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Original Research Article

Lifestyle-related behaviour modifications during examinations in undergraduate medical students in India

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ABSTRACT

Background: Examinations are formal tests conducted to assess a student's knowledge. Despite their paramount importance, they can impact students physically and mentally by causing stress and anxiety. Hence, identifying the changes that hamper a student's lifestyle, during examinations, in order to prevent the development of unhealthy behavioral patterns is the goal of this study.
Methods: It was a cross-sectional study conducted among undergraduate medical students of Mysuru over a period of 2 months from February 2023 to April 2023 in 120 participants. Data was collected using an online questionnaire, entered into M.S. Excel and analyzed using SPSS software. Frequencies and percentages were calculated for all the categorical variables.
Results: 61.7% of the study participants showed extreme examination stress. Only 39.3% consumed 3 balanced meals daily. A complete lack of physical activity was observed in 38.1%. Regular caffeine consumption was noted in 46.4% and 27.4% showed unusual amounts of junk food daily. Irregular sleeping patterns were found in 23.8%, sleeping at odd times beyond 1 am was noted in 59.5% and deficient sleep duration (<6 hours) was observed in 46.6% of the surveyed population.
Conclusions: The findings from this survey highlight the significant impact of examinations on the lifestyle-related behaviors of undergraduate students such as high prevalence of extreme examination stress, irregular eating habits, lack of physical activity, and sleep deprivation.

Keywords: Examinations, stress level, Lifestyle modifications, Dietary habit changes, Physical exercise, Sleeping pattern, Undergraduate medical students

INTRODUCTION

An examination is a formal test that institutions conduct to assess a student's knowledge in a particular field of study, often conducted in written or oral form. It is essential in promoting students' academic performance and analyzing the learning methods. Despite their paramount academic importance, examinations also negatively impact students physically and mentally by causing stress and anxiety, often due to fear of failure.[1] Examination anxiety has been reported to produce debilitating cognitive effects, including difficulties with memory and recalling information.[2] University students, thereby, are a vulnerable population group in terms of undergoing extreme stress levels during their course in institutions. Additionally, examination stress or anxiety can cause significant lifestyle changes, affecting an individual's overall well-being.[3]

Lifestyles determine health by integrating habits and behaviors that modulate our daily life. Aspects such as diet, exercise, the environment, sleep and rest, among

others, play a major role in developing healthy habits that impact individuals' lives.[4-6]

A few studies from the West suggest that students have difficulties following a healthy lifestyle during the examination and resort to unhealthy eating and sleeping patterns, which can considerably affect their overall health over a few weeks and become difficult to change over time.[7,8] However, hardly any studies were conducted in India to determine the impact the stress of examination has on a student's lifestyle. This study was conducted to assess the extent of lifestyle changes during examinations in undergraduate medical students of Mysuru.

METHODS

Study area

A cross-sectional study conducted among undergraduate medical students of Mysuru.

Study duration

The study took place over a period of 2 months. The study commenced in February 2023 and was concluded in April 2023.

Sample size

Sample size was 120. Based on a study conducted by N.J. Al-Awwad, the prevalence was 8.6% with a precision of 5% and 95% confidence interval, the sample size came upto 120.[9]

Inclusion criteria

Inclusion criteria were participants 18 years of age or older and undergraduate medical student who are willing to participate

Exclusion criteria

Exclusion criteria were having a serious disability or pathology that limited or conditioned the life habits; less than 18 years of age and undergraduate medical students who are not willing to participate.

Method of collection of data

This is a cross-sectional study conducted among 120 Private Medical College undergraduate students for one month. Participants were selected from medical students between 1st and 4th years of undergraduate by simple random sampling. Data was collected using an online questionnaire that included basic demographic data and questions related to lifestyle changes. After all the questions were answered, the results were calculated and interpreted in a table and assessment was done regarding the prevalence of examination stress and lifestyle changes among the participants.

Data analysis

Data collected was entered into M.S. Excel and analyzed using SPSS Version 26.0 (IBM Corp. Released 2019. IBM SPSS Statistics for Windows, Version 26.0. Armonk, NY: IBM Corp). Frequencies and percentages were calculated for all the categorical variables to establish the extent of lifestyle changes noted in undergraduate students during examinations.

RESULTS

This study analyzes how examinations affect fitness, diet and sleeping patterns. Table 1 depicts the distribution of the demographic data of the participants.

One hundred and twenty students participated in the study, of which 59.2% were females and 40.8% were males. The mean age of students was 21.33, with a standard deviation of 1.79. Undergraduate medical students in the first year (20%), Second year (11.7%), Third year (24.2%) and fourth year (44.2%) participated in the study.

Among the participants, 61.7% were noted to undergo extreme stress levels during the examinations, while occasional or moderate stress levels were found in 38.3%.

Table 1: Demographic details.

Variables	N (%)
Age (years)	
18-21	58 (48.3)
22-24	62 (51.7)
Total	120 (100)
Gender	
Male	49 (40.8)
Female	71 (59.2)
Total	120 (100)
Year of study (under graduation)	
First	24 (20)
Second	14 (11.7)

Continued.

Variables	N (%)
Third	29 (24.2)
Fourth	53 (44.2)
Total	120 (100)
Stress levels	
Extreme	74 (61.7)
Moderate	46 (38.3)
Normal to mild	0 (0)
Total	120 (100)
Number of balanced meals/day	
One	6 (4.7)
Two	67 (56)
Three or more	47 (39.3)
Total	120 (100)
Frequency of consumption of junk food	
Daily	33 (27.4)
Occasionally	76 (63.1)
Never	11 (9.5)
Total	120 (100)
Tea/Coffee consumption	
Daily	56 (46.4)
Occasionally	51 (42.9)
Never	13 (10.7)
Total	120 (100)
Regularity of exercise	
Daily	3 (2.4)
A few times a week	30 (25)
Rarely	41 (34.5)
Never	46 (38.1)
Total	120 (100)
Maintenance of regular sleep schedule	
Always	21 (17.9)
Sometimes	70 (58.3)
Never	29 (23.8)
Total	120 (100)
Bedtime	
8 pm -10 pm	0 (0)
11pm - 12 am	49 (40.5)
1 am - 3 am	68 (57.1)
After 3 am	3 (2.4)
Total	120 (100)
Duration of sleep (hours)	
8-10	2 (2.1)
6-8	61 (51.2)
4-6	52 (42.9)
Less than 4	5 (3.8)
Total	120 (100)

Upon analyzing the dietary modifications, it was found that only 39.3% of the students consumed 3 complete or balanced meals daily, and 56% admitted to having only 2 meals per day, 4.7% had just 1 balanced meal per day, and most participants were to have skipped breakfast. Unhealthy eating habits or overeating of junk foods was noted in 27.4% regularly, 63.1% on an occasional basis, and never in 9.5% of the study group. Daily consumption of tea/coffee was observed to be 46.4%, intermittently in 42.9%, and absent in 10.7%.

Physical activity regularly/daily among the participants was as low as 2.4%, a few times a week in about 25%, rarely or as time permitted in 34.5% and absent in 38.1%.

Sleep and rest analysis showed that only 17.9% of the study participants had a fixed sleep pattern, 58.3%

showed slight variations, and 23.8% revealed an absolute lack of a fixed sleep schedule. The most commonly observed bedtime was between 1 am - 3 am in 57.1% of the participants, 11 pm - 12 am in 40.5% and beyond 3 am in 2.4%. Duration of sleep was also surveyed, showing only 2.2% of participants having a complete 8-10 hours of sleep, 6-8 hours in 51.2%, 4-6 in 42.9% and about 3.7% have less than 4 hours of sleep.

DISCUSSION

A survey of lifestyle modifications among the undergraduate students of Mysuru, India was conducted through this study. A salient effect of examinations were observed on lifestyle-related behavior, including diet, physical activity and sleep.

A study conducted in Jordan among students of medical sciences noted examination stress among 32% of the participants which is lower than the 61.7% noted in our study. It also showed that 47% participants consumed caffeine regularly, which is in line with our study showing 46.4%. Their study reported that only 26.6% of the participants consumed 3 balanced meals, 35.3% skipped meals and 37.1% ate increased amounts of junk food, in comparison to our study that showed 39.3%, 45.2% and 27.4% respectively. They also reported a lack of physical activity among 50.5% participants which is higher than the 38.1% shown in our study and deficient sleep in 44.1% similar to the 46.6% observed in our study.[10]

Robert et al showed that unhealthy eating patterns combined with a lack of exercise can pave the way to various alarming health disorders, including type-2 diabetes, gastritis, occlusive artery diseases and obesity.[2]

Our study is unique as it also assessed the quality of sleep and adequate rest which are extremely important for cognition and holistic health, particularly in students. Sleep deprivation can, in turn, affect examination performance and hamper an individual's mental health and functionality. Therefore, it is crucial to identify all the possible changes that can hamper a student's lifestyle, particularly during extreme stress, such as examinations. It would aid in preventing the development of unhealthy behavioral patterns, avoiding grave morbidities in a young individual and promote more productivity alongside physical and mental health.[11,12]

There are a few limitations to this study including a small sample size and the usage of an online questionnaire making it difficult to obtain intricate data and ask the participants follow-up questions. Despite its limitations, this study successfully demonstrated changes in lifestyle induced by examination stress among undergraduate medical students.

CONCLUSION

In conclusion, the survey findings highlight the significant impact of examinations on the lifestyle-related behaviors of undergraduate medical students in Mysuru. The high prevalence of extreme examination stress, irregular eating habits, lack of physical activity, and sleep deprivation among the study participants raises concerns about their overall health and well-being. Unhealthy dietary choices, dependence on caffeine, and irregular sleep patterns can harm students' physical and mental health in the long run, increasing the risk of various health disorders. Therefore, it is crucial to identify and address the lifestyle changes that occur during periods of extreme stress, such as examinations, to promote healthy behaviors and prevent the development of harmful habits among young individuals. Strategies aimed at promoting balanced meals, regular physical activity, adequate sleep, and stress management techniques should be devices and implemented to support undergraduate students' holistic health and productivity.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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