ASSESSMENT OF THE EFFECT OF SOCIAL MEDIA USAGE AND COVID-19 PANDEMIC NEWS UPDATES ON THE MENTAL WELL-BEING OF STUDENTS DURING THE LOCKDOWN IN INDIA

Epidemiology

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ABSTRACT

As a result of the Lockdown imposed by the Government of India, social media usage has considerably increased among students. A constant urge to keep oneself updated with the news regarding the pandemic has also been observed, which has inevitably led to students getting exposed to a constant stream of negative news. To investigate the effect of the time spent on social media and the time spent self-updating on news related to the COVID-19 pandemic on the mental well-being of 138 undergraduate college students, aged 18 to 24. A voluntary online questionnaire using the Affectometer 2 scale was used during the 5th week of the lockdown.

We found a strong negative correlation between the time spent on social media and the mental well-being of students, while no statistically significant correlation between the time spent self-updating on COVID-19 related news and mental well-being was found. It is important that students use social media in moderation and find alternative avenues for recreation, to prevent unnecessary stress and potential adverse effects on their mental health, and thus maintain their psychological well-being.

KEYWORDS

COVID 19, Mental Health, Lockdown, social media, News Updates

INTRODUCTION

Corona virus disease 2019 abbreviated as COVID-19 has emerged out to be the greatest public health problem in the world. COVID-19 is caused by a novel virus belonging to corona virus family, which causes respiratory disease. With its first case reported in Wuhan China in December 2019, this virus has rapidly spread to the entire world within few weeks. WHO has declared COVID-19 as pandemic on March 11, 2020.

On 24th March 2020, the Government of India announced a three weeks long lockdown (which was later extended) in the country to contain the transmission of COVID-19. This consequently led to the immediate closure of schools and colleges, and the suspension of classes, with university students asked to vacate the hostels and return home. With public areas including shops, markets, restaurants, and parks closed down, and the imposition of strict social distancing measures and restrictions on movement in the form of curfews, students found themselves being largely restricted to their homes. With the sudden and unprecedented disruption of their daily routines, the isolation as a result of the virtual absence of any social interaction, and restrictions imposed on outdoor recreational activities, a surge in the usage of social media was observed among students. Recent literature has suggested that excessive social media usage may have a negative impact on mental well-being among students (Kaur & Bashir, 2015; Park et al., 2015).

With all mainstream online, television, and print media almost singularly focusing on the pandemic, with an apparent morbid sensationalization of the rising number of cases and fatalities and the deteriorating conditions in hospitals, an irresistible urge to keep oneself constantly updated, and the consequent exposure to a constant stream of negative news may also lead to the exacerbation of fear and anxiety among students. In this study, we investigated the effect of time spent on social media and time spent on updating about the COVID-19 pandemic, on the mental well-being of students.

METHOD AND MATERIALS

138 students, aged 18 to 24, including undergraduate MBBS students at Maulana Azad Medical College, New Delhi, students enrolled in non medical courses including Engineering and computer science, filled out a voluntary online questionnaire via Google form after giving their consent to participate in a study investigating mental health. The questionnaire remained online throughout the duration of the 5th week

of the Lockdown, during which students could fill out the questionnaire at their convenience.

The questionnaire consisted of questions asking students the approximate amount of time they spent per day, on average on various social media platforms including Facebook, Instagram, Snapchat and others, as well as the amount of time they spent in updating their knowledge about news and the current state of affairs with respect to the COVID-19 pandemic. This included the time spent reading about COVID-19 in the newspaper, on the internet, as well as watching COVID-19 related news on television as well as online.

Measurement of mental well being

The "Affectometer 2" scale was used to measure the current level of mental well-being among the students. Due permission was sought from Dr Ross Flett, the author of the scale, for using the scale in this study.

The Affectometer scale is a 5-point Likert scale, consisting of 40 items- 20 positive and 20 negatives, half of each presented as sentences and the other half presented as adjectives. The students were asked how often they had felt the way as indicated in the corresponding sentence or adjective, in the preceding two weeks (with 0= none of the time, 1= rarely, 2= some of the time, 3= often and 4= all of the time). The total positive score was calculated by summation of the individual scores of the positive sentences/adjectives, and similarly the negative score was calculated by aggregating the individual scores of the negative sentences/adjectives. The total mental well-being score was then calculated by subtracting the negative score from the positive score. Thus, the mental well-being score could range from -80 (most negative) to +80 (most positive). (Annexure I)

STATISTICAL ANALYSIS

The data obtained from the research were analysed by using SPSS & the results were obtained from applying appropriate statistical tests like Kruskal Wallis Test, One way ANOVA, Spearman Correlation & p value < 0.05 is considered as statistically significant.

RESULTS

There were 138 students who had participated in the study, of which 101 were undergraduate medical students while the rest 37, were enrolled in non-medical undergraduate courses.

Based on their responses, students were categorized into 3 groups based on the time they spent on social media in a day as depicted in table 1.

Table 1: Groups (based on no of hours spent in social media per day)

Groups	Group 1 (Social media use 2hours/day)	Group 2 (Social media use 4 hours/day)	Group 3 (Social media use 6 hours/day)
Sample size (n)	38	78	22
Mental health score	20.97±21.71	13.04±24.4	6.05±28.6
Time spent in updating COVID-19 related news	1.37±0.75	1.54±0.64	1.41±0.73

A Kruskal Wallis test was performed, with the null hypothesis that the mean ranks of the 3 groups are the same, and that the groups come from the population with the same distribution (Table 2a & 2b). As evident from the above tables, there exists statistically significant difference among the three groups when we compare the “no of hours spent in social media” (p value 0.000). However, “mental well-being score” & “time spent in updating knowledge on covid 19” were not statistically significant among the three groups (p value 0.126 & 0.085 respectively).

Table 2a: Kruskal Wallis Test comparing the three groups

Parameters	Groups	Mean Rank
No of hours spent in social media	Group 1	19.50
	Group 2	77.50
	Group 3	127.50
Mental Well Being Score	Group 1	79.41
	Group 2	67.77
	Group 3	58.52
Time Spent in updating knowledge on COVID 19	Group 1	60.95
	Group 2	75.10
	Group 3	64.41

Table 2b: Kruskal Wallis Test comparing the three groups

	No of hours spent in social media	Mental Well Being Score	Time spent in updating knowledge on COVID 19
Chi-Square Value	137.000	4.140	4.936
df	2	2	2
P Value	0.000*	0.126	0.085

P value < 0.05 is considered as statistically significant

In addition, a One-Way ANOVA with post hoc test (Bonferroni) for multiple comparison was performed to search if there were any statistically significant differences between the mean mental well-being scores of the 3 groups. No statistically significant difference was seen (Table 3).

Table no 3: Table depicting the comparison between the three groups by ANOVA

Dependent Variable	Group (I)	Group (J)	Mean Difference (I-J)	P value
Mental Well-being Score	Group 1	Group 2	7.935	0.308
		Group 3	14.928	0.072
	Group 2	Group 1	-7.935	0.308
		Group 3	6.993	0.712
	Group 3	Group 1	-14.928	0.072
		Group 2	-6.993	0.712
Time Spent in updating knowledge on COVID 19	Group 1	Group 2	-0.170	0.637
		Group 3	-0.041	1.000
	Group 2	Group 1	0.170	0.637
		Group 3	0.129	1.000
	Group 3	Group 1	0.041	1.000
		Group 2	-0.129	1.000

Table no 4 highlights the results of spearman's correlation between mental health score with social media usage and news updates on COVID -19. The Spearman's rank correlation coefficient was

calculated for both the association between no. of hours spent on social media and the mental well-being score, and that between the time spent self-updating on COVID-19 and the mental well-being score. For the association between the time spent on social media and the mental well-being score, a negative correlation was found with a statistically significant Spearman's value of -0.174 & P value of 0.042. For the association between the time spent self-updating on COVID 19 and the mental well-being score, no strong correlation was found with a statistically insignificant Spearman's value of 0.079 & P value of 0.356.

Table no 4: Table depicting the results of spearman's correlation between mental health score with social media usage and news updates on COVID -19.

		No. of hours spent on social media	Mental well-being score	Time spent in updating knowledge on COVID-19
Spearman's rho	No. of hours spent on social media	Correlation Coefficient	1.000	-.174*
		Sig. (2-tailed)	.042	.356
		N	138	138
	Mental well-being score	Correlation Coefficient	-.174*	1.000
		Sig. (2-tailed)	.042	.785
		N	138	138
	Time spent in updating knowledge on COVID-19	Correlation Coefficient	.079	-.023
		Sig. (2-tailed)	.356	.785
		N	138	138

***.Correlation is significant at the 0.05 level (2-tailed)**

From our study, we found that the mental well-being score of students was negatively correlated with the number of hours spent on social media per day with a statistically significant p value of 0.042 (<0.05) and Spearman's rho value of -0.074. No statistically significant correlation was found between the time spent self-updating on COVID-19 per day and the mental well-being score of students, with a statistically insignificant p value of 0.356 (>0.05) and rho value of 0.079.

DISCUSSION

Our results indicate that spending significant amounts of time on social media during the lockdown has an adverse effect on the mental health of both school and college students. With exacerbating factors such as anxiety surrounding the pandemic and the threat of infection, uncertainty and stress regarding examinations, and financial insecurity in the family due to the lockdown, transient feelings of loneliness, anxiety, and unhappiness may progress to depression. The adverse effect of social media on the mental well-being of students and adolescents has been widely reported in literature. Park et al. (2014) reported that prolonged usage of social media platforms is associated with cumulative stress in college students, and according to Kaur and Bashir (2015, 2016), this stress, as a result of social media can negatively affect the mental health of students. Strickland (2014) reported that young adults are at a high risk of developing mental health problems as a result of excessive social media usage. Social isolation during the lockdown may enhance the adverse effect of social media on the mental health of students, and precipitate feelings of loneliness and depression. Moody (2001) reported that higher level of internet usage among young adults enhances emotional loneliness. This is a matter of concern since loneliness is intimately related to serious mental health problems (Patterson & Veenstra, 2010; Boivin et al., 1995), especially depression. In (Pantic et al., 2012), a positive correlation between depression amongst adolescents and the time spent on Facebook was found.

It has been reported in literature that constantly updating on negative news can negatively impact mental health, precipitating fear, stress and anxiety. Johnston and Davey (2011) reported that watching negative-valanced TV news bulletins led to the catastrophizing of personal worries, and increased anxious and sad moods. With students

being exposure to a constant stream of negative news related to COVID-19 in the newspapers, on the television, and on the internet, we had expected to find a negative correlation between the time spent updating on COVID-19 and the mental health of students. However, no such statistically significant correlation was found. This may be due to the reason that since most of our respondents were undergraduate medical students, it is likely that they were well informed about the COVID-19 pandemic, and were therefore able to calmly and rationally analyse the news instead of being swept away by the panic and hysteria created by sensationalization of the pandemic by the media.

CONCLUSION

It is essential during this lockdown that students use social media in moderation, and try to find alternative avenues for recreation, to prevent unnecessary stress and potentially adverse effects on their mental health, and thus maintain their psychological well-being.

ANNEXURE 1-Affectometer 2*

1-STATEMENTS

Look at each statement and circle the number that best fits how often you've felt that way in the last 2 weeks

STATEMENTS	Not at all	Occasionally	Some of the time	Often	All of the time
My life is on the right track	0	1	2	3	4
I have been left alone when I don't want to be	0	1	2	3	4
I feel I can do whatever I want to	0	1	2	3	4
I have been thinking clearly and creatively	0	1	2	3	4
Like a failure	0	1	2	3	4
Nothing seems very much fun any more	0	1	2	3	4
I like myself	0	1	2	3	4
I can't be bothered to do anything	0	1	2	3	4
Close to people around me	0	1	2	3	4
As though the best years of my life are over	0	1	2	3	4
My future looks good	0	1	2	3	4
I have lost interest in other people and don't care about them	0	1	2	3	4
I have energy to spare	0	1	2	3	4
I smile and laugh a lot	0	1	2	3	4
I wish I could change some part of my life	0	1	2	3	4
My thoughts go around in useless circles	0	1	2	3	4
I can handle any problems that come up	0	1	2	3	4
My life seems stuck in a rut	0	1	2	3	4
I feel loved and trusted	0	1	2	3	4
I feel there must be something wrong with me	0	1	2	3	4

Words	Not at all	Occasionally	Some of the time	Often	All of the time
Satisfied	0	1	2	3	4
Lonely	0	1	2	3	4
Good natured	0	1	2	3	4
Clear headed	0	1	2	3	4
Helpless	0	1	2	3	4
Impatient	0	1	2	3	4
Useful	0	1	2	3	4

Depressed	0	1	2	3	4
Relaxed about things	0	1	2	3	4
Hopeless	0	1	2	3	4
Optimistic	0	1	2	3	4
Withdrawn	0	1	2	3	4
Enthusiastic	0	1	2	3	4
Interested in other people	0	1	2	3	4
Discontented	0	1	2	3	4
Confused	0	1	2	3	4
Confident	0	1	2	3	4
Tense	0	1	2	3	4
Understood	0	1	2	3	4
Insignificant	0	1	2	3	4

*Permission to use this scale must be sought from the author, Dr Ross Flett, New Zealand. Email: r.a.flett@massey.ac.nz

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