Psychological Impact of COVID 19 on the Amount of Perceived Stress among College Students Studying across Various Streams in India during the Period of Lockdown

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ABSTRACT

BACKGROUND

Humans have evolved and adapted as a social being and it has ensured the survival of all. The novel corona virus, COVID 19 has impacted the psychosocial functioning of billions of people around the world. The various impacts it might have on different categories of people over a period of time is one of the main concerns of the World Health Organisation. College students are vulnerable and are more prone to psychological problems due to the prolonged stress experienced by them during this period of uncertainty and social isolation. We wanted to analyse the level of perceived stress among college students in India and the impact of this sudden break in studies and social distancing has on them. We also wanted to study the number of mental setbacks the college students experience because of their financial situation and their future job prospects during this lockdown.

METHODS

An online survey was conducted among the college students in India. A total of 775 responses were analysed for the level of perceived stress using the perceived stress scale. The psychological impact caused by the lockdown was analysed through statements regarding the amount of worry they felt across various aspects of their life such as economic stability, missing friends during lockdown, use of mobile phone for connecting with people, continuation of education and impact of Covid 19 on future job prospects.

RESULTS

College students were experiencing significant amount of stress as measured by the perceived stress (PS) scale with 11.5 % experiencing high stress and 81.2 % students experiencing moderate amount of stress. The perceived stress was found to be significantly associated with worry regarding education, job prospects being affected by the Covid 19 situation and the reduction of time spent with their peers.

CONCLUSIONS

College students are experiencing moderate to high level of stress in the context of the pandemic situation and preventive and protective measures have to be taken by the college administration to address these issues. More targeted assessments needs to be done in colleges to assess the mental health of its student population and protective measures like counselling services should be made to vulnerable students as they try to handle the stress associated with the current pandemic situation.

KEY WORDS

COVID 19, Perceived Stress, College Students, Social Isolation, Worry Regarding job Prospects, Break in Education

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BACKGROUND

The World Health Organisation¹ declared the new Corona virus outbreak as a pandemic in March 2020. The primary strategy adopted by the world countries to curb the spread of virus is by imposing lockdown. India went into lockdown from March 23, 2020 in an effort to contain the spread of the virus. It has been a period of uncertainty and stress for all stake holders fighting to contain the spread of the virus. India being the country with the world's largest youth population is known for its vibrant social environment and its importance in maintaining the family structure and society at large. While medical professionals are fighting to contain and manage the corona virus, psychiatrists and psychologists are worried about the psychological impact this crisis has on people now and its possible impact on people in the future. The most effective way to contain the spread of Corona virus—social distancing has a negative impact on the psycho-social wellbeing of people.

The psychological consequences of social distancing, as affected by the lockdown is the feeling of isolation and uncertainty.² Isolation and uncertainty can lead to persisting feelings of stress, resulting in many conditions like anxiety, post-traumatic stress disorder, depression and panic disorder.² The World Health Organization has issued guidelines on the psychosocial impact, this crisis might have on people of different groups,¹ focusing mainly on children, caregivers of children, elderly people and on the long term impact of increase in people suffering from anxiety disorders, depression, addiction and increase in problems such as domestic violence and sexual offences. It has clearly outlined the need to have preventive and protective measures set up to deal with these issues.

College students suffer from mental health issues and a study based on WHO data has shown that³ nearly one fifth of the young adults had a diagnosable mental health problem over a 12 month period. Young adults especially college students have been largely excluded from most of the studies especially in the context of pandemics. Studies that were conducted early during similar pandemics have largely concentrated on the infection rate and mortality rate and its effect on the mental health of people during and after the pandemic. There are numerous studies^{4,5} that study the fear of infections, the periods of social distancing and quarantine⁶ and the impact it has on people and front line workers who are fighting the spread of the disease that includes medical and paramedical professionals.

Students enter college at about the age of 17 yrs and are expected to acquire skills and education that will prepare them to enter the work force in a span of 3 - 6 yrs. The cultural system in India with its diversity, expects the young adults to conform within their cultural boundaries while working to excel in their productive skills and secure jobs at the earliest. There is a constant pressure from the family, the staff, peers and stiff competition in the employment sector which results in a lot of stress among the students in colleges,^{7,8} resulting in various psychological and physical conditions. Studies have shown that,⁹ college students are under a lot of stress, having to deal with peer pressure, academic pressure, competition, addiction, difficult family conditions and economic conditions and thus are more prone to mental health issues. College students are also more vulnerable to suicide¹⁰ and many

colleges now have realised the need for counsellors and psychological help to provide aid to students.⁹ A study among college students in India had shown that¹¹ 18.5 % suffered from depression, 24.4 % suffered from anxiety and 20 % suffered from stress.

This period of Covid 19 induced lockdown with special emphasis on social distancing is bound to have long term affects in all. Young adults need to learn and indulge in experiences that prepare them for a productive life. Young people mostly rely on peers for support and it is an important part of their college experience. Being robbed of this crucial support system could lead to considerable amount of stress. It has been proven in studies that prolonged amount of perceived stress particularly due to social isolation leads to impaired cognition thus impairing productivity,¹² and increased vulnerability to psychological problems in the long term. A study among college students in China during the COVID 19 pandemic has shown that nearly 21.3 % experienced mild anxiety while 0.9 % students experienced severe anxiety.¹³

India has been in lockdown since March 23, 2020 and this has created economic instability and a blanket of uncertainty among all classes of people. This study hopes to measure the psychological impact caused due to the lockdown among college students during the Covid 19 pandemic.

Objectives

We wanted to measure the levels of perceived stress among college students during the complete lockdown and evaluate the financial instability during the lockdown.

METHODS

This cross-sectional study was conducted as an online survey among college students across various streams including medicine, engineering, and other undergraduate and post graduate students.

Participants

College students in the age group of 17 - 25 years were encouraged to complete the survey. 785 participants responded. 10 responses had to be discarded since they were not pursuing any college degree. A total of 775 responses were considered for the study

Design and Procedure

This study was approved by the Institutional Ethics Committee (Radians Healthcare & Research). Participants completed an anonymous online survey by filling out a specially formulated survey form through Google forms (<https://forms.gle/TRPTMVccQzjGKkcL7>) that was propagated through social media. They filled out the form after submitting an informed consent and agreeing to participate in the survey. The survey was conducted between 12th may 2020 to 31st may 2020, both days inclusive. No personal information was gathered in the study.

The survey form contained closed ended questions regarding their type of living before and during the lockdown.

It also had questions regarding the use of social media and their financial situations before and during the pandemic. It included basic demographic details including the type of courses they were doing in the current academic year. A total of 19 statements including the basic socio-demographic details, their use of social media to connect to people, their worry regarding financial situation, continuation of education, future job prospects and missing out on friends and 10 statements of the perceived stress scale were included in the survey.

Assessments Used

The Perceived Stress Scale (PSS)¹⁴ is the most widely used scale to measure the perception of stress. It is an important tool to find a person's level of stress in the context of any event that could be personal or environmental. It is a 10 item liker scale with scores ranging from 0-4, and it determines the level of perceived stress in an individual. It is suitable for group administration and hence chosen for use in this study.

Data Analysis

The data was analysed using SPSS - Statistical Package for Social Services software, (IBM Corp. released 2016. IBM SPSS statistics for windows, version 24.0. Armonk, NY: IBM Corp.). The various details pertaining to the present living conditions of college students along with demographic, financial and educational details were analysed for normal distribution. The relationship between the various variables and the perceived stress as measured by PSS is analysed using analysis of various (ANOVA) at 95 % confidence level and significance < 0.05 indicating a significant correlation between them.

RESULTS

The socio demographic details along with the various information regarding financial status, use of social media and other characteristics were found to be significant to the sample size (Table 1). The total sample consisted of 295 (38.1 %) male and 480 (61.9) female students. Among the sample 230 (29.7 %) were living in rural area and 545 (71.3 %) were of urban origin. 303 (39.1 %) were pursuing engineering, 220 (28.4 %) were doing medicine, 173 (22.3 %) were doing postgraduate studies and 79 (10.2 %) were doing undergraduate students. Of all the students 327 (42.2 %) were in their final year of study. 570 (73.5 %) reported that their family had a stable income and 205 (26.5 %) reported that their family does not have a stable income. When asked about how they had gone to college, 385 (49.7 %) reported as staying in hostel, 356(48.9 %) had been from home and 34 (4.4 %) reported that they had lived alone. During the lockdown, 742 (95.7 %) students were living with their family while 33 (4.3 %) reported that they were living alone. Use of mobile phones to connect with people has increased during lockdown with 226 (29.2 %) reporting to spend more than 5 hrs per day on the phone, when compared to pre-Covid conditions where 105 (13.5 %) had reported spending more than 5 hrs on the phone.

Sl. No.	Factors	N	Mean	SD	Stat Result	Sig
Age						
1	Below 18	71	51.41	8.79	F Ratio 6.827	P<.001 SIG
	19 to 21	512	60.72	10.13		
	22 & above	192	67.10	11.73		
	TOTAL	775	61.13	10.77		
Gender						
2	Male	295	54.26	9.26	't' Value 20.34	P<.000 SIG
	Female	480	68.66	10.05		
	TOTAL	775	61.13	10.77		
Place of Living						
3	Rural	230	50.78	10.34	't' Value 18.72	P<.000 SIG
	Urban	545	66.27	10.95		
	TOTAL	775	61.13	10.77		
Family that have Steady Income						
4	Yes	570	51.69	10.99	't' Value 11.83	P<.000 SIG
	No	205	62.34	11.08		
	TOTAL	775	61.13	10.77		
Course presently doing						
5	UG	79	50.30	10.93	F Ratio 8.529	P<.002 SIG
	Engineering	303	60.45	11.59		
	Medicine	220	52.61	11.24		
	PG	173	66.35	10.77		
	TOTAL	775	61.13	10.77		
Final year Student						
6	Yes	327	66.40	10.78	't' Value 18.98	P<.000 SIG
	No	448	50.93	11.77		
	TOTAL	775	61.13	10.77		
You go to College from						
7	Hostel	385	52.24	13.37	F Ratio 4.738	P<.009 SIG
	Home	356	49.65	11.95		
	Live alone	34	63.97	12.69		
	TOTAL	775	61.13	10.77		
Currently staying with						
8	Parents	742	50.02	11.87	't' Value 5.28	P<.002 SIG
	Alone	33	59.48	9.98		
	TOTAL	775	61.13	10.77		
Do you like your College						
9	I Like it a lot	360	49.54	10.29	F Ratio 7.282	P<.001 SIG
	It is okay	355	55.99	10.94		
	Do not like	60	65.54	11.25		
	TOTAL	775	61.13	10.77		
Time spend Connecting with people over phone						
10	Below 1 hr	347	48.53	10.88	F Ratio 6.347	P<.012 SIG
	(2 to 5) hrs	323	55.52	11.97		
	More 5 hrs	105	61.88	10.74		
	TOTAL	775	61.13	10.77		
Time Spend Connecting with friends in real time						
11	Below 1 hr	178	63.90	10.94	F Ratio 10.324	P<.000 SIG
	(2 to 5) hrs	234	56.75	8.36		
	More 5 hrs	363	49.99	9.44		
	TOTAL	775	61.13	10.77		
Time spent during Lockdown Connecting with people over phone						
12	Below 1 hr	279	61.16	13.28	F Ratio 9.637	P<.001 SIG
	(2 to 5) hrs	270	53.31	12.44		
	More 5 hrs	226	47.06	12.50		
	TOTAL	775	61.13	10.77		
Time Spent now Connecting with people in real time						
13	At home	512	50.92	13.08	F Ratio 1.251	P<.287 NS
	1-2 hrs	108	52.89	13.70		
	More 2 hrs	155	50.56	10.88		
	TOTAL	775	61.13	10.77		
Eagerly waiting to go back to college						
14	Very much	471	43.55	12.19	F Ratio 3.733	P<.024 SIG
	Not much	251	51.27	13.66		
	Not like to go back	53	55.57	12.82		
	TOTAL	775	61.13	10.77		
Missing friends or family during the lockdown						
15	Very much	575	50.82	11.87	F Ratio 6.266	P<.001 SIG
	Not so much	173	51.37	14.71		
	Not at all	27	56.11	16.80		
	TOTAL	775	61.13	10.77		
Family Financially stable during the Lockdown						
16	Stable	628	49.75	12.66	't' Value 1.085	P<.001 SIG
	Worse	147	63.70	11.79		
	TOTAL	775	61.13	10.77		
Education will be affected by the Covid-19						
17	Very much	384	58.21	13.18	F Ratio 10.928	P<.000 SIG
	Small effects	270	49.52	11.73		
	No difference	121	48.10	12.64		
	TOTAL	775	61.13	10.77		
Worried about going out after the lockdown is released						
18	Very much so	312	57.02	12.63	F Ratio 9.555	P<.002 SIG
	Not much so	339	52.26	12.65		
	Not worried	124	50.25	13.36		
	TOTAL	775	61.13	10.77		
Worry that job prospects will be affected due to Covid-19						
19	Very much so	574	59.01	12.68	F Ratio 5.432	P<.005 SIG
	Not much so	159	48.41	12.47		
	Not worried	42	40.35	13.75		
	TOTAL	775	61.13	10.77		
Table 1. Statistical Significance of the Survey Statements						

Table 1. Statistical Significance of the Survey Statements

While 363 (46.8 %) had reported that they usually spent more than 5 hrs per week connecting with people, it has dropped to 155 (20 %) during the lockdown and 512 (66.1 %) had reported that they only connected with people at home.

The overall perceived stress (PS) as calculated from PSS, shows that 57 (7.4 %) people experienced low PS and 629 (81.2 %) people experienced moderate PS and 89 (11.5 %) people experiences high PS (table 2).

	Frequency N	Percent %
Low Perceived stress	57	7.4
Moderate Perceived stress	629	81.2
High Perceived stress	89	11.5
Total	775	100.0

Table 2. Total Perceived Stress

When asked about their present financial situation, 628 (81 %) felt it was stable during the lockdown and 147 (19 %) felt that it was getting worse. With regard to worry regarding the impact of lockdown on their education, 384 (49.5 %) felt that it has been affected very much, while 270 (34.8 %) reported being little worried and 121 (15.6 %) felt that there was no effect. 574 (74.1 %) college students were worried that their job prospects would be affected by Covid 19, while only 42 (5.4 %) students believed that there will be no affect and 159 (20.5 %) believed that there will be some effect in job prospects due to COVID 19. 312 (40.3 %) students were very worried and 339 (43.7 %) were somewhat worried about going out after lockdown and only 124 (16 %) of student reported that they were not worried about going out after lockdown.

Analysis of variance for place of residence before and during the lockdown shows that it has a low amount of influence on the amount of perceived stress, $F(5,769) = 2.13$, $sig = 0.06$, and students who were living at home prior and during the lockdown experienced the lowest amount of stress as indicated with a low mean score $M = 49.61$ and students who were living alone during the lockdown irrespective of whether they had lived in hostel or with parents prior to lockdown, experienced the highest amount of perceived stress at mean score of $M = 52$ and 55 respectively. The amount of time spent connecting with people over phone and in real time during the period of lockdown has a considerable influence in the amount of perceived stress, $F(8,766) = 3.66$, $sig = 0.00$ and students who are were spending less than 1 hrs per day over the phone and were spending more than 2 hrs per day in the company of friends, experienced the lowest amount perceived stress as indicated by low mean score $M = 61.5$. Student who were spending more than 5 hrs per day over the phone and who did not get to spend time with friends in real time experience more amount of perceived stress with mean score $M = 42.5$. The type of degree, the students were pursuing and their worry regarding the effect the lockdown was having on their education had a significant influence on the level of perceived stress, $F(11,763) = 2.62$, $sig = 0.03$, with students pursuing medicine and postgraduates experiencing high perceived stress due to their worry regarding the education being affected at mean score $M = 55.03$ and 51.73 respectively and engineering students showing least amount of stress regarding their effect it has on their education with mean score $M 46.82$. Students in their final year of study and who worried about the job prospects being affected by COVID were found to

have increased amount of perceived stress, $F(5,500) = 2.47$, $sig=0.032$ (table 3, figure 1, table 4)

Influence of students who were in their final year of study and their worry regarding job prospects being affected by Covid 19 with respect to Total Perceived Stress (table 3, figure 1, table 4)

Final year- worry about job prospects	N	Mean	Std. Deviation	Std. Error	95 % Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1 (Yes-Very much)	155	52.6935	12.03194	.96643	50.7844	54.6027	30.00	100.00
2 (Yes-Not much)	37	49.3919	14.19611	2.33383	44.6587	54.1251	17.50	87.50
3 (Yes- No Worry)	11	45.6818	11.01652	3.32160	38.2808	53.0828	32.50	65.00
4 (No-Very much)	233	51.4163	12.45814	.81616	49.8083	53.0243	20.00	87.50
5 (No-Not much)	58	46.9397	12.68757	1.66596	43.6036	50.2757	20.00	77.50
6 (No-No Worry)	12	48.5417	12.49811	3.60789	40.6007	56.4826	27.50	65.00
Total	506	50.9536	12.55354	.55807	49.8571	52.0500	17.50	100.00
SDIM 1 Total Perceived Stress								
Table 3. Perceived Stress in Relation to Final Year of Study and Worry Regarding Job Prospects								

SDIM 1 Total Perceived Stress

Table 3. Perceived Stress in Relation to Final Year of Study and Worry Regarding Job Prospects

	Sum of Squares	DF	Mean Square	F	Sig.
Between Groups	1919.375	5	383.875		
Within Groups	77664.283	500	155.329	2.471	.032
Total	79583.659	505			

SDIM1 Total Perceived Stress

Table 4. Influence of Perceived Stress in Relation to Final Year of Study and Worry Regarding Job Prospects

DISCUSSION

This study among college students indicates that 11.5 % of students were experiencing high stress and 81.2 % experienced moderate amount of stress and only 7.4 % reported mild stress levels. The level of stress perceived by the college students in this study were found to be significantly influenced by the changes in social experiences as indicated by the increase in stress with relation to the increased use of mobile phones and low level of social interaction.

Worry regarding their education and job prospects being affected had a significant influence on the level of perceived stress. These stressors are bound to be persistent due to the current situation caused by the pandemic and a return to a pre

pandemic era is not possible in the near future. Changes caused in the context of financial security, education, job prospects and concerns about health will persist for many months and could have detrimental effects in the mental health of college students.

The various stakeholders involved in the welfare of students need to devise programmes to protect the welfare of students. This study indicates that being with family during this lockdown might be a good protective factor and 74.2 % of them reported that they missed family and friends during this lockdown. Students need peer support and guidance to overcome stress in relation to academic related issues. Previous studies have shown that 10-20 % of college students experienced psychological problems like anxiety and depression¹⁵ and the prolonged stress induced by COVID 19, could result in worsening of the mental state of the students.

The authors understand that this being an online survey, only students with access to smart phones and with access to internet were able to participate and that due to the lockdown it was difficult to limit data to a particular college or city. Students in a college usually belong to different cities or states and hence this sample is random. However, similar studies targeting particular colleges or universities could be done to assess their mental health and appropriate psychosocial help could be made available to them.

CONCLUSIONS

College students are more vulnerable to psychological problems due to the highly stressful environment caused by the pandemic situation. This study shows that college students were experiencing stress at various levels and the perceived stress was significantly influenced by their stay with family during the period of lockdown.

Perceived stress was significantly influenced by the lack of social interaction and worry regarding education and job prospects. There could be other factors influencing the mental state of college students that were not included in the study. Further intensive studies are required to find the other factors that might have a psychological impact in college students. As of 2018-2019,¹⁶ India has about 36.4 to 37.4 million college students.

They are a valuable resource to the nation and their well-being should be prioritised and it should be addressed at the earliest to prevent instances of mental health problems among them as suggested by studies¹⁷ by providing continuous online support in the form of classes and support by the college staff and counselling and career guidance services.

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