

Study for Assessment of Sleep and Stress in Medical and Paramedical Students

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Received: 13-Apr-2023, Manuscript No. jnn-23-95700; **Editor assigned:** 14-Apr-2023, Pre QC No. jnn-23-95700 (PQ); **Reviewed:** 17-Apr-2023, QC No jnn-23-95700 (Q); **Revised:** 19-Apr-2023, Manuscript No. jnn-23-95700 (R); **Published:** 30-Apr-2023, DOI: 10.35248/2332-2594.23.14(4).342

Abstract

Introduction: Medical and paramedical students are prone to a lot of stress and anxiety in their everyday life due to various reasons like examination fear, performance pressure and result worries. This may lead to irregular sleeping habits and insomnia. The prolonged sleep disturbances often lead to stress and similar psychological issues. To observe the variations in stress level with relation to sleep in medical and paramedical students.

Methodology: A cross sectional study was conducted among 174 students in which 100 were medical and 74 were paramedical students including both males 26.4% and females 73.6%. The age group included was 17 to 20 years. The study was conducted in Ahmedabad and students participated willingly. The data was collected in pre-designed google questionnaire and analyzed in epi info software. The standard scale used for sleep is Pittsburgh Sleep Quality Index and the scale used for stress is Depression, Anxiety and Stress Scale – 21.

Result: More than 80% of the students have normal (6-8) sleeping hours while around 10% of students have less than normal sleeping hours (4-6). Nearly 9% of respondents have experienced bad or very bad sleep. As per the scale around 3% of the medical and paramedical students face stress in their day to day life. Amongst them around 2% suffering from stress face a bad sleep quality. About 2% respondents with less than normal sleeping hours face stress and other issues in everyday life.

Conclusion: About 2% of respondents face stress and similar issues due to sleeping disorders.

Keywords: Medical students • Paramedical students • Stress • Sleeping disorders

Introduction

Background

Because of its severe professional and academic requirements, medicine is one of the most difficult professions of study. Medical students face persistent stress and anxiety as a result of their extensive medical curriculum, numerous tests, and fear of failure, and they may sacrifice their leisure activities and sleep hours to reach their intended goals. Several

studies have found that medical students have a high rate of stress problems [1-2].

Stress is the "wear and tear" that our bodies go through as we adjust to our ever-changing environment; it has physical and mental impacts on us and can have a good or negative impact [3]. Academic demands, social or personal concerns, and medical students must confront the challenge of a challenging curriculum while simultaneously learning how to deal with emotionally unpleasant events are all factors of student stress [4].

Academic expectations, social or personal challenges, and financial difficulties can all contribute to student stress. In recent years, there has been a rising awareness of the stressors that come with health professional training.

Sleep deprivation is caused by the discipline necessary for studying and the lengthy hours spent awake for academic objectives. Medical students frequently experience sleep deprivation and are overworked. As a result, stress levels rise and performance declines. Increased stress levels may result from decreased performance and lack of attention. Students, particularly during examinations, have a tendency to remain awake until late at night in order to finish the course [5].

Although some studies have revealed that a certain degree of stress is beneficial to physiological functioning and can aid learning (favorable stress), it is widely known that high levels of stress are harmful to medical students' physical and mental health (distress or unfavorable stress) [6,7].

Because sleep is important for cognitive functions as well as physical and emotional health, Medical students' academic performance might be affected by sleep deprivation.

Many studies in the United States, Australia, India, and other countries have discovered that kids with poor sleep quality score worse on exams and are sadder than their peers.

However, no current research has looked at the link between stress and sleep quality.

The aim was see and establish if there was a link between academic pressures, psychological stress, and bad sleeping patterns among medical students.

Methodology

A cross sectional study was conducted at medical college institute, Ahmedabad under the community medicine department. The data was collected from nursing and medical students of state university with consent. The data was further digitalized and analysed. As the study was conducted as a survey and did not involve any intervention of any kind, the study was exempted from acquiring permission from IRB.

Study Design- Data based study

Study population- Total 174 students were included among which 100 belonged to medical while 74 belonged to paramedical both males and females belonging to age group 17 to 20.

Exclusion Criteria- who didn't give consent or had any medical or suffered from psychiatric condition

Inclusion criteria- Students who gave their consent

Data acquired from every subject in hand out forms

- Age
- Current Education
- Time of bed

Scales used

- Quality of sleep (through PSQI Scale)
- Mental health (through DASS-21 Scale)

Results

Results are as shown in below mentioned figures. (Figure 1-6 and Table 1-10).

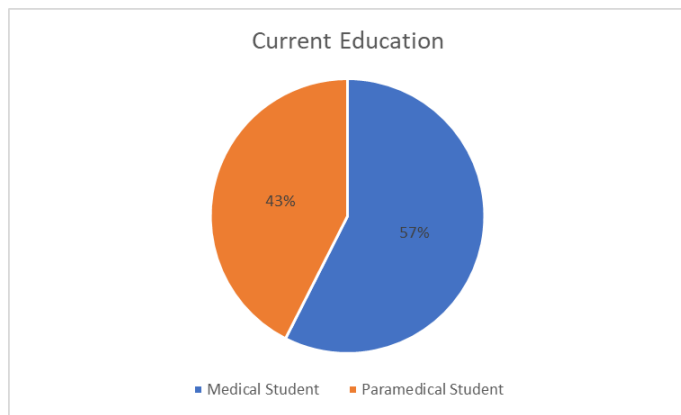


Figure 1. Chart 1

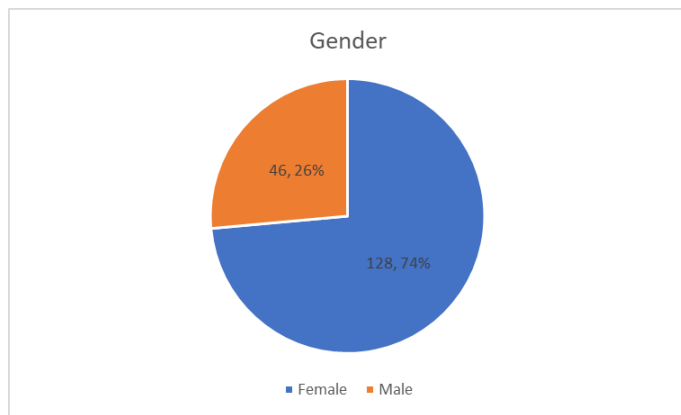


Figure 2. Chart 2

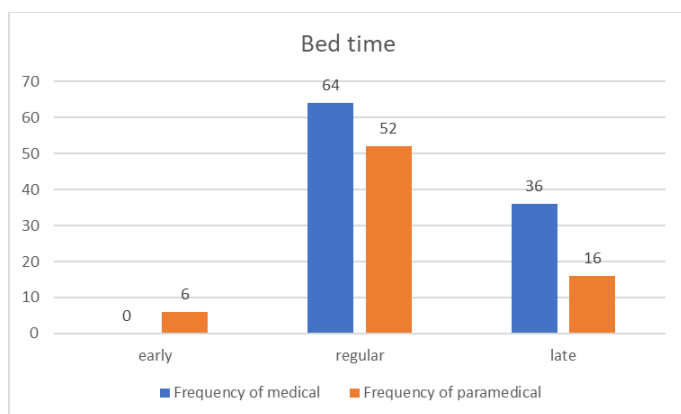


Figure 3. Graph 1

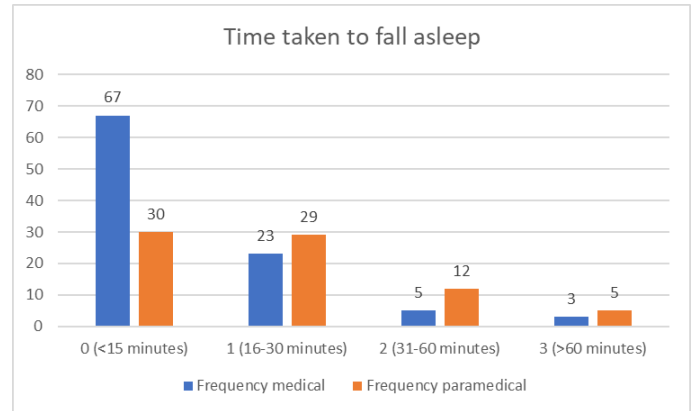


Figure 4. Graph 2

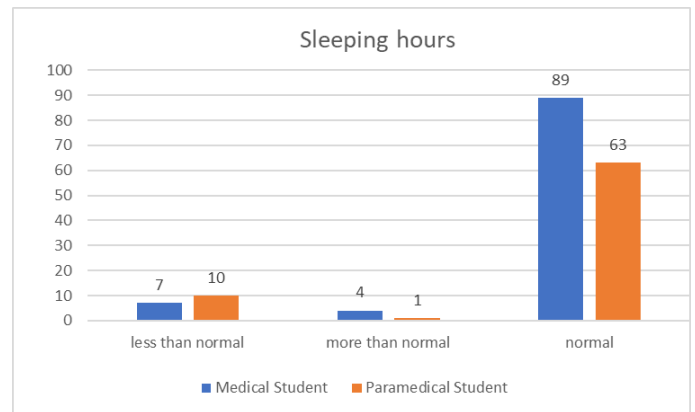


Figure 5. Graph 3

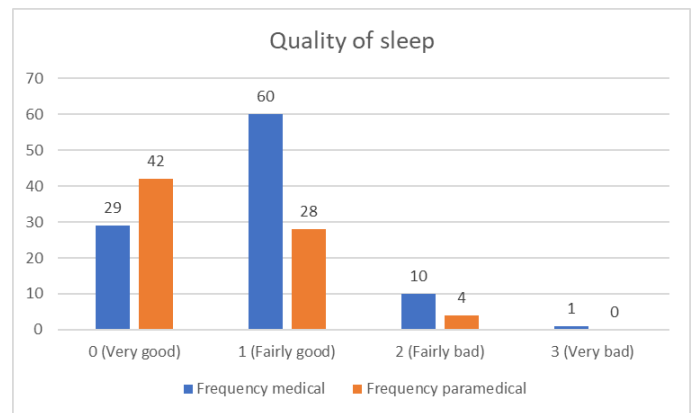


Figure 6. Graph

Table 1. Pearson correlation coefficient value of sleep/stress

Total = 0.3654			
Medical		Paramedical	
0.540633		0.50596	
males	females	males	females
0.60237	0.50596	0.22702	0.38582

Table 2. The Pearson correlation coefficient value of the time of falling asleep/stress

Medical		Paramedical	
Males	Females	Males	Females
0.3445	0.2502	-0.4414	0.1659

Table 3. The Pearson correlation coefficient value of the stress/quantity of sleep

Medical		Paramedical	
Males	Females	Males	Females
0.097	-0.0162	0.23032	0.2238

Table 4. The Pearson correlation coefficient value of the stress/quality of sleep

Medical		Paramedical	
Males	Females	Males	Females
0.3394	0.4864	0.1974	0.3794

Table 5. The Pearson correlation coefficient value of trouble staying awake in morning/stress

Medical		Paramedical	
Males	Females	Males	Females
0.3352	0.2288	0.1451	0.173

Table 6. The Pearson correlation coefficient value of the stress/trouble keeping up enthusiasm

Medical		Paramedical	
Males	Females	Males	Females
0.6894	0.4261	-0.1179	0.2386

Table 7. The Pearson correlation coefficient value of tendency to overreact in certain situations/sleep

Medical		Paramedical	
Males	Females	Males	Females
0.6003	0.3194	0.264	0.3436

Table 8. The Pearson correlation coefficient value of tendency to get agitated in certain situations/sleep

Medical		Paramedical	
Males	Females	Males	Females
0.4183	0.3382	-0.014	0.1372

Table 9. The Pearson correlation coefficient value of tendency to take offense in certain situations/sleep

Medical		Paramedical	
Males	Females	Males	Females
0.4827	0.2766	0.3423	0.3744

Table 10. The Pearson correlation coefficient value between difficulties in relaxing in certain situations/sleep

Medical		Paramedical	
Males	Females	Males	Females
0.4859	0.3888	0.1619	0.5028

Discussion

The purpose of this study was to determine the incidence of stress among medical and paramedical students, as well as how sleep could alter stress levels. Because no exact comparable trials had been undertaken previously, a thorough comparison could not be made.

According to bar graph 1, the majority of students went to bed on time, although there were a significant number of students who went to bed late. Most students take a reasonable amount of time to fall asleep; however other students may have difficulty sleeping or have a long latent phase. Despite this, barely 4% of the population has taken sleep medicine, with only approximately 1% using it less than once a week in the last month. According to bar graph 4, the majority of students assess their sleep quality as excellent.

As per (Table 1), the correlation coefficient value obtained between stress and sleep is 0.3654, which is greater for medical students (0.5406) than paramedical students (0.3455). Medical males have a correlation coefficient of 0.6023, which is greater than medical ladies' 0.5059. Female paramedical have a correlation coefficient of 0.3852, which is greater than men 0.2270. According to a 2006 systematic review, medical students in the United States and Canada had a greater rate of psychological distress, anxiety, depression, and suicide thoughts than the general population [8]. Several studies have found that psychological stress is common among medical students of various ethnicities. Stress was reported to be present in 20.9% of Nepalese medical students, 63.8 % of Saudi Arabian students, and 90% of Pakistani medical students. Medical students in several countries have reported high levels of stress, such as in Pakistan (60%), Thailand (61%), Malaysia (42%), and the United States (57%). According to our research, 2.2% of students (including medical and paramedical students) experienced moderate stress, while 2.2% experienced severe stress.. Hence about 4.5% students suffered from stress [9-10].

According to (Table 2 and 3), the correlation coefficient value discovered between amount of sleep (number of sleeping hours) and stress is not significant. While, as shown in (table 4), the correlation coefficient value obtained between stress and sleep quality is rather high, implying that poor sleep has a significant detrimental impact on handling stressful situations. Females have a greater correlation coefficient value than males in both medical and paramedical students.

In medical students, the Pearson correlation coefficient value of stress/trouble maintaining excitement is surprisingly high, as seen in (table 6). It is reported that it is low among paramedical students. This shows how stress may deplete a student's energy, resulting in lower productivity. And, as we've seen, a good night's sleep can help to alleviate stress to some level.

(Tables 7 and 8) look at the likelihood of a person overreacting or becoming upset as a result of a lack of sleep or poor sleep, which is positive for both medical and paramedical students except for paramedical men. This supports the prevalent assumption that a lack of or poor quality of sleep can cause a person to become "irritable." Patient conduct may deteriorate, and the individual may become easily agitated. This might have a negative impact on the pupils' connections with their family and friends. Such conduct would be unacceptable if observed among patients.

As a result, it may be concluded that a decent night's sleep is required for optimum physiological functioning.

Conclusion

The stress in medical and paramedical students can be result of vast syllabus

issues. This can lead to decrease in sleep which could further affect enthusiasm and the students might not be able to give their full potential to the task. A good sleep at night is likely to keep them zealous through the day and hence should be promoted. Let's not make it cool to stay awake for late hours and compromise our sleep.

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