluation of the impact of specific digital interventions for policy development in health related areas;
- More studies are required to explore the effect of social media misinformation in different platforms other than the most used platforms in a more robust experimental way, which can also give information about the factors related to vaccine hesitancy and other issues.
- Further studies may also represent the statistical analysis of using different social media platforms during COVID-19 in India;
- Researches related to this area will also help secondarily to develop the social networking initiative for promoting health services, public safety. ●

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