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"A COMPARATIVE STUDY OF STRESS AND COPING STRATEGIES AMONG UNDERGRADUATE MEDICAL STUDENTS DURING PRE AND POST COVID-19 PANDEMIC LOCKDOWN."

Psychiatry

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ABSTRACT

Background: Medical students are facing huge challenge due to COVID-19 pandemic which has impacted their learning and has become vital stressor and affecting their psychological well-being. The objective of this study was to assess the perception of the stress among the undergraduate medical students and their coping strategies pre and post lockdown.

Materials and Method: A cross-sectional study was conducted on 321 undergraduate medical students at Adichunchanagiri Institute of Medical Sciences, Mandya, Karnataka, India. This study was initiated after getting approval from the Institutional Ethical Committee. After obtaining consent the extent of the students stress was assessed using Perceived Stress Scale and Brief COPE was used to assess their coping strategies. Scores were analysed using paired t test in Microsoft excel/ SPSS software.

Results: On paired 't' t test the mean difference in total score was 0.68 and the p value was 0.166 for scores of perceived stress scale, similarly the mean difference in scores of sub groups under coping strategies was 0.90 and 0.49 with 'p' value 0.173 and 0.498 respectively.

Conclusion: Overall, there was not much of difference in scores of perceived stress scale and coping strategies before and after lockdown. Except for minor difference across age group and scores of specific coping strategies which was again not statistically significant.

KEYWORDS

Undergraduate Medical, Perceived stress, coping strategies.

INTRODUCTION:

It was evident that during this present COVID-19 pandemic, almost all the schools and universities had suspended their regular teaching method.[1] Medical education is seen to be the most challenging and currently disturbed.[2] Classically medical learning initiates with the classroom and along with bedside clinical teaching-learning.

As a result of lockdown most of the institutions have substituted the different form of teaching which majorly include digital platforms. Although some institutions are still facing issues to implement the digital platforms due to less internet penetration.

Medical education in India is stressful which begins with high competition in the process of selection. Compare to the aged matched population the medical students are reported to be having a significantly higher stress.[3-5]

Coping skills is defined as "constantly changing cognitive and behavioral efforts to manage specific external and internal demands that are appraised as taxing or exceeding the resources of the person".[6] Coping strategies can offer a massive collection of defenses to balance and maintain control in the aspect of stress.

Different level of coping can be seen in a person at various levels which includes emotional, cognitive, social and physical levels. However depending upon the situational factors the people choose to cope differently. Generally the common coping strategies used by people are intense expression of feeling of withdrawal and avoidance, depending upon self-discipline, somatization and working it off.[7]

In view of the prospect of this matter there is a need to improve better logic of the various stressors encountered by the undergraduate medical students and their coping mechanisms. Although, various research studies were conducted on stress and coping strategies, the review of the literature is still short in qualitative research to investigate student's experiences with stress from their perspectives.[8] the aim of the current study was to explore the perceived stress and the coping strategies used by medical students during pre-post COVID-19 pandemic lockdown.

METHODS AND MATERIALS:

Experimental, cross-sectional study was conducted on students of the private medical college of Karnataka. Using the convenient sampling method all four professional years students were recruited. This study was conducted for four weeks from the second week of February 2020 up to the second week of March 2020 and reassessment was done when the lockdown was lifted after the first wave of COVID-19.

Before initiating the study the ethical clearance from the Institute's Ethics Committee was obtained. Then, Informed consent, specially constructed semi-structured Performa, and a standardized self-answering questionnaire called PSS and COPE (14 items) were given to the participants through Google form. All 600 students were requested to participate, of which 321 students consented to participate in the study.

Tools used for the assessments.

Perceived Stress Scale (PSS): 10 item perceived stress scale (PSS-10), is a self-reporting instrument consisting 10 items purported to assess "How unpredictable, uncontrollable, and overloaded respondents to find their lives" each of the items on the PSS-10 are Rated on a 5-pointd likert scale, ranging from 0 (never) to 4 (very often).

The PSS-10 consisted of 6 positively (Items 1, 2,3,6,9 and 10 positive factors) and 4 negatively (items 4, 5,7 and 8 negative factors) worded items were re-coded during the analysis. Total score ranges from 0 to 40, with higher scores indicating higher levels of perceived stress [9-10]

Brief COPE inventory by Carver et al, a validated and abbreviated version of COPE inventory. It is used to assess the different coping strategies. This scale consists of 14 items and each category contains 2 items, hence, there are 28 items in it.

The sub domains of scale are: 'self-distraction', 'active coping', 'denial', 'substance use', 'use of emotional support', 'use of instrumental support', 'behavioural disengagement', 'venting', 'positive reframing', 'planning', 'humour', 'acceptance, 'religion' and 'self-blame'.

Table -1:Results of PSS

Variables		Pre		Post		Test statistics
		Mean	S.D	Mean	S.D	
Overall		18.69	5.90	19.37	6.31	't' =1.387; p=.166
Age groups (in years)	<19	19.55	4.98	19.35	6.15	F=1.92; p=.148
	20-21	17.49	6.45	19.37	6.73	
	22+	19.35	5.91	19.40	5.94	
Gender	Male	18.04	5.72	19.46	6.18	F=1.721; p=.191
	Female	19.19	6.00	19.31	6.43	

Table-2: Results of Coping Strategies

Variables		Pre		Post		Test statistics
		Mean	S.D	Mean	S.D	
Avoidant coping						
Overall		29.34	7.48	30.24	8.46	't' =1.366; p=.173
Age groups (in years)	<19	28.91	6.54	30.02	8.12	F=0.480; p=.619
	20-21	28.74	7.49	30.17	8.44	
	22+	30.80	8.44	30.65	8.99	
Gender	Male	30.16	7.72	30.00	8.92	F=1.997; p=.159
	Female	28.71	7.25	30.43	8.10	
Approach coping						
Overall		35.27	8.74	35.77	9.42	't' =-.678; p=.498
Age groups (in years)	<19	35.51	8.00	35.28	9.26	F=0.973; p=.379
	20-21	34.13	9.02	35.90	9.75	
	22+	36.66	9.13	36.21	9.20	
Gender	Male	35.31	8.78	35.64	9.81	F=0.45; p=.833
	Female	35.24	8.74	35.88	9.13	

Out of the 321 students who participated, 140 were males and 181 were females. 110 of them belonged to less than 19 years of age while 126 of them were in 20-21 category and 85 of them in above 22 years category.

As seen in table 1, on applying the paired-t test, there is not much of difference in the scores of perceived stress scale before and after lockdown amongst the participants. The mean difference in the total scores was 0.68536 and the 'p' value was 0.166which is not statistically significant. Further, the perceived stress scale total scores were compared across the age groups. As per the table, though there appears marginal increase in stress scores in the age group 20-21 in the post lockdown period, but statistically it turned out that it is not significant even on checking with within subjects and between subjects' effects.

In the table.2, in terms of coping strategies, again not much of the difference was observed amongst the participants before and after lockdown period. The tables show that the mean scores in two major sub groups of coping strategies (Avoidant and Approach coping strategies) were more or less remained the same and hence the statistical significance was less. Additionally, the coping strategies were compared across the age groups and gender. As per table 2, it seemed that the participants of the age group of 20-21 years had increase in the scores of avoidant coping strategies and also the scores of approach coping strategies post lockdown period. But it was found that statistically it is not significant even on checking with within subjects and between subjects' effects as shown in table 2.

When compared with gender, the scores of female participants seemed increased in avoidant coping strategies post lockdown while the scores of female participants in approach coping strategies and that of male participants in both the coping strategies remained unaltered largely. As such the statistical significance was poor with 'p' value way more than 0.005 on performing statistical analysis of within subjects and between subjects' effects as shown in table 2.

DISCUSSION:

In this study we have assessed the perceived stress and coping strategies on medical students during and after covid-19 lockdown periods The results showed surprisingly statistically insignificant difference in both perceived stress scale and coping strategies scores (both sub groups of avoidant and approach coping strategies),when compared before and after covid-19 lockdown among medical undergraduate students.

When stress and reliving factors were compared, they had their own probable reasons. At the lockdown period the students were sent home. The lockdown led to various changes in the daily routine life which cause stress, anxiety and depression among students.[11] The news headlines, whatsapp updates, information from social media and news reports also leads to fear and anxiety[12]

During that period of covid-19 pandemic effective coping strategies plays an important role, in managing distressing mental health and developing resilience[13] Students at home in the lockdown had ample of family time, attending online class (optional) and they were having comparable free schedule for their relaxation.

But, when the students were back to college post lockdown, the medical examinations were on a short notice which they had to face, the probable stressors were, some of the students did not have the confidence to face the examination as online study mode was less effective. They had apprehension of pandemic, worried about their health, difficulty in adopting the new normal lifestyle, and to cope the stress they had their friends around, the study mode was back to offline learning, they were improving their skills

CONCLUSION:

The finding of this study led us to conclude that there is no significant difference between the perceived stress and different coping strategies among the medical students in the lockdown and post lockdown period. In terms of coping strategies, again not much of the difference was observed amongst the participants before and after lockdown period. However, every student might have had different personal perception about how this Corona virus has impacted their education system. It is being realized that the impact of COVID-19 is long lasting and necessitates preparedness from medical profession in particular and population in general.

Limitations:

Our present study has limitation about the data collection setting as our research sample was from one medical college of Karnataka. In future we wish to carry out detailed assessments on this same cohort and would compare with different medical colleges.

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