



ORIGINAL RESEARCH PAPER

Community Medicine

A STUDY TO ASSESS LIFESTYLE CHANGES AND MENTAL HEALTH STATUS AMONG MEDICAL STUDENTS DURING COVID-19 - A CONCERN AND NEED FOR ACTION.

KEY WORDS: Medical students, Mental health, Lifestyle changes.

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ABSTRACT

Introduction: The covid-19 pandemic poses a worldwide danger, the scale of which is uncertain. In addition to the associated infectious diseases, the harmful impacts include indirect effects such as an imbalanced diet that increases the risk of weight gain or nutritional deficiencies, an increase in sedentary behavior, and impaired mental health. **Objective:** To Assess the lifestyle-related behavior and mental health status of medical students and factors influencing the same during the covid-19 pandemic. **Methodology:** This is a cross-sectional study conducted among the students of a medical college in Tumkur. sociodemographic data, BMI and physical activity during covid, lifestyle-related behavior scores, and Physical Health Questionnaire-9 were collected. Statistical analysis was done using Descriptive statistics like proportion and Inferential statistics like the Chi-square test. A P-value less than 0.05 was taken as statistically significant. **Results:** Sixty (49%) of the 124 students were male, and sixty-four (51%) were female. In comparison to pre-covid, the BMI changed dramatically throughout covid (p<0.001). 40 percent of students who were normal weight before covid became overweight. Only 20% of the individuals frequently engaged in exercise. Depression affected 41% of people. 88 percent of those who engage in daily exercise reported not having depression(p<0.001). There was a significant association between physical activity and depression. **Conclusion:** From the above results, we can conclude that the Covid-19 Pandemic scenario resulted in an unhealthier lifestyle among medical students. To reduce the pandemic's detrimental effects, regular Physical activity and following a Healthy lifestyle play an important role and also help to overcome depression.

INTRODUCTION

In March 2020, the coronavirus disease of 2019 (COVID-19) was declared a worldwide pandemic.¹ Since then, it has crossed national boundaries and impacted people's lifestyle choices. COVID-19 leads to isolation because people have to remain at home to prevent infection, but this is likely to have a detrimental effect on the physical and mental health of individuals.²

Avoiding exposure to the virus by physical separation, face masks, and eye protection is the most efficient way to stop the spread of COVID-19.³ The risk distribution of the disease may also alter as a result of changes in lifestyle variables including nutrition, exercise, smoking, alcohol use, screen time, and sleep. These components also seem to affect the treatment of mental illnesses, which are usually observed during pandemics like the present one.⁴ Public education regarding behaviors that may be influenced and modified should be the current pandemic's main focus.⁵

During the current pandemic, medical staff personnel who were treating COVID-19 patients first-hand experienced more stress, physical challenges, and psychological issues than members of the public in general. Medical students who are undertaking training to become medical professionals in order to get ready for future medical practice are now going through comparable lifestyle changes as the general public. Medical colleges also converted every course to an online format in response to the COVID-19 pandemic in 2020. Being under intense academic pressure, switching to online study, loneliness, infection fear, and financial challenges are all likely adding to the already current difficulties worsen.⁶

The morbidity and mortality of the covid-19 disease have led to distress and those under stress are more likely to eat more and choose less healthy 'comfort foods', mainly rich in simple carbohydrates, smoking cigarettes, and more frequently reaching for alcohol. Furthermore, lockdowns have also influenced the sleeping patterns and tendency to spend more time in bed affecting overall sleep quality and insomnia symptoms worsened.⁷ All of these may negatively impact

lifestyle behavior and mental health.

While the majority of recent studies have addressed the psychological implications and behavioral changes caused by the COVID-19 pandemic on the general public or healthcare professionals, there is a need for a greater understanding about the student populations given that the pandemic has completely altered their lifestyle behavior and interpersonal interactions. This study addresses how medical students' lifestyles and mental health were affected as a result of the COVID-19 pandemic.

OBJECTIVES:

- 1) To Assess lifestyle changes during covid-19 using a lifestyle-related behavior questionnaire.
- 2) To assess the Mental health status using the Patient health questionnaire-9.
- 3) To Assess Factors Influencing Lifestyle among Medical Students.

MATERIAL AND METHODS

Study Setting And Design:

A Cross-sectional study was conducted from March to April 2022. This study was conducted to assess the lifestyle changes and Mental health status among medical students in Tumkur during the pandemic.

Sample Size, Exclusion, And Inclusion Criteria:

With a population of 70 million²⁰ and a Prevalence of 18% of adolescents in Karnataka.²¹

Taking the prevalence of the adolescent population and a confidence interval of 95% with a 5% margin of error, a sample size of 227 was obtained using Open Epi (Open-Source Epidemiologic Statistics for Public Health). Students aged between 19–24 years, currently studying at medical college in Tumkur were included in our study. Any respondent not willing to participate was excluded from the study.

Sampling Technique And Data Collection:

An online survey was conducted with a self-administered

approach questionnaire. A convenient sampling technique was adopted. The sample frame was intently restricted, and the questionnaire was made available to students preparing for the MBBS university exams. The research study was completed by a total of 124 respondents.

The questionnaire:

A 20-item questionnaire was used for the data collection on lifestyle-behaviour changes.²² The questionnaire contains data regarding sociodemographic data, BMI, and physical activity during covid, Depression was assessed using patient health questionnaire-9.

Statistical Analysis:

Data was entered in MS excel and analyzed using SPSS version 21 software. Statistical analysis was done using Descriptive statistics like proportion and Inferential statistics like the Chi-square test. A P-value less than 0.05 was taken as statistically significant.

RESULTS

A total of 124 students were enrolled in the study, of which Sixty (49%) were male, and sixty-four (51%) were female (table 1). A total of 67 (54%) students are in the age group of 21 and 23 years and 57 (44%) were above 23 years. Nearly 50% percent of the students had normal BMI before the pandemic. In comparison to pre-covid, the BMI changed dramatically throughout covid (p<0.001), and 40 percent of students who were normal weight before covid became overweight. (Table 2)

The majority (85%) of the students had negative changes in lifestyle-associated behavior during the pandemic, including dietary changes, physical activity, and decreased sleep, all of which have significance in the prevention and management of metabolic syndrome and diabetes mellitus. With regards to physical activity, just 20% of the participants engaged in aerobic exercise on a daily basis. However just one-third of the students exercised for a duration of over thirty minutes. Around 41% of the students were found to be depressed which is impacting their lives of students. Nearly one-third of students have reported trouble falling asleep and also have trouble concentrating on things.

Depression is seen equally among both males and females (Table 3). Around one-third of students who had negative changes in lifestyle-related behavior and those with increased BMI were found to have depression. 88 percent of those who engage in daily physical exercise reported not having depression(p<0.001).

Table:1 Distribution Study Subjects Based On Sociodemographic Status:

Variable	frequency	(%)
Male	60	48.4
Female	64	51.6
TOTAL	124	100

Table 2: Distribution Of Students Based On Lifestyle And Mental Parameters

Variables	category	Frequency	Percent
BMI (Before pandemic)	Underweight	9	7.3
	Normal	62	50.0
	Overweight	46	37.1
	Obese	7	5.6
BMI (During pandemic)	Underweight	3	2.4
	Normal	47	37.9
	Overweight	63	50.8
	Obese	11	8.9
Lifestyle-related behavior changes	Negative	106	85.5
	Zero	7	5.6
	Positive	11	8.9

physical activity (In a week)	NO	5	4.0
	3 to 4 Days	53	42.7
	5 Days	41	33.1
	All	25	20.2
Daily physical activity	No activity	6	4.8
	<20	41	33.1
	20-30	46	37.1
	30-40	19	15.3
Phq-9 scoring	>40	12	9.7
	Minimal depression	32	25.8
	Mild depression	41	33.1
	Moderate depression	30	24.2
	Moderately severe depression	17	13.7
	Severe depression	4	3.2

Table 3: Association Of Depression With Sociodemographic And Physical Activity

variables	Catego ry	Depre ssion	Non-Depres sion	Chi-square value	P-value
Gender	Male	27	33	1.069	0.301
	Female	24	40		
BMI during pandemic	Under weight	2	1	5.156	0.161
	Normal	13	34		
	Overw eight	30	33		
	Obese	6	5		
Lifestyle-related behavior changes	Negative	45	61	0.747	0.688
	Zero	2	5		
	Positive	4	7		
physical activity (In a week)	NO	4	1	10.914	0.012
	3 to 4 Days	24	29		
	5 Days	20	21		
	All	3	22		

DISCUSSION

Restrictions placed due to the COVID pandemic have severely impacted the everyday activities of individuals. Our study showed that access to various types of physical activity was curtailed as a result of the closure of gyms, fitness centers, and limits placed on accessing parks, playgrounds, etc. in an effort to prevent the spread of COVID.⁸⁹ As a result, a mere 20 percent of students reported engaging in daily regular physical exercise.

The lifestyles of individuals was modified as as a consequence of the lockdown, with more time spent at residence and an increase in sitting time, as well as a decrease in time spent engaged in physical activity. The necessity of a well-balanced diet in developing a robust immune system throughout this pandemic demonstrates that boosting the immune system takes time.¹⁷

A balanced diet was consumed by over 80% of the students during the pandemic, and 53% reported they regularly engaged in physical activity. Recent research have emphasized the relevance of a balanced diet in COVID-19 prevention and the requirement to maintain an active lifestyle throughout the course of the pandemic by getting regular physical activity and consuming a balanced diet.¹⁸

Approximately 51% of students revealed a corresponding rise in anxiety and psychological distress during the span of the pandemic. Any stress that prevails stimulates the secretion of insulin to regulate blood glucose levels as part of the "fight-or-flight" reaction, which leads to a sense of hunger. Stress drives people to make poor dietary decisions and gain weight. Being healthy and engaged in physical activity is

crucial during this pandemic since India is already dealing with the burden of obesity and a number of other NCDs. In order to reach the greatest state of awareness and general well-being, yoga and pranayama utilize a variety of practices including asana (postures), breathing exercises, chanting, and meditation.

According to research, those who have a higher sense of self-efficacy for being physically active are more inclined to follow physical activity guidelines and have stronger intentions to engage in physical exercise. Self-efficacy has additionally been shown to be vital to a long-term physical activity engagement, therefore participants who have become less physically active following the COVID-19 limitations may not have had the self-efficacy required to remain active in an entirely different setting.¹⁴ Similar to the previous study, there may be a lack of self-efficacy among 50% of the students who do not engage in regular physical activity.

In present times, sleep deprivation has been recognized as an important threat to public health. Higher body mass index (BMI) as well as psychological stress are predictive factors of sleep deprivation, which further leads to a cycle of poor wellness, in accordance with a cross-sectional study result.¹⁵ In the present study, 48% of students responded that both the duration and the quality of their sleep had changed in response to the pandemic, which is grounds for concern. Considering approximately 30% of the students had problems falling asleep, confinement could have impacted their sleeping patterns. Changes in sleeping patterns and sleep disruptions during the pandemic are closely related to the subjective deterioration of mental health in a multi-university sample of college students.^{10,11}

The National Sleep Foundation recommends individuals (18 to 64 years of age) to consider getting 7 to 9 hours of sleep every night since it is the most essential aspect of a healthy life and because getting an insufficient amount of sleep may negatively influence physiological processes.¹⁶ For a healthy and happy life, sleep quality is just as important as sleep quantity.

In a cohort study that monitored changes in lifestyle from ages 12 to 16 and symptoms of depression at age 18, it became apparent that adolescents' persistently high levels of moderate-to-vigorous physical activity were linked to lower levels of depressive symptoms.¹²

Similarly, in this current study, 88% of students who exercise regularly claimed they did not suffer from depression.

Finally, the findings supports earlier research from Chinese university students that revealed sedentary behavior and physical inactivity have a combined effect on depression and anxiety among chronically ill patients in Southeast Asia.¹³

According to the World Health Organization, "complete well-being" includes one's physical, mental, and social well-being as compared to merely being free from illness. Therefore, rather than merely reading from the textbooks, medical students should prioritize lifestyle behavior by improving their eating and drinking habits, mental health status, dealing with sadness and anxiety, and preserving their sleep pattern and quality.

Significance And Implications

The present study demonstrated the abrupt changes in students' physical activity and mental health during the pandemic, which may increase the likelihood of psychological issues more than long-term changes. It is important to pay close attention to these lifestyle changes since they may have a harmful impact on psychological circumstances long after the COVID-19 epidemic, especially

for medical students who are under a lot of academic pressure. Since it is unclear whether the change in lifestyle behavior caused by COVID-19 will persist after the pandemic, it is crucial to constantly check for changes in student behavior in order to understand its long-term effects on lifestyle behaviors and take the necessary precautions to lessen its burden.

CONCLUSION

From the above results, we can conclude that the Covid-19 Pandemic scenario resulted has led to a decrease in physical activity with only 20 percent of students engaging in regular physical activity and 86 percent reporting negative lifestyle changes, hence students are prone to mental health problems like depression as reported in 40 percent of the students. 61 percent of those who engage in daily exercise reported not having depression(p<0.001). There was a significant association between physical activity and depression.

RECOMMENDATION:

- To overcome these challenges, students need to focus on lifestyle modification such as an increase in physical activity like exercise/yoga at least for 5 days/week for 30 min should be encouraged.
- It becomes imperative to keep a balance between lifestyle and behavior.
- A nutritionally rich diet consumption of balanced food is essential.
- Overall to reduce the pandemic's detrimental effects, regular Physical activity and following a Healthy lifestyle play an important role and also help to overcome depression.

Limitations

This study had some limitations, including the small sample size and the fact that the data were self-reported, which raised the chance of bias in reporting. Furthermore, generalizing the results of this investigation is not possible.

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