

STUDY ON EFFECT OF MEDIA USE ON STRESS AND ANXIETY-RELATED SYMPTOMS DURING THE COVID-19 PANDEMIC

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ABS TRACT

BACKGROUND

The COVID-19 pandemic outbreak in India led to an extraordinary threat to public health and mental wellbeing. As the cases rise exponentially every day, there is uncertainty in the minds of the public, leading to stress and anxiety about catching the infection themselves and by their loved ones.

AIM

This survey aims to study the amount of stress and anxiety-related symptoms in people due to the current coronavirus outbreak and examine the various variables contributing to it, including the sociodemographic factors and the effect of media exposure.

METHODS

An Internet-based cross-sectional study was conducted from 6th September to 9th September. A total of 302 individuals participated in the study. Individuals were asked to fill a questionnaire with a series of questions, which included sociodemographic data, the amount of media exposure, and stress and anxiety-related symptoms due to the virus. These symptoms were assessed using the COVID Stress Scale. It has six domains to assess the health-related distress, including (1) Fears about the dangerousness of COVID-19, (2) fears about sources of COVID-19-related contamination, (3) COVID-19-xenophobia, (4) fears about the social, and economic consequences of COVID-19, (5) COVID-19-related checking, and (6) traumatic stress symptoms related to COVID-19. Relationships among the variables were examined using correlation analysis.

RESULTS

There is a significant positive correlation between the number of hours spent watching online news, online videos, and news updates on social media and distress related to COVID-19. Viewing stressful content such as the severity of the disease outbreak, and active media engagement is associated with negative psychological outcomes.

CONCLUSIONS

The study suggested new media use, and more media engagement was associated with negative psychological outcomes. It also suggests that limiting the time spent engaged in social media and reducing viewing of stressful content may minimize adverse psychological outcomes.

KEYWORDS

COVID-19, Stress, Anxiety, Media

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BACKGROUND

The COVID-19 pandemic has had a great impact on the health and well-being of people worldwide. As of September 2020, it has taken the lives of over 70,000 people in India. There is increasing recognition of the need to understand the psychological impact of COVID-19 related anxiety and stress in addition to the physical health consequences.

In a severe public health emergency like this, the media plays an important role in providing authoritative information, emotional support, and helping isolated individuals feel connected. Information-seeking behaviors may reduce anxiety caused by uncertainty during a disease outbreak. However, while helpful, media exposure may also create new problems. Large volumes of information may amplify the perception of risk, and fear-based messages by the media may have negative effects on media consumers. This "infodemic" has the potential to affect the population's mental health and wellbeing.

Viewing potentially distressing media content may negatively impact those who see it. After the 9/11 terrorist attack in the United States, those who watched television images frequently are reported to be more likely to have Post - Traumatic Stress Disorder (PTSD) and depression compared with those who did not.

In the last two decades, new forms of media, such as social media and internet communication technology, have emerged, gradually replacing traditional media. These new forms of media are making a huge impact on disaster and emergency communications.

The different characteristics of new media and traditional media may influence users differently. New media includes multiple sources of content: the quantity of information is increased, but the quality of messages is uncontrolled.

On one hand, in the disaster context, social media helps survivors manage their feelings, facilitate coping, and provided emotional relief. On the other hand, the negative emotion expressed on social media may impact viewers negatively. Therefore, it is worth investigating how traditional and new media use affect people who were exposed to the COVID-19 outbreak.

According to a report from the World Health Organization, during epidemic outbreaks, individuals are likely to experience a variety of acute psychological reactions as a consequence of their exposure. Access to reliable information about an outbreak is widely supported as a key resource to maintain wellbeing. However, few studies have examined the association between engagement with traditional and new media and acute psychological consequences among populations.

AIMS AND OBJECTIVES

This survey aims to study the amount of stress and anxiety-related symptoms in people due to the current coronavirus outbreak and examine the various factors contributing to it, including the sociodemographic factors and the effect of media exposure.

METHODOLOGY

Operational Procedure

A cross-sectional internet-based survey was conducted from 6th September to 9th September 2020 using Google forms. All participants were informed of the study purpose and procedures and provided consent to participate. The

recipients could forward the link to friends and acquaintances, in a snowball strategy. A total of 302 responses were received during the study period. Duplicate responses were removed and finally, 283 responses were considered in the study.

Participants filled out demographic information on age, gender, education level, marital status, and employment. They were further asked to answer yes or no to: whether they had relatives suffering from the COVID-19, if they are working from home and if they live with their families.

STUDY TOOLS

Media Use

Questions following previous research were used to examine participants' media exposure during the COVID-19 outbreak. Forms of media use (i.e., traditional and new media use) were assessed with five items. Respondents indicated the number of total hours in the last week that they were exposed to coverage of the disease outbreak via traditional media (e.g., television, newspapers); and new media (e.g. online news sites, via pictures, videos, and news, or text updates on social media).

Four questions assessed the frequency of types of media content participants viewed on a five-point scale from 0 = never to 4 = often. An example question is, "How often do you view content on the severity of the outbreak nationally and regionally?"

Media engagement was measured with two indicators. First, participants were asked whether they had shared information related to the disease on social media (yes or no). Second, they shared how often they had actively searched for news updates on the epidemic in the last week on a five-point scale from 0 = never to 4 = every day.

Psychological Outcomes

The stress and anxiety-related symptoms were assessed using the COVID Stress Scale, developed and validated by Taylor et al. It is a 36-item scale with 6 subscales (6 items each) pertaining to (1) Fears about the dangerousness of COVID-19, (2) fears about sources of COVID-19-related contamination (i.e., objects, surfaces), (3) COVID-19-xenophobia (i.e., fears that foreigners are sources of COVID-19), (4) fears about the personal social and economic consequences of COVID-19 (e.g., fears of disruption in the supply chain, fears of looting or rioting), (5) COVID-19-related checking (e.g., checking news media or social media, seeking reassurance from friends or medical professionals), and (6) traumatic stress symptoms related to COVID-19 (e.g., unwanted intrusive thoughts or nightmares relating to COVID-19).

Statistical Analysis

Statistical analyses were conducted using IBM SPSS 25.0. Descriptive statistics for continuous variables were presented as means \pm standard deviations. Relationships among the variables were examined using correlation analysis. The type of media use, contents of media exposure, and media engagement were analyzed separately.

RESULTS

In total 283 people participated in the survey (mean age 33.06 ± 11.24). Of the 283 participants, 173 were males and 110 were females. One hundred and forty (49.5 %) participants were married and 143 were either single, widowed, or separated. Fifty percent of the participants received a bachelor’s degree, 35 % received a master’s degree and 11% received a doctoral degree. Among the participants, 89 (31.4 %) were employed in the healthcare sector, 41 (14.5 %) were employed in accountancy, banking, and finance, 33(11.7 %) were employed in Information technology, 25 (8.8 %) in the education sector, 23 (8.1 %) in law enforcement and security. Table 1 shows the descriptive statistics in the sample.

Gender		
	Frequency	Percent
Male	173	61.1
Female	110	38.9
Total	283	100
Marital status		
	Frequency	Percent
Single	140	49.5
Married	140	49.5
Other	3	1.1
Total	283	100
Education level		
	Frequency	Percent
Secondary	1	0.4
Intermediate	4	1.4
Bachelor’s	143	50.5
Master’s	101	35.7
Doctoral	31	11
Other	3	1.1
Total	283	100
Place of work		
	Frequency	Percent
Accountancy, banking and finance	41	14.5
Business, consulting and management	11	3.9
Education	25	8.8
Engineering and manufacturing	14	4.9
Healthcare	89	31.4
Hospitality and events management	1	0.4
Information technology	33	11.7
Law enforcement and security	23	8.1
Other	34	12
Public services and administration	10	3.5
Retail and sales	2	0.7
Total	283	100

Table1: Sociodemographic Details Of The Sample

New media use, such as viewing news online, watching videos online, and viewing news updates on social media, was significantly associated with more fear about the COVID-19 and higher scores among all the domains of the COVID Stress Scale. Among the types of new media, viewing news updates on social media has most significant positive association with fear about the dangerousness of COVID-19 ($r = 0.261, p < 0.0001$), fear about the economic consequences ($r = 0.237, p < 0.0001$),

xenophobia ($r = 0.226, p < 0.0001$), fear about COVID-19 related contamination ($r = 0.163, p < 0.05$), traumatic stress symptoms related to COVID-19 ($r = 0.214, p < 0.0001$), and compulsive checking($r = 0.267, p < 0.0001$) (Table 2). No significant unique association was found between traditional media and COVID-19 related stress and anxiety.

Viewing content on the severity of the outbreak was associated with more fear about the dangerousness of COVID-19 ($r = 0.267, p < 0.0001$), fear about the economic consequences ($r = 0.204, p < 0.0001$), xenophobia ($r = 0.158, p < 0.008$), fear about COVID-19 related contamination ($r = 0.207, p < 0.05$), traumatic stress symptoms related to COVID-19 ($r = 0.134, p < 0.024$), and compulsive checking($r = 0.311, p < 0.0001$). Similarly, there is a significant positive correlation between actively sharing news updates about the pandemic and COVID-19 related stress and anxiety-related symptoms (Table 3).

DISCUSSION

In the present study, we investigated the association between media use and psychological outcomes in an adult population exposed to the COVID-19 outbreak via the media. We found that most people are engaged in multiple forms of media and content related to the COVID-19 epidemic. These media use behaviors were significantly associated with adverse psychological outcomes.

The first major finding was the different patterns of the associations between traditional and new media use with psychological outcomes. Using new media was associated with more negative psychological outcomes, including fear about the dangerousness of the disease and contamination, compulsive checking, and traumatic stress symptoms. These findings suggest a potentially harmful psychological effect of new media use during a pandemic. This is in contrast with traditional media, which showed no significant association with psychological outcomes.

The results are consistent with previous reports of a negative effect of social media use on psychological distress following terrorist attacks (Goodwin, Lemola, & Ben-Ezra, 2018; Monfort & Afzali, 2017), and higher stress levels in social media users compared with traditional media users after Hurricane Sandy (Goodwin, Palgi, Hamama-Raz, & Ben-Ezra, 2013).

The second major finding was that the amount of exposure to some media content was associated with psychological outcomes. A negative effect was found in viewing content on information related to the severity of the COVID-19 outbreak itself (e.g., number of cases of infection and deaths). Similar results have been found: individuals who watched television images of the 911 terrorist attacks in the United States frequently showed a higher likelihood to have PTSD and depression compared with those who did not (Ahern et al., 2002).

Apart from these findings, media engagement (actively sharing content about the pandemic) was mainly associated with negative psychological effects. Posting information about the outbreak, actively searching for news updates on the epidemic, and media use time during the last week were associated with a more negative effect. The negative effect of media engagement is consistent with a study following the Boston Marathon bombings that showed six or more hours of daily contact with bombing-

related media exposure was more detrimental for mental health (e.g., higher acute stress) compared with direct exposure to the bombings (Holman et al.,

2014).

		DANGER	ECONOMIC	XENOPHOBIA	CONTAMINATION	TRAUMATIC STRESS	COMPULSIVE CHECKING
Watching TV about the pandemic in the past one week	Pearson Correlation	0.101	.138*	.126*	0.085	0.095	0.077
	p-value	0.091	0.02	0.034	0.153	0.112	0.199
Reading newspaper about the pandemic in the past one week	Pearson Correlation	0.058	.126*	0.016	-0.02	0.042	0.066
	p-value	0.334	0.034	0.792	0.743	0.48	0.271
Viewing online news about the pandemic in the past one week	Pearson Correlation	.273**	.226**	.126*	.144*	.213**	.230**
	p-value	0	0	0.035	0.015	0	0
Watching videos online about the pandemic in the past one week	Pearson Correlation	.168**	.158**	.146*	0.059	.203**	.218**
	p-value	0.005	0.008	0.014	0.321	0.001	0
Viewing news updates on social media(WhatsApp, Facebook, etc.) about the pandemic in the past one week	Pearson Correlation	.261**	.237**	.226**	.163**	.214**	.267**
	p-value	0	0	0	0.006	0	0

Table 2: Association Between Forms Of Media Use And COVID Stress Scale

		DANGER	ECONOMIC	XENOPHOBIA	CONTAMINATION	TRAUMATIC STRESS	COMPULSIVE CHECKING
View content on the severity of the outbreak	Pearson Correlation	.267**	.204**	.158**	.207**	.134*	.311**
	p-value	0	0.001	0.008	0	0.024	0
View content on knowledge of the disease	Pearson Correlation	.242**	.217**	0.105	.127*	.136*	.360**
	p-value	0	0	0.077	0.033	0.023	0
View speeches from experts about the disease	Pearson Correlation	.199**	.210**	.184**	.187**	.224**	.383**
	p-value	0.001	0	0.002	0.002	0	0
Get information from acquaintances about the disease	Pearson Correlation	.165**	.146*	0.105	0.113	0.116	.253**
	p-value	0.005	0.014	0.077	0.057	0.052	0
Did you share information related to the disease on social media?	Pearson Correlation	0.101	.145*	0.098	0.091	0.116	.182**
	p-value	0.089	0.015	0.1	0.128	0.052	0.002
Actively share news updates about the pandemic	Pearson Correlation	0.099	.255**	.228**	0.105	.237**	.274**
	p-value	0.097	0	0	0.077	0	0

Table 3: Association Between Types Of Media Content And COVID Stress Scale

Limitations

The current study has the following limitations.

- First, due to its cross-sectional nature, the study could not establish a causal relation between media exposure and psychological outcomes. The link between media exposure and psychological outcomes is likely to be bidirectional.
- Second, since media use and COVID Stress Scale were self-reported, recall bias may be present.
- Third, the sample consisted of only educated individuals with basic knowledge of the internet. It is uncertain to what extent the results can be generalized to the population.

CONCLUSION

This study showed that increased media use among indirectly exposed adults during the COVID-19 pandemic outbreak was associated with poorer psychological outcomes. Psychological distress was mainly associated with the use of new media, viewing stressful content, and more media engagement. This suggests official social media accounts representing experts and health authorities can share timely and critical information to the public, and potentially counteract the possible negative effects of other forms of media sharing. The results also suggest that limiting the time spent engaging in social media during the initial phase of an epidemic outbreak and reducing viewing stressful content may minimize adverse psychological outcomes.

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