

Influence of social media on psychological health of youth during COVID-19 pandemic

Leena S. Balpande, Yamini V. Pusdekar, Sayali S. Bhagat, Purva D. Patil, Ajeet V. Saoji

Department of Community Medicine, NKP Salve Institute of Medical Sciences and Research Center, Nagpur, Maharashtra, India

ABSTRACT

Context: Medical undergraduates, being away from their institutes due to the lockdown, are at a greater risk of being affected by the negative news, which may easily instill fear and panic among them. Therefore, the present study was planned with the objective to study the effects of media exposure on the psychological health of undergraduate medical students at a tertiary health institute. **Aim:** To assess the psychological effects of social media/media use and coping mechanisms adopted during the COVID-19 pandemic. **Settings and Design:** Tertiary care teaching Institute and Cross-sectional study. **Material and Methods:** It is a cross-sectional observational study performed among (under graduate) UG students, which was assessed using a pre-tested questionnaire including the pre-validated DASS-21 scale. **Statistical Analysis:** Data collected was entered in MS Excel. Descriptive statistics and correlation of the study variables were analyzed while controlling for demographics using Epi-info software version 7.2.2. **Results:** It was observed that around one-fifth of the participants have moderate depression, followed by mild 10.97%; one-fifth of the participants have moderate levels of anxiety 20.41% followed by extremely severe anxiety 13.27% and about two-thirds of the study participants having no stress 64.29% followed by mild stress 14.80% and moderate stress 9.69%. **Conclusion:** There was a significant psychological impact of the use of social media among young populations, particularly anxiety, stress, and depression with exposure to negative news and reports on social media platforms.

Keywords: Anxiety, depression, psychological health, social media, stress

Introduction

The COVID-19 pandemic brought with it social distancing, enforcing media popularity for education and sharing information.^[1] Though it helped in creating awareness, overuse, and misleading information surged anxiety, panic, and stress among youth from exposure to media news on death tolls, beds, oxygen, and medical supplies shortage.^[2-4] Medical undergraduates were profoundly affected by being exposed

to the hospital environment and failed to cope with it.^[5-7] This was neglected by primary care physicians attending youth, compounded by limited access to mental health services.^[8-10] The study aimed to assess the effects of media exposure on the psychological health of undergraduate medical students and their coping strategies.

Objectives

To assess the psychological effects of social media/media use during the COVID-19 pandemic.

To study the coping mechanisms adopted by those affected due to social media/media use during the COVID-19 pandemic.

Address for correspondence: Dr. Leena S. Balpande, Plot No 69, Friends Zone 4, Deendayal Nagar, Nagpur - 440022. E-mail: drleena29@gmail.com

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Subjects and Methods

Type of study/Study design – It was a cross-sectional observational questionnaire-based study.

Study Setting – Tertiary care institute

Study population – Undergraduate UG students who are currently with the department of Community Medicine from three academic years.

Study period – July 2021 to June 2022

Sample size – As all the students currently associated with the department are included in the study. Approximately 410 students will be included. No formal sample size has been calculated. A post hoc power analysis will be conducted at the time of data analysis to assess sample adequacy. Additional students will be recruited in the study if the sample is found to be inadequate.

Inclusion criteria – UG medical students currently associated with the Department of Community Medicine and those willing to participate in the research study and give their consent will be included in the study.

Exclusion criteria – UG medical students who are not willing to participate in the study.

Methodology – After obtaining approval from the institutional ethical and research committee, the participants who fulfilled the inclusion criteria were acknowledged regarding the details and objectives of study. The informed consent was taken from selected participants through the same Google form. The cross-sectional study was conducted at a tertiary care institute from July 2021 to June 2022. The exposure to social media/media was assessed using a pre-tested questionnaire developed using the Google Docs platform. Psychological health, particularly stress, anxiety, and depression, will be assessed using the pre-validated DASS-21 scale.^[11]

Statistical analysis: Data collected was entered in MS Excel. Descriptive statistics and correlation of the study variables were analyzed while controlling for demographics using Epi-info software version 7.2.2.

Results

The objective of the study was to assess the psychological effects among social media users and to study the coping mechanisms adopted by those affected by social media/media use during the COVID-19 pandemic. To carry out the study, the required sample size was 410, out of which 392 responses were acquired, i.e. a 95% response rate. Using a pre-tested questionnaire that included the DASS-21 scale, psychological health, particularly stress, anxiety, and depression, was assessed.

Results stated that nearly half of the study population consisted of individuals belonging to the age group >20 years 52.56% and even the gender-wise distribution consisted of half of the study population being females 50.26% [Table 1]

99.74% of individuals use one or the other type of social media, whereas a maximum of the participants used traditional media, 93.11%. Nearly half of the individuals used traditional media on a daily basis, followed by once a week, which was 23.01%. Among the traditional media users, more than half use it for <1 hour a day, 58.63%, followed by the frequency of 1–2 hours per day, 29.59%. The majority of the study population uses social media daily, 92.59%. Two-fifths of the total participants used social media for 1–2 hours per day, 44.75%, followed by 2–4 hours per day, 28.9%. Although the data of three individuals was missing, three-fourths of the participants stated that the use of social media affected their emotions by 74.5% [Table 2].

The above table suggests that 96.68% of participants reported a change in the pattern of media use, among which one-thirds reported an increase in use of both traditional and social media, 35.71% followed by an increase in frequency and duration of social media use, 29.1% and 23.29% respectively [Table 3].

On assessing the participants using the DASS-21 scale, it showed that although 57.14% of the participants do not have depression, around one-fifth of the participants do have moderate depression, followed by mild 10.97%. Whereas almost half of the participants do not have anxiety, 43.88%, one-fifth of the participants have moderate levels of anxiety, 20.41%, followed by extremely severe anxiety, 13.27%. On assessing the domain of stress, about two-thirds of the study participants had no stress, 64.29%, followed by mild stress, 14.80%, and moderate stress, 9.69% [Table 4].

Two hundred thirty-seven out of the total sample size are daily social media users. There was no statistically significant association between stress and frequency of social media use $P = 0.4028$ [Table 5a].

Most of those who do not suffer from stress use social media for 1 to 2 hrs a day. The above table suggests that there is a statistically significant association between duration of social media use and stress $P = 0.000002214$ [Table 5b].

Although, most of the daily social media users are normal, but the number is followed by those with moderate anxiety. This resultantly gives the P value of 0.005495 which suggests that anxiety and frequency of social media use are statistically significant [Table 6a].

Maximum of the individuals use social media for 1-2 hr per day and are normal followed by those who use it for 2-4 hrs a day suffer from extremely severe depression. The above table shows that there is a statistically significant association between anxiety and duration of social media use $P = 0.0000001$ [Table 6b].

Table 1: Demographic Characteristics of the study population (n=392)

Characteristics	Number	Percentage
Age in years		
≤20	186	47.44%
>20	206	52.56%
Gender		
Male	195	49.74%
Female	197	50.26%

Table 2: Social Media profile of the study population (n=392)

Social Media use characteristics	Number	Percentage
Any Type of Media used		
Yes	391	99.74%
No	0	0
Missing	1	0.26%
Traditional Media		
Yes	365	93.11%
No	26	6.63%
Social Media		
Yes	391	99.74%
No	1	0.26%
Frequency of use of Traditional Media		
Daily	172	47.12%
Once a wk	84	23.01%
Twice a wk	83	22.73%
Others, specify	26	7.12%
Duration of use of Traditional Media		
<1 hr per day	214	58.63%
1-2 hrs per day	108	29.59%
2-4 hrs per day	34	9.31%
>4 hrs per day	9	2.47%
Frequency of use of Social Media		
Daily	362	92.59%
Once a wk	13	3.32%
Twice a wk	11	2.81%
Others, specify	5	1.28%
Duration of use of Social Media		
<1 hr per day	73	18.68%
1-2 hrs per day	175	44.75%
2-4 hrs per day	113	28.9%
>4 hrs per day	30	7.67%
Use of media affects emotions		
Yes	292	74.5%
No	97	24.74%
Missing	3	0.76%

Although, most of the daily social media users are normal, the number is followed by those with moderate depression. The above results suggest that the association between depression and frequency of social media use is statistically significant $P = 0.04394$ [Table 7a].

Most of those who do not suffer from depression use social media for 1 to 2 hrs a day. The above table suggests that there is a statistically significant association between duration of social media use and depression $P = 0.0003289$ [Table 7b].

When asked the question on the usage of coping strategies, multiple responses were accepted by the participants. The results stated that half of the participants reverted to reducing the use of social media by 51.37%, and one-third of the participants tried to pay attention to positive or encouraging messages, 34.24% [Table 8].

Discussion

This study was conducted among 392 participants studying in a higher education institute to assess the psychological impact of social media use during the pandemic. The study population mainly comprised youngsters in the range of 18 to 24 years of age. The study comprised of equal numbers of both genders that were equally distributed among age groups <20 and >20 years. Similarly, in other studies by Saud *et al.*^[12] and also in the study by AR Ahmed *et al.*^[13] majority of the population belonged to the age group 18 – 35 yrs. The social media use in this group was universal, with 99.74% of them being active on social media. About 71% of the world's Internet users are youth aged 15–24.^[14]

The pandemic evidenced a rapid surge in social media use as there was nationwide lockdown and movement restrictions that led to the increase in the use of these mediums to stay connected for education as well as for entertainment. The most familiar platforms used were WhatsApp and Instagram. Almost all the participants used some form of media. Nearly half of them used social media daily, and almost three-fourths used it for more than an hour daily. The motives for using social media were mainly to seek information regarding the pandemic and to obtain updates on the current situation. It also enabled the sharing of information to create awareness about preventive measures.^[15] Our findings were similar to those reported by Saud *et al.*^[12] who reported the predominantly used social media platforms such as WhatsApp and Instagram. This trend is particularly popular among young populations as they use these social media platforms to remain connected to their peers, share information, and showcase their talents in their close communities.^[12,16]

When frequency and duration of media use were studied, almost half of the participants used traditional media on a daily basis, and around 60% used it for 1 hr per day. More than 90% of participants used social media on a daily basis, and around three-fourths of the participants used it for 1 to 4 hours daily. The prevalent patterns of social media use were also observed by Lin *et al.* to be a median of 61 minutes per day.^[17] Multiple authors across the world have similarly stated that the use of social media has increased.^[18]

High social media use among youngsters recently was mainly due to the lockdown of colleges and online education. This necessitated the continued use of mobile phones, tablets, and laptops, which the students used during the study breaks for news or entertainment.

This may be the reason for the high reported use of social media in the present study. The reported use of social media in the other

studies were similar to the current study.^[16,19] A study by Sobaih *et al.*^[16] suggests that one reason for increased social media use in students is its usage to support each other and build online connections.^[16]

This high social media use tends to affect psychological health to the extent that youngsters find it difficult to concentrate on other tasks at hand and may even develop a psychological condition called fear of missing out or fear of missing out (FOMO), as described in some of the earlier studies.^[20-22]

The increasing duration of social media use is thought to have an impact on young minds. The information shared during the pandemic led to emotional and psychological disturbances in the younger populations. In our study, it was observed that emotions were affected in 74.5% of the participants. Moreover, 36% of the study participants experienced stress, 56% were reported to be having anxiety, and 42% had depression that was attributed to the use of social media. The current study portrays that although more than half of the participants do not suffer from depression, one-fifth of them have moderate depression, followed by mild 10.97%. According to another survey, 26.3% of their study population had depression.^[19] Although another study stated that >70% of the study participants experienced stress.^[23]

When asked if social media affected their emotions in any way, some participants responded that it lowers one’s emotional intelligence, creates a loss of interest in activities, wastes time, and may lead to habit formation. This may lead to depression. Some respondents focused on the positive side of social media, that viewing exciting things made them cheer up, inspired them in some way or the other, gave motivation, acted as refreshment, and entertained them by teaching them new things about the surroundings.

Stress may have resulted from the constant news about the lethality of the virus and the daily reporting of the number of cases and tests conducted, which may have led to constant fear and stress about the possibility of acquiring infection. The discussions on the forums about the severity of infections and the deaths of near and dear ones may have impacted youngsters, making them anxious regarding the outcomes for their friends or relatives who are affected by COVID-19.^[24-27]

Depression may be due to the negative news, or general reporting on the death toll may imbibe a fear of dying or being affected by the virus and may lead to fear. The constant hammering by negativity and loss of known persons might have led to depression among young people who failed to cope with the bombarding of negative news on social media platforms.^[28-30]

However, most of those who do not suffer from stress use social media for 1 to 2 hrs a day. Our study suggests a statistically significant association between duration of social media use and stress $P = 0.000002214$. Similar findings showed that the more time spent on social media, the more stress was seen among various studies across the globe.^[24] Hughes *et al.* did not find any significant correlation between the two.^[31]

Even though most of the daily social media users were normal, it was followed by those with moderate anxiety. There was a statistically significant $P = 0.005495$ association between anxiety and frequency of social media use. It was observed that social media users using it for 2-4 hrs daily, suffer from extremely severe anxiety. This association between anxiety and duration of social media use is statistically significant, $P = 0.0000001$. Similar findings of increased anxiety with increasing duration of social media use were reported by a previous study.^[32]

Even if most of the daily media users are normal, it precedes those with moderate depression, suggesting a statistically significant association denoting increased incidence of depression with increased frequency of media use $P = 0.04394$. Most of those who do not suffer from depression use social media for 1 to 2 hrs a day. The above table suggests a statistically significant association between the duration of social media use and depression $P = 0.0003289$ a research by Primack *et al.* suggested otherwise that there was no association found between depression and increased use of social media.^[33]

Table 3: Change in pattern of media use (n=391)

Change in pattern of media use	Number	Percentage
Yes	378	96.68%
No	13	3.32%
Increase in frequency of TM use	35	9.25%
Increase in duration of TM use	27	7.14%
Increase in frequency of SM use	110	29.1%
Increase in duration of SM use	88	23.29%
Increase in the use of both	135	35.71%

Multiple answers allowed, TM=Traditional media, SM=Social media

Table 4: Distribution of participants according to DASS Score (n=391)

Categories	Depression			Anxiety			Stress		
	Score	No.	%	Score	No.	%	Score	No.	%
Normal	0–9	224	57.14	0–7	172	43.88	0-14	252	64.29
Mild	10–13	43	10.97	8–9	43	10.97	15-18	58	14.80
Moderate	14–20	71	18.11	10–14	80	20.41	19-25	38	9.69
Severe	21–27	28	7.14	15–19	45	11.48	26-33	32	8.16
Extremely Severe	28+	26	6.63	20+	52	13.27	34+	12	3.06
		392	100		392	100		392	100

During the pandemic, the main use of social media was for sharing important information and updates regarding the pandemic and staying connected with the people who were separated due to the COVID mandates.^[12] The news shared during the pandemic as well as the excerpts regarding the toll taken by the pandemic as well as the extent of spread and its severity were enough to instill fear in the minds of the readers, thereby causing stress and emotional disturbances among them. The findings reported by the study were also emphasized by the study conducted by Z Su *et al.* and Olagoke *et al.*^[9,34]

According to Folkman and Lazarus, coping refers to all of the cognitive as well as behavioral attempts used to manage, scale back, or tolerate demands.^[35] When asked about various coping strategies used by the participants, half of them 51% turned to decreasing social media use, whereas 34% of participants paid attention to the positive aspects of media. Many participants responded with various coping strategies they used, like discussing their thoughts with family members, exercising,

completely shutting out from social media, and reading books to build up courage and confidence to help people facing difficult times.

Since homestay during covid times, numerous people have taken advantage of social media to create awareness about the pandemic itself. Creating and implementing a social media campaign with well-defined goals can positively impact changing people's behavior.^[15] Social media promoted effective strategies to help individuals deal with social and physical distancing and reduce stigma, discrimination, prejudice, and inequalities.^[36]

As part of the study, participants responded that social media use was helpful to them during lockdown as it was a way to stay in touch with the outside and worked as a medium to entertain, relax, and learn various things, which made them happy and kept their mood jolly preventing them to plunge into depression. Social media use also provided information about current affairs, lockdown and the disease, hence updating their behavior. In another study, when asked whether social media has changed their behaviors or not, 34.5% of respondents gave assurance that they feel good with the information from social media.^[12]

Earlier, even physicians used to maintain strict boundaries during social media engagement to draw a line between professional and personal identity.^[20] But due to the pandemic, there was the emergence of a new paradigm, i.e. Public physician, someone who addresses the presence of the public as part of their work and also recognizes the benefits of public engagement along with outweighing the risks.^[37]

Table 5a: Association of duration of Social Media use with Psychological Health – Stress (n=251)

Frequency of social media use	Stress					P
	Normal	Mild	Moderate	Severe	Extremely severe	
Daily	237	50	35	28	12	P=0.4028
Once a week	5	4	2	2	0	$\chi^2=12.55$ df=12
Twice a week	5	4	1	1	0	
Others	4	0	0	1	0	

Table 5b: Association of duration of Social Media use with Psychological Health – Stress (n=251)

Duration of social media use	Stress					P
	Normal	Mild	Moderate	Severe	Extremely severe	
<1 hr per day	59	10	1	3	0	P=0.000002214 $\chi^2=48.86$ df=12
1-2 hr per day	122	24	17	7	5	
2-4 hr per day	59	22	12	15	5	
>4 hr per day	11	2	8	7	2	

Table 6a: Association of frequency of Social Media use with Psychological Health – Anxiety (n=171)

Frequency of social media use	Anxiety					P
	Normal	Mild	Moderate	Severe	Extremely severe	
Daily	162	41	71	41	47	P=0.005495 $\chi^2=28.02$ df=12
Once a week	0	0	7	4	2	
Twice a week	7	0	2	0	2	
Others	2	2	0	0	1	

Table 6b: Association of duration of Social Media use with Psychological Health – Anxiety (n=171)

Duration of social media use	Anxiety					P
	Normal	Mild	Moderate	Severe	Extremely severe	
<1 hr per day	38	10	13	11	1	P=0.0000001 chi2=59.17 df=12
1-2 hr per day	79	19	38	12	24	
2-4 hr per day	47	10	25	15	60	
>4 hr per day	7	4	4	4	11	

Table 7a: Association of Social Media use frequency with Psychological Health – Depression (n=223)

Frequency of social media use	Depression					P
	Normal	Mild	Moderate	Severe	Extremely severe	
Daily	211	38	67	22	24	P=0.04394 $\chi^2=21.47$ df=12
Once a week	3	4	2	2	2	
Twice a week	5	1	2	3	0	
Others	4	0	0	1	0	

Table 7b: Association of Social Media use frequency with Psychological Health – Depression (n=223)

Duration of social media use	Depression					P
	Normal	Mild	Moderate	Severe	Extremely severe	
<1 hr per day	50	8	12	3	0	P=0.0003289 $\chi^2=35.96$ df=12
1-2 hr per day	104	25	30	8	8	
2-4 hr per day	59	9	20	13	12	
>4 hr per day	10	1	9	4	6	

Table 8: Coping Strategies (n=291)

Coping Strategies	Number	Percentage
Reducing use of media	150	51.37%
Not sharing the unverified forwarded messages	47	16.1%
Refraining from seeing disturbing news	52	17.9%
Paying attention to positive or encouraging messages	100	34.24%
Others, specify	7	2.4%

Multiple answers allowed

As everything has an opposite side, the use of social media also does. The study participants suggested that the use of media instilled fear in them, providing them with inaccurate and incorrect information at times, making them anxious, and creating a stressful environment. As the respondents were young adults, they also faced mobile phone addictions and felt that the use of social media was a waste of time. Similar instances were seen in developing countries where social media spread misinformation, imparting panic and fueling fear among the population.^[36]

Researches conducted on effects of media have proven that negative news leads to mild to severe mental health issues among people. Due to the severity of COVID-19, the media was unduly focused on pandemic-related news, which in turn affected individuals, making them face mental health challenges more significantly.^[9]

Conclusion

The study concludes that there was a significant psychological impact of the use of social media among young populations, particularly anxiety, stress, and depression with exposure to negative news and reports on social media platforms. This also correlated with, therefore, it is imperative to impress upon young minds the importance of rational use of social media and verify the sources of information for their authenticity before being affected by the news or the information circulating over social media platforms. Adopting a responsible attitude toward the use of social media would be beneficial for preventing its negative psychological and mental health impact.

Key Message

Considering the significant psychological impact of the use of social media among young populations, there is a need for primary care physicians to cautiously approach the rising use of social media. This can be achieved by sensitizing the youth regarding the rational use of these platforms and having them make their judgments by verifying the news source.

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Conflicts of interest

There are no conflicts of interest.

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