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IMPACT OF COVID-19 PANDEMIC ON THE QUALITY OF LIFE OF MEDICAL-UNDERGRADUATES AND THE PREVALENCE OF ANXIETY DISORDER AMONG THEM

Physiology

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ABSTRACT

BACKGROUND: The world is facing a public health emergency situation caused by the COVID-19 pandemic since January 2020. Psychological wellbeing among individuals worldwide has been negatively affected by the pandemic. The Quality of life is a broad concept to assess and evaluate the person's physical health, psychological state, social relationships and personal beliefs. The present study aimed to assess the Quality of life as well as anxiety disorder and its associations with COVID-19 preventive practice measures, daily activities in home quarantine amongst the backbone of our society, that is the medical undergraduate students.

METHODS: An online-based cross-sectional survey was carried out on the medical undergraduates from a medical college in North India. Students self-reported their QoL using the World Health Organization Quality of Life-BREF (WHOQOL-BREF) and the Generalized anxiety disorder (GAD-7) tools. The survey also included socio-demographics and COVID-19-related questions.

RESULTS: Anxiety was prevalent among medical students. 32% of the medical undergraduate students were experiencing severe anxiety, 51% moderate anxiety, and 11% mild anxiety. On the other hand, 13.9% participants reported with very poor quality of life whereas 51% mentioned neither very good nor very bad quality of life.

CONCLUSIONS: It was found that during the current pandemic crisis medical students were weaker in the psychological domain of Quality of Life. To fight against the pandemic, mental as well as physical health issues need to be taken into consideration. It is recommended that measures need be taken not only to alleviate students' stress and anxiety, but also improve the quality of life which might otherwise have deleterious effects on student's overall performance.

KEYWORDS

COVID-19 pandemic, Quality of life, medical undergraduates, anxiety disorder, quarantine

INTRODUCTION

SARS-COV-2, also known as COVID-19, was first identified in Wuhan in December 2019. The World Health Organization declared the outbreak a Public Health Emergency of International Concern on 30 January 2020, and a pandemic on 11 March 2020. Currently it is one of the greatest threats to the life of humans worldwide. The COVID-19 pandemic is a crisis having huge social, economic and health consequences. Therefore, to curb down the disaster, Government of India issued certain guidelines calling it as COVID related protocol which includes lockdown, social distancing, wearing mask and using soap and sanitizer. Social isolation is said to be linked to psychological disorders or mental health issues in an otherwise healthy individual.

Medical students are considered to be the backbone and future of the health system infrastructure of any country. They serve as the role model for general population in any society. Due to the Covid pandemic, medical undergraduate students are subjected to a pressure of not only their curriculum but also a successful medical career. Several studies show the social, emotional, physical and family problems faced by the students which may affect their academic performance and learning abilities [1,2]. It has been observed that too much stress leads not only to physical and mental health problems but also a reduction in student's self-esteem, which can affect the student's academic achievement [3,4]. Poor health behaviours, anxiety, depression, sleep deprivation during COVID-19, severe illness due to COVID-19 and pre-existing chronic diseases among medical students are some of the factors that has severely affected their physical and mental health. Pandemic issues such as physical distancing, isolation, quarantine, social and economic consequences, have led to increase in cases of anxiety, depression, frustration, fear, grief, anger, boredom, stress, and panic. Mental stress during education can have a negative impact on learning and cognitive functioning of students [5]. Generalized anxiety disorder (GAD) is one of the most common mental disorders in medical students and the current pandemic has caused a sudden rise in this disorder.

Quality of life is defined by the WHO as, "an individual's perception of their position in life in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards and concerns" [6]. It is a broad-ranging concept and is affected by the individual's physical health, psychological state, level of independence, social relationships, personal beliefs, etc.

During the times of COVID- 19 crisis and COVID related protocols especially social distancing norms and online classes, there might be additional stress on medical students. Compared to the general population, medical students are more susceptible to stress, burn out,

depression, anxiety, the fear of being infected and family infection, and the stress of testing positive for COVID-19 are some of the factors that can increase the level of depression among them.

In addition to educating the medical undergraduates, it is also very important to assess the quality of life as well as the prevalence of anxiety disorder amongst these students during the current medical crisis due to COVID-19 pandemic. Very less studies have been done in India on this burning issue. The aim of this study is to critically evaluate the impact of COVID-19 on medical undergraduates, their mental condition and the quality of their life; and to make targeted recommendations to maintain continuity and support mental health, well-being and education needs of affected students.

MATERIAL AND METHODS

Study design
This was a cross-sectional study conducted in the month of May- June 2021.

Study area
Study was carried out in a private medical college in North India.

Study population
The study participants included medical undergraduate students aged 18–21 years. Prior consent for participation was taken and the participants were assured full confidentiality during the research process. A total of 200 participants were included in the study.

Inclusion Criteria
• First year MBBS students.
• Willingness to participate in the study.

2. Exclusion Criteria
• History of any mental illness.
• Any history of drug use or abuse

Data Collection
Data was collected via electronic survey link which was sent through social media platforms, email etc.

Study tool
A self-administered, validated, questionnaire based on WHOQOL-BREF (26 questions including 4 domains) standard quality of life including the demographic profile as well as GAD-7 questionnaire was shared with the students.

A pilot study was conducted on 20 subjects to test the understanding of the questionnaire and to ensure that any changes if required can be done at this stage only before proceeding further.

World Health Organization's Quality of Life BREF questionnaire (WHO QOL-BREF) is a cross-culturally comparable quality of life measure. A self-report questionnaire that contains four domains of quality of life (QOL): Physical health (7 items i.e., Q3, Q4, Q10, Q15, Q16, Q17, Q18), psychological health (6 items i.e., Q5, Q6, Q7, Q11, Q19, Q26), social relationships (3 items i.e., Q20, Q21, Q22), and environment (8 items i.e., Q8, Q9, Q12, Q13, Q14, Q23, Q24, Q25). Two other items (Q1, Q2) measure overall QOL and general health. Items are rated on a 5-point Likert scale, and each raw domain score is then transformed to a scale ranging from 0 to 100 (in order to make domain scores comparable with the scores used in the WHOQOL-100), with a higher score indicating a higher quality of life.

The seven-item generalized anxiety disorder **GAD-7** scale is a widely used instrument for screening of anxiety and assessing its severity in epidemiological surveys [7]. This scale consists of 7 items questions having a four-point Likert scale ranging from 0 ("Not at all") to 3 ("Nearly every day"). The cut off score ≥10 was considered as screening for moderate to extremely severe anxiety and was used to determine the existence of anxiety among the participants [8].

Data Analysis
Microsoft Excel was used for editing, sorting, and coding the data. The data analysis was performed using Microsoft Excel 2019 and IBM SPSS Statistics version 25.0.

RESULT
This study included 200 medical undergraduates from a medical college in North India (90 females and 110 males) in the age group of 18-21 years.

**Figure 1: Shows the rating of Quality of life by the participants**

How would you rate your quality of life?

■ Very poor　■ Poor　■ Neither poor nor good　■ Good　■ Very good

Figure 2: Shows the satisfaction level of participants towards their health

How satisfied are you with your health?

■ Very dissatisfied　■ Dissatisfied　■ Neither satisfied nor dissatisfied　■ Satisfied　■ Very satisfied
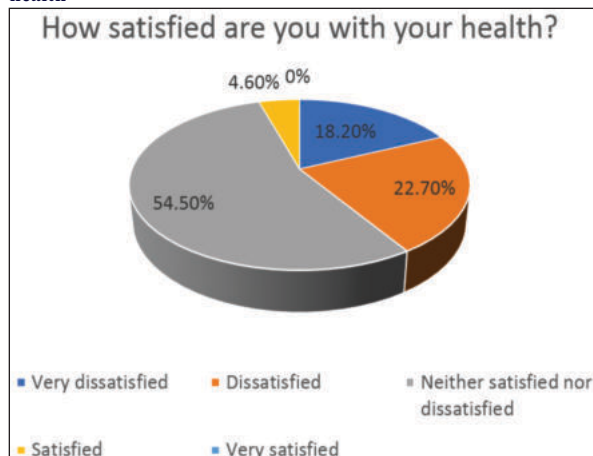
Table1: Score of different parameters of Quality of Life of medical undergraduate students

S. no.	Parameters	Score
1	How would you rate your quality of life?	50.3
2	Do you have enough money to meet your needs?	70.4
3	How safe do you feel in your daily life?	46.4
4	How satisfied are you with the conditions of your living place?	58.6
5	How satisfied are you with the support you get from your friends?	51.5
6	How satisfied are you with your access to health services?	41.1
7	How well are you able to concentrate?	11.8
8	How satisfied are you with your sleep?	45.6
9	How often do you have negative feelings such as blue mood, despair, anxiety, depression?	54.4
10	How satisfied are you with your health?	36.2
11	To what extent do you feel your life to be meaningful?	39.7
12	Do you have enough energy for everyday life?	40.6
13	How available to you is the information that you need in your day-to-day life?	75.6
14	How satisfied are you with your ability to perform your daily living activities?	46.8
15	How satisfied are you with your personal relationships?	68.5

Figure 3: Shows the distribution (%) of students according to level of anxiety

DISTRIBUTION (%) OF STUDENTS ACCORDING TO LEVEL OF ANXIETY.

■ No anxiety　■ Mild　■ Moderate　■ Severe
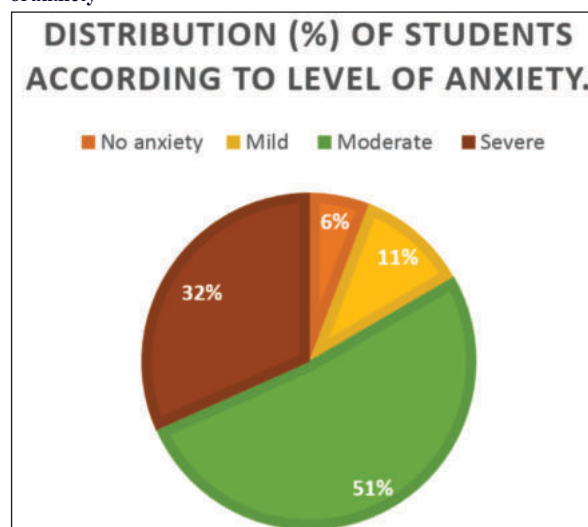
There were certain activities which the participants adopted to overcome the stress. 67% students mentioned using social media apps, 43% performed meditation, 69% did exercise and yoga and 10% mentioned about cooking and baking.

DISCUSSION
The COVID-19 pandemic considered to be one of the severest ever viral pandemics on the planet and has become the greatest public health issue with significant effect on the lives of people all over the world including their mental health and social well-being.

As it is well known that Quality of Life (QoL) is subjective perception of one's own well-being within one's socio-cultural context or as the accomplishment of the ideal of perfection [9]. Since January 2020 the QoL is affected and disrupted amongst all age groups in the world, onus lies on the COVID-19 virus.

Anxiety being as common and as debilitating as depression, has been given less attention and is often undetected and undertreated in the general population. Anxiety can impair goal-directed learning, attention, concentration, working memory, and perceptual-motor function all of which are important domains which affects the performance of medical students in general. Lee et al mentioned that individuals' manifest symptoms of anxiety such as appetite loss, nausea, sleep disturbance, immobility and dizziness as manifestations of anxiety to COVID-19 [10]. In the current study too an alarming

anxiety levels among medical undergraduates has been observed. 51% medical undergraduates reported of moderate anxiety, 32% severe anxiety and just 6% had no anxiety.

As it is well known that high levels of stress and depression is associated with poor academic performance, a measurable decline in cognitive skills, impaired judgment, as well as prognostic psychiatric disorders in medical undergraduates. It can be mentioned that the postponement of examinations, lack of physical training hours due to lockdown and isolation in quarantine during the COVID-19 time period have additionally played a role in increasing these psychological ailments.

Public health emergency associated with high mortality and morbidity rates, inducing traumatic experience at the collective level preventive measures, including wearing facemasks, frequent handwashing, disinfecting surfaces, and above all, maintaining social distancing and quarantine of infected individuals, has significantly influenced individual's daily life activities especially the medical undergraduates. The COVID pandemic has made these students stay indoors and dependent on cyber resources for academic activities. The current study shows not even a single (0%) student rated very good quality of life, 13.9% stated very poor quality of life whereas 51% students mentioned neither very good nor very bad quality of life.

Students who reported higher changes in anxiety levels or high levels of stress due to the impacts of COVID-19 were found to have higher GAD-7 scores. Thus, this study shows that generalised anxiety disorder is highly prevalent among medical students which can be attributed not only to the vast medical curriculum but also the devastations due to the pandemic.

Jetten et al opined that in times of stress throughout the COVID-19 crisis, in-groups serve as an important source of support [11]. Findings from the present study reveal that Quality of Life is significantly influenced by individual variables as well as COVID-19 anxiety.

CONCLUSION
COVID-19 has caused widespread distress in the lives and consequently mental health of millions of medical students. The findings of this study indicate that depression and anxiety is one of the commonest morbidities amongst medical students during the pandemic. Disruption of the normal routine, the pressure of coping with huge curriculum as well as loss of near and dear ones has taken a huge toll on the quality of life of medical undergraduates. The counselling efforts may be initiated by the administrators and the leaders of medical schools. Utmost care should be taken for destigmatizing mental illnesses and promoting help-seeking behaviours when students are stressed and anxious. The results of the current study reveal the need for prevention and treatment plans to manage anxiety symptoms and to improve the quality of life of affected students. Government and medical council should collaborate and try to resolve this problem and provide high-quality, timely crisis-oriented psychological services to the students.

Limitations
The current study has certain limitations. Despite an online survey being the best data-collection method during the COVID-19 pandemic due to lockdown measures, the findings need to be interpreted while considering some limitations of online surveys. As compared with face-to-face interviews, self-reporting has limitations including multiple biases. As this study is cross-sectional, only identifying estimates and correlates of panic and anxiety can be reported, and not their potential impacts over time, that is the cause-effect relationship could not be established. Therefore, one-time cross-sectional study in the current research may not be adequate enough in evaluating the quality of life and anxiety due to COVID-19 amongst medical undergraduate students, instead a prospective follow up study of same group can be planned.

Acknowledgment

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