Research Report

MENTAL HEALTH PROBLEMS AMONG MEDICAL STUDENTS DURING COVID-19 LOCKDOWN: A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: COVID-19, which originated in China, became a pandemic affecting more than 180 countries. By April 2020, India had announced lockdown in an attempt to control the spread of the virus. Lack of social interaction and apprehension about the studies had created emotional disturbances among medical students. **Methods**: The study was done in a medical college situated in Central Travancore, Kerala, between 2020 April 20 to May 31. Depression Anxiety Stress Scale (DASS) and Impact Event Scale-Revised (IES-R) were administered in Google forms to the MBBS batch WhatsApp groups. **Results**: Out of 320 responses from medical students, 239 were females, and 82 were male students. 56% of male students and 54% of female students have mild to severe depressive symptoms, 58% of male students and 54% of female students have symptoms of anxiety, and 63% of male students and 50% of female students experienced mild to severe stress.68% of males and 62% of females have higher Impact events scale. **Conclusion**: There is a high prevalence of anxiety and depression among medical students during the COVID lockdown period. There is a significant difference between genders in scores of anxiety, stress and impact of events. This shows the need for resilience training among medical students.

Keywords: COVID-19, medical students, mental health

INTRODUCTION

COVID-19 pandemic originated in November 2019 from Wuhan of China has now become pandemic affecting more than 180 countries. The Indian population, mainly youth, is passing through a state of psychological trauma due to social isolation, online classes and uncertainty about the future. By April 2020, more than a million people have been infected globally, and the population around the world has become anxious about the spread of the disease around the continents. India had become the largest containment in history, with 1.3 billion populations under lockdown in an attempt to flatten the number of infected cases.[1] The lockdown and the spread of fake news in social media created fear and apprehension among the students. The medical students among various medical colleges in India had to discontinue their courses and postpone their exams. Lack of social interaction due to online classes created a feeling of loneliness.

The viral epidemic and the associated social isolation have badly affected the youth mental health, and there is an emergent need for psychosocial intervention. The study by Leili Liang showed the impact of viral pandemics like SARS in 2003 and H1N1 in 2009 on the public's mental health. Post-traumatic stress disorders

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and depressive disorders were the commonest emotional problems among the affected population. There is a tendency to adopt faulty coping methods, especially among youth.[2] The government and health department are striving to improve public awareness of prevention and intervention strategies by providing websites and links. But there is false or misguiding information through social media may lead to information overload, which can cause mental health problems.[3]

Social isolation worries about the examinations and the stress in attending online classes had created a dilemma among the medical students of Kerala. The Kerala University of Health Sciences had postponed all the examinations, and students were prohibited from entering the hospital premises. Moreover, online classes have changed the concept of learning, and they were bound to attend theoretical discussions than practical classes. There are few studies from Kerala about the emotional problems of medical students during the COVID-19 lockdown.

MATERIAL AND METHODS

The study was done in a medical college situated in central Travancore, Kerala, between April 20, 2020, to May 31, 2020. This was a cross-sectional online study done through Google forms. Since it was the period of lockdown due to COVID-19, the students were bound to their homes, and the classes were through online media. The Depression Anxiety Stress Scale (DASS) and Impact Event Scale-Revised (IES-R) were administered in Google forms to the MBBS batch WhatsApp groups. DASS is a 21-item self-report questionnaire that assesses recent experiences of stress (e.g., "I found it hard to wind down"), anxiety (e.g., "I felt close to panic"), and depression (e.g., "I felt that I had nothing to look forward to"). Each 7-item subscale is rated on a 4-point Likert scale ranging from 0 (did not apply to me at all) to 3 (applied to me very much). Higher scores represent greater symptomatology.[4]

Impact event scale (IES), a 22-item questionnaire composed of three subscales, aims to measure avoidance, intrusion, and hyperarousal. The total IES-R score was divided into 0-23 (normal), 24-32 (mild psychological impact), 33- 36(moderate psychological impact), and>37(severe psychological impact).[5] The questioners were posted in batch WhatsApp groups showing the purpose of the study and explaining how to fill the questionnaire. The consent was sought through Google forms before enrolling on the study. Around 400 students received the form, and 320 students responded. The questionnaire was sent to all medical students except the final year students.

Ethical approval

The Institutional Ethics Committee cleared the study. The cover page includes electronic informed consent with a declaration of confidentiality and anonymity of the participants.

RESULTS

Table.1 DASS Depression score among students

DASS Depression Score	Gender		Total
	Male Number (%)	Female Number (%)	
<4	36(43.9)	110(46)	146(45.4)
4-6	25(30.5)	95(39.7)	120(37.4)
7-10	14(17.1)	28(11.7)	42(13.1)
>11	7(8.5)	6(2.5)	13(4)
TOTAL	82	239	321

Chi -square– 8.27; Df= 3; p= 0.041

Out of 320 responses from medical students, 239 were females, and 82 were male students. Fifty-six per cent of male students and 54% of female students had mild to severe depressive symptoms. There was a significant difference between both genders as severity increases (Table.1). Fifty-eight per cent of male students and 54% of female students had symptoms of anxiety. There was no significant difference among male and female students (Table.2). Sixty- three per cent of male students and 50% of female students experienced mild to severe stress. There was a

Table.2 DASS Anxiety score among students

DASS Anxiety score	Gender		Total Number (%)
	Male Number (%)	Female Number (%)	
<6	35(42.7)	110(46.1)	145(45.2)
6-7	30(36.6)	95(40.2)	125(38.9)
>10	5(6.1)	9(3.8)	13(4)
Total	82	239	321

Chi–square- 1.99; Df= 3; P= 0.574

Table 3. DASS score for stress among students

DASS Score for stress	Gender		Total Number (%)
	Male Number (%)	Female Number (%)	
<7	30(36.6)	120(50.2)	150(46.7)
8 -9	32(39)	89(37.2)	121(37.7)
10-12	14(17)	21(8.8)	35(11.5)
>13	6(7.3)	9(3.8)	15(4.7)
Total	82	239	321

Chi-square–7.97; Df = 3; P= 0.047

Table 4. Impact Event Scale scores among students

DASS Score for stress	Gender		Total Number (%)
	Male Number (%)	Female Number (%)	
<24	35(42.9)	115(48.1)	150(46.7)
24 -32	26(31.7)	90(37.7)	116(36.1)
33 -36	13(15.9)	25(10.5)	38(11.8)
>37	8(9.8)	9(3.8)	17(5.3)
Total	82	239	321

Chi-square – 6.621; Df= 3; P= 0.085

significant difference between genders (Table.3). Sixty-eight per cent of males and 62% of females have a higher Impact events scale, and there is a significant difference between genders (Table.4).

DISCUSSION

The majority of the participants were more female students (239/321); this is the same as the male to female ratio of students at the college. In table.1, DASS Score for depression shows a statistically significant difference between the scores of male and female students, and mild depressive symptoms are more in female students. Moderate to severe depression is more in male students, which is consistent with the study done by Leili Liang etalon effect of COVID-19 on youth mental health, which showed males had a high score in GHQ-12 and negative coping style.[2] In this study, among 82 male students, 46 per cent had depressive symptoms, and among 239 female students, 44 per cent had depressive symptoms. This finding is similar to the study done by Leili Liang and et al., which showed that 40.4 per cent of participants had psychological problems.[2]

There is no significant difference between male and female students in DASS 21 anxiety scores, which is against the study in India by Nathiya et al., where the female population showed more anxiety during Covid lockdown.[1] This might be because the current study is on a homogenous group of the same social and educational background. The values of the DASS anxiety score revealed that 47 per cent of male students and 44 per cent of female students had anxiety symptoms. An Australian study on medical students' mental health during COVID 19 lockdown shows 68 per cent of students had psychological deterioration, which increased the risk of poor academic performance. In this study, there is no significant difference between male and female students.[6] A study in China (n = 8079) conducted among 12–18-year-old youth found that the prevalence of depressive and anxiety symptoms was 43.7% and 37.4%, respectively.[2]

Considering the level of stress in the DASS-21 subscale, male medical students showed significantly high stress scores than females. 63 % of male students and 49 % of female students showed high score on the DASS-21 stress scale. A North Indian study on youth mental health showed higher female preponderance with a higher educational level.[7] A study done by Junling Gao showed a robust association between emotional disturbance and social media exposure.[3]

On evaluating the scores on the impact event scale (IES-R), there is no significant difference between both sexes.52% of male students and 50% of female students showed mild, moderate, and severe symptoms. That shows that 51 % per cent of the participants is prone to develop Post Traumatic Stress Disorders. This is similar to the finding shown in a North Indian study on medical students.[7] A study done on medical students in Turkey showed 60% of participants had high scores in IES-R, and this study has high scores in female students, which is against our finding.[8]

CONCLUSION

As per going through the analysis, it was found that 40 to 50 per cent of medical students were affected with anxiety, depression, and stress. The impact of COVID19 is so severe that 51% of them showed higher scores in IES-R. Lockdown and its sudden implication in future studies and contagious

information load on social media, social distancing affecting interpersonal relationships and boredom of online classes might be the potential causes of psychological impact on medical students. There is a male predominance in severe depressive symptoms and stress; this may be taken care of by the authorities. The government, Kerala University of Health Sciences, and the management of concerned colleges should address the mental health of the medical students along with their academic activities.

Limitations

Homogenous group, small sample size and using the online platform are the limitations of the study.

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Conflict of interest
None declared.

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