

Incidence Of Insomnia, Anxiety, Depression, Overweight And Drug And Alcohol Use Among Medical Students

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Abstract:

Introduction: The existence of a toxicity in medical culture caused by chronified stress in the exercise of the profession by demanding excellence in practice and the adoption of infallible knowledge. As a result, doctors and medical students have shown higher rates of psychological distress, burnout and diagnosed mental illness.

Methodology: A questionnaire consisting of 11 questions about sleep quality, depression, anxiety, diet and exercise was carried out among medical students. A total of 83 medical students from 7 different Brazilian educational institutions answered the questionnaire.

Objective: To Carry out a descriptive of a quantitative nature and exploratory research through a structured and pre-planned questionnaire with questions regarding the quality of sleep, anxiety, diet, depression, alcohol and drug consumption by medical students, in different periods of training.

Discussion: Regarding sleeping problems, (30%) of the participants reported having sleeping problems, with (45%) occasionally and (25%) saying they had no sleeping problems. The majority of participants have trouble sleeping, which indicates a high prevalence of sleep disorders. Regarding Diagnosis of Anxiety and Depression (20%) mentioned having been diagnosed with anxiety after joining the course and (9%) mentioned having been diagnosed with depression. Regarding lifestyle (diet and physical exercise), 63% reported eating a healthy diet. Of these, (39%) reported exercising between 3 and 5 times a week.

Conclusion: The data on the mental health and lifestyle habits of medical undergraduates shows that a significant proportion of participants diagnosed with depression do not receive the specialized support they need. In addition, although the majority eat a healthy diet and exercise, there are still gaps that can negatively impact their overall health. The occasional use of drugs and alcohol by more than half of the participants also raises concerns about their effects on sleep quality and mental health.

Keywords: *Insomnia, Anxiety, Depression, Medical students.*

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I. Introduction

The high incidence of physical and mental disorders in the university context, especially among medical students, is significant from both a public health and educational perspective. With the expansion of medical school places in the country, it has become necessary to produce more knowledge about the models for understanding these mental illnesses, their conditioning and triggering factors, as well as their mitigating factors and actions to support these situations [1].

Changes in the medical job market today, with new diagnostic and therapeutic technologies, the influence of the pharmaceutical industry and the commercialization of medical services, have had consequences for the medical profession, such as loss of autonomy, lower pay, changes in lifestyle, damage to the doctor's health and changes in their ethical behaviour [2].

Associated with this, the media has contributed to distorting the social image of this professional, publicizing medical errors with sensationalism and overvaluing technological resources, with an impact on the practice of the profession [3].

The characterization of illness is the focus of most of the articles studied, which describe conditions and risk indices for Common Mental Disorder (CMD), depression, anxiety, stress and quality of life among medical students, among others. And for this characterization, the main instruments found in quantitative studies [1,2].

The social construction of the medical profession as a noble activity that saves lives, a choice of giving, a successful career generate pressures and expectations that are often contradictory and far from reality, causing frustration [1,2].

The existence of a toxicity in medical culture caused by chronified stress in the exercise of the profession by demanding excellence in practice and the adoption of infallible knowledge. Because of this, doctors and medical students have shown higher rates of psychological distress, burnout, diagnosed mental illness, suicidal ideation and attempted suicide than the general population [3,4].

Studies carried out at a university in England show a high prevalence of mental disorders among medical students, with approximately 64% of first-year students showing some degree of depression and/or stress, and 11% of these showing very high levels of stress. In the United States, 46% of the students surveyed had at least one of the symptoms that suggest psychological impairment, such as stress, anxiety, fatigue, among others [19].

In Montreal, Canada, a study of 18 students from the first to the fourth year of medical school highlighted the search for psychological support due to academic loss and the anxiety of not being able to reconcile academic activities with leisure and physical exercise as mitigating factors for stress [22].

The results of most Brazilian studies show a similar picture among medical schools [2,7].

Students' entry into the university context consists of multiple processes that expose their aspirants to stressful situations, especially in medical training, one of the most sought-after degrees in Brazil [4, 6, 9].

The rates among medical students are higher than in the general population, and there is a question about medical students who often do not recognize their own illnesses, especially psychological ones [3, 7].

Other concerns regarding cognitive and functional impairment, and not just in the academic sphere, have motivated the expansion of studies on the mental health of medical students, since there is a relationship between low performance in the course and the mental condition of this population [5].

Against this backdrop, this study sought to find out more about the production of knowledge on the phenomenon of medical students becoming ill in Brazil.

II. Objective

To Carry out a descriptive of a quantitative nature and exploratory research through a structured and pre-planned questionnaire with questions regarding the quality of sleep, anxiety, diet, depression, alcohol and drug consumption by medical students, in different periods of training.

III. Methodology

In order to analyze the scientific production on the Mental Health of Medical Students in Brazilian Universities, a descriptive-analytical Literature Review was carried out, which provides an acquisition and updating of knowledge on a specific theme in a solidified way over a short period of time.

To this end, three databases widely used in the health area were selected: SciELO (Scientific Electronic Library On-Line), MedLine (Medical Literature Analysis and Tetrietal System On-Line) and PubMed. Electronic data collection took place between August and September 2024 using the following descriptors and their combinations in Portuguese and English: Medical Student; Medical Student; Mental Disorders; Mental Suffering; Mental Health; and Psychic Suffering.

In the second phase, a questionnaire comprising 11 questions was carried out. Before starting this work, the research project was submitted to and approved by the Research Ethics Committee of the Ribeirão Preto Medical School/USP - National Council for Ethics and Research, which approved it under Opinion No. 340.178/2024. Before taking part in the project, the subjects were informed about the aim of the study, as well as possible publications of the results found through the consent form for taking part in this research.

Questionnaire applied;

1) Do you have problems sleeping?

- No
- Occasionally
- Every night and every time I wake up during the night

2) Do you have problems staying awake during the day?

- No
- Sometimes get sleepy
 - Fall asleep suddenly, without control

3) How many times a week do you have problems falling asleep or staying asleep?

- Less than once a week
- Two or three times a week
- Four or five times a week
- Every night

4) In a typical night's sleep, how many times do you wake up?

- None
- Once
- Two

5) How often did you feel anxious during medical school?

- At no time
- Some of the time
 - A lot of the time
 - Most of the time
 - All the time

6) Does your anxiety interfere with the rhythm of your life and studies during medical school?

Not at all

- Some of the time
- A good part of the time
- Most of the time
- All the time

7) About Anxiety, if diagnosed (After joining the course)

- ✓ I don't have the support of a doctor specialized in the area and I don't have specialized support from a professional at my college/university.
- ✓ I am medicated and guided by a doctor specialized in the field, but I don't have specialized support from a professional at my college/university
- ✓ I am medicated and guided by a doctor specialized in the area and I have specialized support from a professional at my college/university

8) Regarding depression, if you have been diagnosed (after joining the course)

- ✓ I don't have the support of a doctor specialized in the area and I don't have specialized support from a professional at my college/university.
- ✓ I am medicated and guided by a doctor specialized in the field, but I don't have specialized support from a professional at my college/university
- ✓ I am medicated and guided by a doctor specialized in the area and I have specialized support from a professional at my college/university

9) Do you eat a healthy diet?

- ✓ No
- ✓ Yes, (sometimes), when I have time
- ✓ Every day

10) How many times a week do you exercise?

- ✓ None
- ✓ Once a week
- ✓ Twice a week
- ✓ 3 to 5 days a week
- ✓ Every day

11) Do you use any kind of drugs or alcohol?

- ✓ Never
- ✓ Sometimes
- ✓ Whenever I can

A total of 83 medical students from 7 different Brazilian educational institutions answered the questionnaire.

IV. Results

Regarding sleep problems, (30%) of the participants reported having sleep problems, with (45%) occasionally and (25%) saying they had no sleep problems. The majority of participants have trouble sleeping, which indicates a high prevalence of sleep disorders. This can be seen in FIGURE 1.

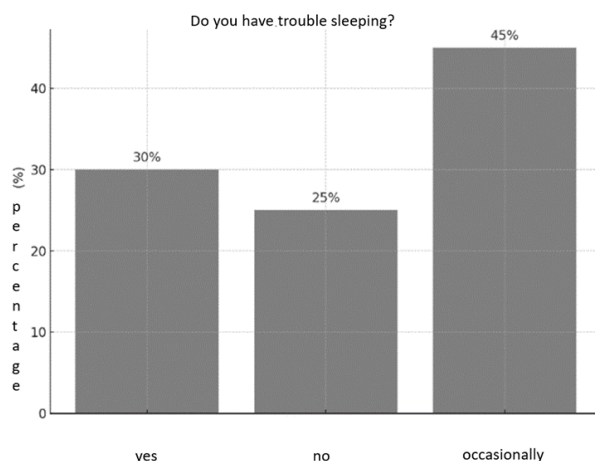


Figure 1. Questionnaire on insomnia among medical students. Source: Authors.

With regard to daytime sleepiness, (71%) mentioned experiencing occasional daytime sleepiness, (29%) said they had no sleepiness problems. Thus, daytime sleepiness is common, with more than two thirds of participants reporting some level of tiredness throughout the day.

Regarding nocturnal awakenings (15%) wake up once a night, (35%) reported waking up two to three times a night, (25%) four to five times and (25%) have no nocturnal awakenings (FIGURE 2).

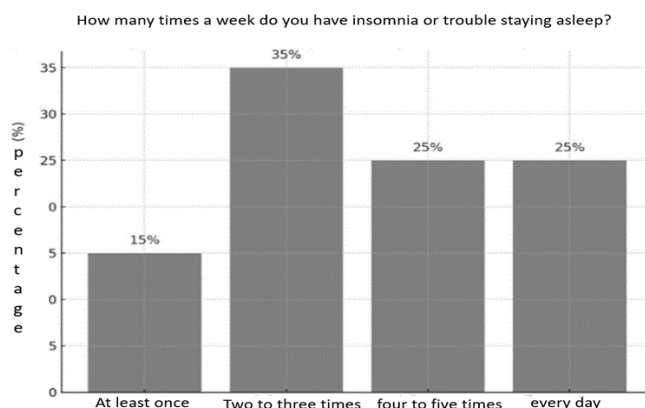


Figure 2. Questionnaires about night-time awakenings among medical students. Source: Authors

Approximately 70% of the participants have their sleep interrupted at least once a night, which can contribute to the feeling of tiredness during the day, a result that demonstrates poor sleep quality among medical students.

Regarding Anxiety and interference with studies (63%) reported feeling anxious frequently during medical school and (52%) said that anxiety interferes with their rhythm of life and studies.

Anxiety is a significant problem, affecting more than half of the students, both emotionally and academically.

Regarding Anxiety and Depression Diagnosis (20%) mentioned having been diagnosed with anxiety after joining the course and (9%) mentioned having been diagnosed with depression.

Although anxiety is a common disorder, a minority of students reported formal diagnoses of anxiety or depression, which may suggest underreporting or lack of access to proper diagnosis.

Regarding lifestyle (diet and physical exercise), 63% reported eating a healthy diet. Of these, 39% reported exercising between 3 and 5 times a week.

The majority of students reported maintaining healthy eating habits, but less than half practiced physical exercise regularly, which can have a negative impact on mental health and sleep.

Regarding substance use (alcohol or drugs) (75%) stated that they do not use drugs or alcohol regularly, (25%) mentioned occasional drug or alcohol use.

The majority of participants do not use substances frequently, suggesting that the impact of lifestyle on sleep and anxiety is more related to other factors.

Regarding the diagnosis of depression (after entering the course) (23%) reported being medicated and guided by a specialized doctor in relation to depression, (21%) mentioned not receiving specialized support from a doctor or the educational institution.

Approximately a quarter of the participants diagnosed with depression are receiving specialized treatment, while another significant group does not have adequate support, which can aggravate mental health problems.

V. Discussion

Adding to this a descriptive-analytical understanding formulated by thematic categories extracted from the selected texts allowed us to articulate the conceptions and knowledge produced in the various publications. The categories sought to capture the phenomenon among medical students in various dimensions, from the characterization of this illness, conditions of production - with factors that trigger and aggravate the process of psychological illness in this population, as well as addressing mitigating factors and individual and collective strategies for coping with situations of illness.

Several Brazilian studies have looked at mental health among medical students and identified symptoms and illnesses such as eating and sleeping disorders, stress, anxiety, depression and Common Mental Disorder (CMD) [2,4,7,9].

Illness can be understood as psychological and physical exhaustion that impacts on the quality of life of the subjects and can trigger depression and anxiety [11].

The symptoms are irritability, insomnia, fatigue, forgetfulness, difficulty making decisions and concentrating, as well as somatic complaints such as poor digestion, loss of appetite, tremors and headaches [12].

The outcomes of the conditions students are subjected to include feelings of guilt, worthlessness and powerlessness, fear of making mistakes, depression and the desire to drop out or even suicide [13].

The stressful nature of the medical course is highlighted in most scientific articles, in terms of its causes and its consequences for students' health. Stress becomes an important factor when students come into contact with medical training and contributes to a reduction in psychological well-being and an increase in diagnoses of psychological impairment such as anxiety, depression and burnout [14].

The characterization of the mental health of medical students in the articles analysed is mainly portrayed by three research instruments validated in Brazil, namely the Self-Reporting Questionnaire (SRQ-20) which assesses the risk of CMD, the Whoqol-bref which assesses domains of quality of life and the Beck Inventory (BDI) which identifies symptoms of depression [15].

CMDs represent less severe and more frequent conditions of psychological distress that do not imply a formal psychiatric diagnosis, but seem to adequately characterize the phenomenon of illness among medical students [13].

They are defined as a health situation that does not fit formal diagnoses such as depression or anxiety according to the Diagnostic and Statistical Manual of Mental Disorders - Fourth Edition (DSM-IV) and the International Classification of Diseases (ICD-10), but they are a potential substrate for the development of more serious disorders and constitute a significant state of suffering with an impact on relationships and the fulfillment of daily tasks, since they include symptoms such as forgetfulness, insomnia and fatigue, as well as somatic complaints - headaches, nausea, among others [14,15].

The prevalence of CMD risk in medical students is demonstrated in most articles using the SRQ-20 [16,17].

Other mechanisms for investigating the psychological decline of students in medical school that have been mentioned in published articles is the Whoqol-bref questionnaire (validated in Brazil), which assesses quality of life covering the spheres of physical health, psychological state, level of consciousness, social relationships and relationships with the characteristics of the individual's environment. A study using the Whoqol-bref carried out at a university in the city of Recife included 370 students from the first and last periods of the medical course. Between the two groups, only the psychological domain showed a significant difference, with a decrease in this domain among students completing the medical course, when compared to students at the beginning of the course [13].

At the State University of Rio de Janeiro, a similar picture was observed with a systematic decline in the quality of life domains over the course of the first to third year, with recovery in the third to fifth year and worsening again in the sixth, with some domains reaching lower scores than those found in the first year of graduation [11].

At the University of Brasilia, the Whoqol-bref showed results for different factors, in which 71.5% of the participants considered their quality of life to be good or very good and 70.2% were satisfied or very satisfied with their health. However, the study showed that the psychological domain received the lowest score in the evaluation. Bad mood, despair, anxiety and depression were present in the assessment of 95.2% of those interviewed and, of these, 50% experienced these feelings frequently, very frequently or always [16].

Some articles report the use of the Beck Inventory (BDI), which covers symptoms suggestive of risk for depression, allowing us to investigate mental illness in the academic medical population [18].

Quantitative data showing changes in risk in different periods of the course are fragile to compare between courses as the curricula are different and analyzing this data requires a more detailed approach to the curricular dynamics of each course. However, they provide important information for case studies that contribute to understanding the phenomenon [19].

The characterization of illness takes us back to the social conditions, institutional contexts, collective environments, group situations and singular occurrences that shape university students' psychological suffering. It can be seen that the explanatory model based on stress is frequently used in publications in an attempt to configure the relationship between the subject, the environment and quality of life in the production of suffering [20].

In general, the learning environment becomes stressful when students have to deal with an overload of classes, patients' illnesses and conflicting relationships with members of the class or team, as well as the teaching-learning process itself, information about the profession and the course, as well as social networks and conflicting personal experiences in childhood and/or adolescence and socio-economic conditions [21,22].

The articles show that the main predisposing stress factors are: competition in the selection process, knowledge overload, difficulty in managing time, a large number of tasks and little time for leisure activities, responsibility and social expectations in the role of the doctor. In addition, the characterization of this unstable moment of transition to academic life when entering the university environment, the contrast between the euphoria

of success in the entrance exam followed by frustration caused by the change in daily habits, can trigger a psychological defense mechanism such as dissociation or affective isolation [22].

Studies also point to socio-economic conditions such as origin, age, gender, ethnicity/race, income, previous school institutions as factors that bring different insertions and expectations in relation to the university course.

There is a prevalence in women in terms of the correlation between illness and financial problems, and the age of transition to adulthood [13].

During undergraduate studies, contact with death and suffering, competitiveness and the demand for excellence in assessments as a way of perpetuating the profile of medical education, little time for other activities due to overload, the lack of "encouragement" from teachers regarding students' mental health, difficulty in making friends, low self-assessment of academic performance, sleep disorders and living away from family are factors that are closely linked to mental suffering [20, 22].

With fewer hours of sleep, there is more exhaustion, generating a chronic circle with high levels of burnout and mental suffering. Conversely, student distress can also lead to sleep difficulties, which include problems falling asleep, waking up in the middle of sleep, waking up too early, snoring and excessive daytime sleepiness [20, 22].

Several articles have demonstrated the importance of the conditioning factor of the university/medical school environment, especially the curriculum and the educational relationship that make up the training of doctors, by describing elements of a cycle of student illness. However, this condition and other triggers of university student suffering need to be more consistently articulated in a clear analytical model that considers the study of medical education as a central condition in the production of university illness in this social group.

The different models for understanding the factors that cause illness lead to different analyses and, consequently, to different coping strategies.

Valuing interpersonal relationships and everyday phenomena, organizing time, health care such as food and sleep, religious interests, as well as working on one's personality to deal with adverse situations and seeking psychological assistance are listed by the articles as important for avoiding both physical and mental illness.

VI. Conclusion

Some articles emphasize that welcoming and accompanying students throughout their training process, valuing the psychological dimensions, should not only be the responsibility of psychopedagogical support services or tutoring groups, but should be part of the meeting between teachers and students in teaching-learning processes, with a focus on medical education and the quality of life of the actors involved, as well as the development of strategies to achieve them.

In the Brazilian scientific production studied here, few articles delve into questions about the curriculum, banking learning methodology and the authoritarian educational relationship. Even so, there is a gap between the analysis of the conditioning factors for illness and the institutional responses and interventions, with a predominant focus on the student seeking to adapt. It should be noted, therefore, that in order to better understand the phenomenon and point out coping strategies to deal with situations of illness, it is necessary, along with quantitative parameters, to expand longitudinal and qualitative studies on the subject, covering important factors such as medical education and the professional culture of doctors in Brazilian society.

The growth of scientific production on the mental health of medical students in this century reveals a necessary concern in relation to the illness of students, since the results of the research show, for the most part, that the incidence of mental suffering among medical students is higher than in the general population.

Suffering as part of the process of becoming a doctor is a discourse that is constantly reaffirmed by the medical school and by society, which contributes to the naturalization of mental illness among students. This naturalized suffering is perceived among medical students who tend to develop individual strategies such as denial, isolation, guilt, rationalization and silence about the illness, providing a cycle that further fosters the process of psychic depreciation of the individual and makes it difficult to break, care for and change their production.

With the expansion of medical courses and places, and the proposal to internalize and expand the coverage of medical care in the country, the phenomenon of illness tends to grow and will require the field of medical education to carry out more research to understand and intervene in this problem, adopting a psychosocial perspective to analyze and address the conditions of illness of medical students.

Data on the mental health and lifestyle habits of medical undergraduates show that a significant proportion of participants diagnosed with depression do not receive the specialized support they need. In addition, despite the fact that the majority of medical students

Data on the mental health and lifestyle habits of medical graduates shows that a significant proportion of participants diagnosed with depression do not receive the specialized support they need. Furthermore, although the majority have a healthy diet and practice physical exercise, there are still gaps that can negatively impact their

overall health. The occasional use of drugs and alcohol by more than half of the participants also raises concerns about their effects on sleep quality and mental health.

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